Witness Name: Prof. Colin McKay
Statement No:
Exhibits:
Dated:

UK COVID-19 INQUIRY

WITNESS STATEMENT OF PROF COLIN MCKAY

Witness statement of Professor Colin McKay, Deputy Medical Director, Corporate Services NHSGGC.

I qualified in medicine at Glasgow University in 1987 and I have been a consultant in pancreaticobiliary surgery at Glasgow Royal Infirmary since 1998. I was appointed Honorary Professor, School of Cancer Sciences, University of Glasgow in 2017 and was Chief of Medicine at Glasgow Royal Infirmary from 2019 to 2023.
I will say as follows:

1. Greater Glasgow Health Board was established on 1 April 1974, under the National Health Service (Scotland) Act 1972, with responsibility for providing health care services for the residents of Greater Glasgow. On 1 April 2006 the area covered by the Board was enlarged to include the Clyde area of the former Argyll and Clyde Health Board. NHS Greater Glasgow and Clyde (NHSGGC) was established and serves a population of approximately 1.3m. The Board also provides a wide range of regional West of Scotland Services and National services.

2. NHSGGC's structure comprises an Acute Division, Corporate Directorates, and a shared interest - with local authority partners - in six Health and Social Care Partnerships (HSCPs), which are overseen by Integration Joint Boards (IJBs). Glasgow Royal Infirmary (GRI) sits within the North Sector of NHSGGC's Acute

Division and is directly managed by the North Sector Management Team led by; the North Sector Operational Director; the North Sector Chief of Medicine; the North Sector Chief Nurse; and Directorate Managers. Clinical Directors lead specialty teams and report directly to the Chief of Medicine with Lead Nurses (responsible for 6-10 wards) reporting directly to the Chief Nurse. During the pandemic, the GRI had 10 Clinical Directors and 13 Lead Nurses. I have outlined the NHS GGC/GRI COVID-19 governance structure under Exhibit CM/01[INQ000412898].

3. GRI provides emergency and elective services to a population of approximately 320,000, as well as some regional services to the West of Scotland and some national and sub-national specialist services. This represents around 28% of the total NHSGGC population. (Exhibit CM/02[INQ000412899] includes the GRI population by deprivation quintile (2020) and the GRI Ethnicity by deprivation quintile (2011 Census population)).

4. The hospital has 998 beds across a range of ward designs and sizes (9-31 bed wards) and across a broad range of medical, surgical, maternity and medicine for the elderly specialties. GRI provides adult acute and emergency care as well as maternity services to the local population and specialist upper-gastrointestinal and Hepato-Pancreatico-Biliary (HPB) surgery for Glasgow. It also hosts the national burns hub and the regional plastic surgery unit. Clinical activity is supported by a full range of on-site and off-site laboratory and imaging services.

5. In March 2020 the GRI had a staff head count of 5,957 (including 530 staff within the Princess Royal Maternity Hospital (PRMH)). As Chief of Medicine, I was professionally responsible for 726 medical staff (Consultants and Junior Doctors), with the Chief Nurse professionally responsible for 2,266 nursing staff (1,612 Registered Nurses and 654 Health Care Support Workers). A Lead Allied Health Professional (AHP) was responsible for 319 AHPs.

Staffing Capacity

6. Prior to the pandemic GRI was generally appropriately staffed. However, there were staffing concerns in several key areas, this included:

- Emergency Department (ED) medical staff – particularly to support senior decision-maker cover overnight and at weekends, with ongoing discussions about revised consultant rota arrangements. This was on the background of many months of sustained work to improve our ED performance against the national 4-hour waiting time standard.
- Intensive Care Unit (ICU) and theatre nursing – although vacancies had been filled, there were concerns relating to skill mix, with higher than usual numbers of newly appointed nursing staff.
- Medicine for the Elderly wards reported a significant number of nursing vacancies, however in the pre-pandemic phase safe staffing levels were able to be maintained through supplementary staffing support provided through the NHSGGC nurse bank and contracted nurse agencies.
- In March 2020 pre-existing vacancies for registered nursing staff was sitting at 7% overall, and 8% for Health Care Support Workers (HCSWs). These vacancy rates were consistent with those of the Acute Division as a whole and with similar sized NHS territorial health boards.

7. Throughout the relevant period, there were many challenges in delivering safe levels of staffing and an appreciation that shortages of any staff group had an impact on services. Generally, the impact of COVID-19 related staff absence (e.g. staff with COVID-19 and the need to self-isolate, staff who were shielding, or staff who had COVID-19 related carer needs) was most apparent during the first wave, with multiple areas seeing short-notice absence, sometimes with many staff in one area being affected. This resulted in wards requiring to run with often only one trained member of nursing staff and the necessity to redeploy staff from other areas to ensure patient safety. This was particularly difficult for staff not usually employed in ward areas, such as theatre staff who were asked to redeploy to medical wards, often in COVID-19 hubs. Distribution of staff was coordinated each morning following a safety huddle and all efforts made to mitigate risk. For example, no staff were transferred out of COVID-19 positive wards to support other wards; the

allocation of additional nurse bank staff was made on the basis of patient dependency and care needs; staff identified as at risk were removed from front line roles; any staff displaying symptoms were removed from the area and sent for PCR testing (before the availability of lateral flow testing). The impact of staffing was assessed on an ongoing basis over the course of each day by Lead Nurses and reported at afternoon and evening huddles. As individual ward status and patient dependency changed, the redeployment of staff to ensure patient safety was a constant challenge for the team.

8. The typical absence rate in NHSGGC (averaged across all job families and including annual leave) is 20%, with some level of seasonal variation. Overall absence across the GRI increased significantly as a result of COVID-19, through new absence reasons such as 'shielding' for staff who were vulnerable, self-isolation due to symptoms or a positive diagnosis, household isolating and also caring responsibilities. The NHSGGC overall absence level of 26% in April 2020 showed an increase on normal absence levels and was also artificially depressed by low utilisation levels of annual leave (6% compared to a more typical 10%).

9. Daily COVID-19 absence reporting was introduced in April 2020, with reports issued and closely monitored by the NHSGGC Strategic Executive Group.

10. The overall impact of COVID-19 throughout the relevant period was 3.6% of the total workforce. Of this, 1.2% was due to the absences recorded as 'Long-COVID'. These absence codes were used to record any absence of more than 10 days following a positive COVID-19 test.

11. The scaling down and suspension of a wide range of activity enabled us to prepare for the increasing demand in certain areas. To mitigate the pressures resulting from COVID-19, many staff were reassigned from non-critical areas to those areas identified as having the greatest service pressures and need for additional staff. Changes to ways of working, including more agile and flexible working practices allowed us to comply with social distancing requirements. For example, by allowing administrative staff to be moved away from ward areas.

12. Staff normally employed in training roles or providing specialist nursing were deployed into clinical areas to support ward staff. This level of support was invaluable in supporting the challenge of maintaining safe nurse staffing levels within the wards.

13. At an NHSGGC level, nursing workforce was supplemented by circa 160 registered nurses returning to service or being recruited to work through the Staff Bank. The Nursing and Midwifery Bank was increased significantly through additional recruitment activity during the pandemic, growing to 16,400 staff as of Jan 2021 with 14,000 nursing and midwifery staff considered as active members. Of this number, 74% of all bank workers held a substantive role with NHSGCC, with the remainder being bank only workers.

14. A range of processes and activity was undertaken to maximise this resource which included:

- Targeting filling of shifts into key areas.
- Enhancement of support shift arrangements to focus on hotspot areas.
- Rolling adverts for registered and non-registered roles.
- Substantive staff approached to join the bank.
- Student nurses engaged as HCSW's (NHSGGC were able to recruit 210 students as of January 2021, working a maximum of 15 hours per week).
- Further offer of fixed term contracts to offer longer term stability.
- Support shifts of shorter duration (6 hours) to increase uptake.

15. The requests for nurse bank shifts across the Acute Division within NHSGGC had increased by 49% at the start of January 2021 compared to the previous year (15,972 v 23,844).

16. As of Jan 2021, there were 2,382 workers registered with the Medical Bank, the majority of whom worked regular shifts and the average fill-rate for the Medical Bank was 82%. In addition to the Medical Bank, short-notice locum cover could be sourced through a managed contract with Retinue Services with an average of 11,000 agency locum hours booked per month.

17. A range of processes and activity was undertaken to maximise this resource including:

- Ongoing recruitment campaigns.
- Targeting of retirees.
- Targeted recruitment of new employees following summer 2020 intake.

18. Medical staffing was managed at a local level by my Clinical Directors, supported by the Operational Management Teams for each service, comprising at minimum: a General Manager and Clinical Service Manager. Deployment of junior grade medical and dental staff (trainees and clinical fellows) was centrally led by the Director of Medical Education (DME). This attempted to balance the training programme requirements against service needs and took into account doctors' individual skills and preferences wherever possible.

19. As of May 2020, NHSGGC had reassigned approximately 130 medical staff to acute hospitals with all movements monitored and recorded ensuring that staff were remunerated correctly for any additional work undertaken and rotas remained compliant or were redesigned as required.

20. Across NHSGGC, 21 Doctors in training chose to suspend their approved 'Out of Programme' (OOP) period to return to work at NHSGGC and were assigned roles across all of the acute hospitals through the DME. The majority of these staff were undertaking research at the University of Glasgow and already held honorary contracts with the board.

21. Where possible, back-up rotas were created so that in the event of short-notice absence, there was immediate availability of cover. This was most applicable to essential consultant rotas, particularly following the suspension of normal elective activity. All of this activity was coordinated at service level by Clinical Directors and General Managers, given autonomy to make whatever arrangements they deemed necessary to maintain safe services.

22. The contribution of other staff groups was not overlooked, with both planned and ongoing reassignment activity taking place across the board. The essential

contribution made by non-clinical members of the workforce was recognised, and staff in non-clinical roles who could be utilised in support services roles were identified.

23. At the start of the pandemic in 2020, the UK Government introduced emergency legislation that allowed regulatory bodies to temporarily register fit, proper, and suitably experienced people, in order that they could practice if willing and able to do so. Several regulatory bodies opened COVID-19 temporary registration to people who had recently left the permanent register, and for those overseas qualified professionals who had started their application but not yet joined the permanent register. NHSGGC utilised staff who obtained COVID-19 temporary registration, increasing the hospital's workforce during the pandemic. The GRI received a proportion of these staff and individuals were commonly deployed into medical, nursing, midwifery, and pharmaceutical job roles, as well as supporting the NHSGGC vaccination programme.

24. The requirement for staff to self-isolate if identified as a COVID-19 contact - when in the workplace they were in contact with infected patients on a daily basis (with PPE) - was a source of frustration, particularly when asymptomatic staff contacts were allowed to return to work if family members displaying classical symptoms tested negative. All of this formed a large component of the daily discussions with clinical teams, who found it hard to follow the rationale. These concerns were highlighted by clinical teams across the service and escalated to board level via the Acute Tactical Group. I am not aware of any escalation to the Scottish Government. We did not have access to antibody testing. The introduction of guidance around shielding for staff led to a number of staff members being unable to provide patient-facing care, some of these staff were redeployed to non-patient-facing roles such as supporting PPE hubs or office-based roles.

25. There were no real constraints placed on GRI to increase staffing capacity, save those mentioned above relating to staff availability and skill set issues. There was a drop in nurse bank and agency support throughout the pandemic, which perhaps is understandable, as many of the staff providing supplementary staffing support

(74% of bank workers) were already in substantive posts doing additional hours in their own areas to support the service, were shielding or off with COVID-19.

26. In March 2020 the four statutory Education Bodies (Health Education England (HEE), NHS Education for Scotland (NES), Health Education & Improvement Wales (HEIW) and Northern Ireland Medical and Dental Training Agency (NIMDTA)), recognising the increasing requirements for trainees and trainers to support hospitals in managing the care of acutely ill patients, produced guidance principles for all trainees. This served to facilitate the redeployment of trainees to clinical areas of greatest need. Whilst every effort was made to align staff to appropriate roles given their experience and skill set, it was recognised and accepted that the redeployment of staff was not ideal and could have a negative impact on staff morale and well-being.

27. The main need on the ground during the initial phase of the pandemic was for anaesthetic trainees to support Intensive Care Unit (ICU) expansion. Surgical trainees (for whom training opportunities greatly reduced) were asked to support medical patients 'boarded' to surgical wards. Focused training on oxygen therapy management was provided by the respiratory and acute medicine teams in advance of the first surge of patient admissions. These patients were also supported by Consultant Surgical Teams who led daily ward rounds with input from Medical Consultants when required.

28. Staffing challenges were faced across NHSGGC and were more acute on different sites at different times. There were occasions when staff had to be deployed into a different hospital, but in the main, we tried to manage our own site within our own resources.

29. NHS Louisa Jordan Hospital (NHS LJ) was a temporary facility created to support NHS Scotland's response to the pandemic. The staffing of the NHS LJ was discussed through the West of Scotland Region with an aspiration that the West would be able to resource the facility. There was a high level workforce plan with resources identified from across the West of Scotland, however there was an early realisation (April /May 2020) that if we were to be in the position of having to use

these beds, we would be facing mass casualties - including likely many staff - and that planning for such an extreme scenario was likely to have to take account of the realities faced at that time. It was clear to me and my team from the very first meeting to discuss the release of staff that it would be unlikely that we would be in a position to do this. I was not involved in any of the discussions with the Scottish Government in the planning for the LJ. Fortunately, NHS LJ was not required to receive COVID-19 patients, so there was no pressure on the GRI or any other hospital to redeploy staff to this facility. (In order to support the remobilisation of services, NHS LJ went on to provide a number of outpatient, imaging, and educational services from July 2020 until end March 2021 and this resulted in small number of GRI staff being periodically redeployed to support this activity).

30. Staff developing symptoms or requiring to self-isolate led to an increase in short notice sickness absences. This was anticipated and where possible a back-up rota was in place for medical staff. Temporary rotas were in place across all specialties, particularly in the first wave when there was major disruption to normal services. Deployment of junior anaesthetic staff to support ICU required consultant staff to provide resident cover for emergency anaesthetic services such as in the maternity unit. As highlighted, nurse staffing were under constant review by lead nurses in response to short notice sickness absence, with nurses being redeployed in line with patient safety and dependency. Such was the nurse staffing pressure, those issues highlighted under para 24 were a constant area of concern for the Management Team.

31. While there was a national programme to encourage recently retired consultants back into the workplace with temporary registration, this had a limited impact. Whilst a small number of consultants were employed within GRI, others supported displaced elective activity which was provided in the private sector. The University of Glasgow provided support by re-deploying medical staff who held honorary contracts and who were not involved in teaching: the numbers were small but welcomed.

32. Given the cessation of elective activity, the impact on some of our surgical nursing teams was clear, particularly in plastic surgery and gynaecology, where wards were

given over to managing COVID-19 patients for long periods of time - largely because of the more modern estate in these wards, with greater proportion of single rooms available. This did lead to some tensions between teams, where certain groups felt disproportionately impacted. In the longer term this led to numbers of staff resigning rather than face further periods of protracted COVID-19 ward activity which took them well outside of their comfort zone. In support of this view, the Lead Nurse for plastic surgery has advised that in some of her wards the staff who were in situ pre-pandemic are decidedly different to those currently in post.

33. The other group disproportionately affected were theatre nurses. During the first wave, this group were at the forefront of staffing ICU expansion - one of the most challenging roles of the entire pandemic, requiring long shifts in full PPE and the traumatic impact of managing dying patients who were often unable to have family visitors. It is hard to overstate the impact on these nursing teams. In later waves these same nurses were deployed into COVID-19 wards to maintain safe staffing levels.

34. During the first wave, when ICU expansion was the most pressing requirement, we reached a position where further expansion would have led to an inability to provide safe levels of cover. Many additional staff were redeployed from other disciplines to help in the first wave and there was not much time for any training pre-expansion. It normally takes 18 months for a nurse to fully achieve competencies and complete their education in critical care. The model in the first wave was for 1 ICU nurse to supervise up to 4 non-ICU nurses caring for ICU patients. At this point we had expanded ICU into four geographically separate clinical areas. We were fortunate never to have to test our expansion plans beyond this. There were daily ICU calls between the NHSGGC units to support mutual aid where required.

35. Within the GRI there have been 1,082 staff absences as a result of COVID-19 which equated to 937.7 WTE (whole time equivalents) being absent, representing 26,166 working days lost over the relevant period. There are many staff who developed post-COVID-19 complications (Long-COVID) with some unable to return to work and others who were unable to work for many months. This placed ongoing pressures on the service to maintain safe staffing numbers with a further

reliance on supplementary staffing being provided via NHSGGC staff bank and agencies.

36. During the first wave, many frontline staff developed COVID-19. Many (including some of our younger members of staff) were significantly unwell. Tragically, 6 members of our staff died from COVID-19 over the relevant period (three nursing staff, two facilities staff members and an Estates Officer). The impact of these losses was felt across our Facilities, Estates and Clinical teams. There was a very emotional staff turn-out to pay our respects to the first member of staff who died, as their funeral cortege passed by GRI. This understandably heightened concerns with our staff that working in our Nightingale wards could place staff at risk. These wards are located within the old part of the hospital estate and date back to 1915, with Nightingale ward design and Edwardian levels of ventilation (i.e. windows).

37. In collaboration with our Infection Prevention and Control (IPC) team and estates colleagues, in October 2020 we made early efforts to improve ventilation in these wards by installing air 'scrubbers' (portable high-efficiency particulate absorbing (HEPA) filters) and looked at other measures such as screen installation between beds (although this was largely unsuccessful due to the impact this would have on the logistics of providing other aspects of safe care). Following discussions with IPC and estates colleagues, nurse stations within these wards were surrounded with clear Perspex. This served to provide a physical barrier to staff working in this area (and so reduced possible risks of transmission), whilst still at the safe time ensuring patient visibility.

38. Once the COVID-19 vaccine became available there was an NHSGGC-wide effort to provide staff vaccination as a priority to frontline workers.

39. There was widespread support for vaccination, and anecdotally, uptake from front line staff within the GRI was very high. Given the opportunities and range of facilities offering vaccination across NHSGGC, it is difficult to provide any meaningful data on vaccination uptake specific to the GRI over the relevant period. We did have a small number of staff who refused vaccination, and we tried to manage this through supportive discussion. At no time however did I feel it was

ethical for us to mandate vaccination, although the potential impact on patient safety was considered, particularly for staff who had already had COVID-19 and recovered. Any decision regarding compulsory vaccination would have been for the Scottish Government (SG) on the advice of the Joint Committee on Vaccination and Immunisations (JCVI) to determine.

40. Resilience of staff became an issue towards the end of 2020 when COVID-19 numbers increased again and at the same time the hospital was fully occupied. It was necessary to ask repeatedly for staff to work in different ways and find additional time to support ward activity, as the footprint of medical patients extended further into surgical wards, and winter surge capacity placed additional pressure on our ability to maintain safe staffing. This was a fairly constant feature for the remainder of the pandemic (and continues today). During the first wave, step-down COVID-19 wards were supported by surgical teams but in later waves, the medical care of patients was more complex and recognising this, there was much less flexibility for surgical teams to become involved. We became increasingly reliant on small numbers of consultants who were prepared to take on additional patients and see outlying medical boarders on a recurring basis. COVID-19 at this stage was becoming less of a clinical issue but created extreme complexity in managing the safe flow of patients through the hospital, as hospital acquired infection resulted in multiple ward closures.

Bed Capacity

41. In advance of the first patients in Scotland, there was a clear ask from Scottish Government to try, if possible, to reduce the number of delayed discharges. In the early days of the pandemic there was little appreciation of the risk of asymptomatic infection and so there was an acceptance that patients who were not contacts of a COVID-19 case and who had no COVID-19 symptoms, could be discharged without testing - even into care homes. Indeed, at this stage our clear guidance was to restrict testing to those patients who met the 'case definition' - criteria for which were set out by Health Protection Scotland (HPS). Clearly, this position changed as information on asymptomatic transmission became available.

42. For those who were SARS-CoV-2 positive, the guidance from the Scottish Government/HPS on step-down of COVID-19 precautions changed 25 times. The first guidance issued, on 11th April 2020 was: patients fit for discharge can and should be discharged without testing unless strict isolation was going to be challenging, even to care homes. This guidance changed on 26th April 2020 following which, all such patients discharged to care homes needed two negative SARS-CoV-2 tests. The number of beds occupied within the GRI on 6th March 2020 was 821 with a further 62 within the PRMH. On 17th March 2020 there were 759 occupied beds and 61 within the PRMH. The number of ICU occupied beds on 6th March 2020 was 18, with 2 available beds and by 27th March 2020 this had been reduced to 6, with 14 available. Following this, ICU patient numbers increased and on 31st March 2020 we had 11 ventilated (Level 3) patients, 16 on 1st April 2020 and 21 on 2nd April 2020.

43. The GRI ICU is a 20-bedded unit with 12 Level 3 (ventilated beds) and 8 level 2 (high dependency) beds. No steps were taken to free capacity prior to 6th March 2020. A letter was received from the Chief Performance Officer of NHS Scotland on 4th March 2020 asking for completion of a template describing immediate capacity and what additional capacity could be created, as well as the impact of suspending non-essential activity.

44. It was widely understood by clinical teams that significant capacity would need to be created and that ICU expansion was required. It was also appreciated that there would be a 'lead-in' time required to discharge elective patients and that critical-care capacity was likely to be limited in the weeks ahead. On 13th March 2020, we received notification from SG for a scale-back of elective activity by the end of March, but to continue with plans for a full cancer service. Much of the elective activity within GRI was cancer surgery and the instruction was felt by surgical and anaesthetic teams to be insufficient to allow preparation and training for ICU expansion. There was also growing concern about the risk of post-operative COVID-19 risk in a vulnerable group, leading to considerable unrest within teams, particularly surgical teams and those responsible for endoscopic services.

45. Following discussion with colleagues across NHSGGC and in line with the other acute hospitals within NHSGGC, we issued guidance (CM/06 **INQ000477553** to teams on 13th March 2020 to:

- Review all major surgery requiring critical care on a patient-by-patient basis, with a view to postponing all but clinically urgent cases.
- Ensure that any patient who did undergo surgery would do so with full understanding that critical care may not be available at the time of need.
- Initially at least, the plan was that cancer resection not requiring critical care should be unaffected in line with SG guidance.
- All non-urgent endoscopy was to be reviewed and cancelled as clinically appropriate (as endoscopy had been identified as an aerosol generating procedure), which would also free gastroenterologists and other staff for training and redeployment.
- All non-urgent clinical appointments were to be reviewed, again to allow staff to be freed for training, additional front door activity and redeployment. This was initially for respiratory clinics (to free up the respiratory consultant team) and to sequentially involve other specialties giving health records time to work through clinic lists. Arrangements were made for urgent appointments where possible, by telephone or 'attend anywhere' - the remote video consultation platform.
- Activity on our 'cold' site (Stobhill Hospital - which also forms part of the North Sector) would continue until staff required to be redeployed.
- Elective in-patient activity (not requiring critical care) would continue, as anaesthetic training requirements and ongoing capacity allowed. This would be reviewed daily as the situation developed.

46. It was further anticipated that once the number of patients being admitted started to increase, we would need to take further action. We anticipated that when numbers of cases increased, all elective inpatient surgery would cease other than for the most clinically urgent cases, with decisions made on a patient-by-patient basis in consultation with clinical leads and myself. Following this, it was understood that all elective activity would cease, although it was hoped this would be for as short a period of time as possible.

47. Decisions on cancellation of elective activity were directed by the Strategic Executive Group on the advice of the Acute Tactical Group, representing the leadership teams across the different sectors. There was, by necessity, a degree of local decision-making to allow staff to be released for face-fit testing. Where it was possible to alter treatment pathways, for example by continuing neoadjuvant chemotherapy, this was used to defer surgery until the peak of the first wave had passed following guidance issued by specialist societies.

48. In respect of GRI ITU bed capacity, the ICU hosted 12 x Level 3 (ventilated) beds and 8 x Level 2 (high dependency) surgical beds. The Level 2 beds were closed when all elective operating stopped on 24th March 2020. This limited GRI surgical high dependency capacity to only 8 beds within the Surgical High Dependency Unit (SHDU) and increased staffed Level 3 (critical care) beds in ICU from 12 to 16. The Clinical Director for ICU liaised with medical colleagues within the Medical High Dependency Unit (MHDU) to increase capacity. In response to this, MHDU opened a second area on 2nd April (Ward 44).

49. ICU expansion areas were identified in the PRMH - theatres and recovery area, and main theatre reception - in mid-March. These areas, at maximum capacity, could provide an additional 16 beds, although 14 was considered as a more practical number given space restraints.

50. Estates colleagues provided invaluable support at this time, enabling adaption of expansion areas within days.

- To cohort ICU East (i.e. ventilated patients with COVID-19 in the open ward) we erected 2 separate plastic sheets with zip doors at one end on wooden battens: these remained closed whenever ICU East was in cohort.
- To cohort PRMH theatres and theatre reception we had to erect plastic sheeting with zip doors. A lobby was later created in PRMH theatre to allow ongoing use of the staff tearoom. The expansion areas were accessed via these zip doors.
- Bed and equipment transit through these was difficult.
- We installed plumbing for dialysis in PRMH theatres and theatre reception.

- Patients who needed haemodialysis in these areas needed to be moved to these bed spaces to connect to the plumbing, unlike in ICU East or West where there is plumbing in each bed space.
- We created extra phone and computer points, and later we sourced extra plug banks and then sourced splitters for the wall oxygen Schrader valves (there was only one per bed space in PRMH and reception.)
- Each ICU area needed to have a donning and doffing PPE area created.
- When ICU West (as well as East) went into cohort, we lost our staff administration area, main store, and tearoom to the COVID-19 cohort. Storage areas had to be created outside ICU in the visitor's area. An administration staff base with desks, telephones and computers was created in the ICU visitor area.
- Transfer routes for ventilated COVID-19 patients were created to transfer from theatres to ICU and from ICU to radiology.

51. The GRI ICU is split into two distinct 10 bedded areas (East/West) and COVID-19 patients were first cohorted in ICU East. ICU West started to take COVID-19 patients on 31st March at which point the ITU beds in PRMH theatres were opened. The ICU beds in theatre reception were opened before 7th April.

52. ICU patients confirmed SARS-CoV-2 negative were managed in one bay of PRMH theatres or in side-rooms in ICU East or West.

53. In March 2020 the Scottish Government asked the service to plan for a maximum 4 x base Level 3 capacity. This which would have meant 48 beds at GRI and would have required even further expansion into main theatre recovery. This was discussed with the Senior Management Team, and it was agreed that 42 beds was the maximum planned expansion - accepting the limitations of the estate and the availability of ventilators and staff.

54. ICU consultants ceased any anaesthesia sessions they undertook and started to firm up processes for future expansion mid-March 2020. Consultant staffing plans were made on 19th March 2020: ICU consultants created a full shift rota with 5 consultants per 24h and this operated from end of March 2020 until May 2020. One

advanced ICU trainee was able to be moved to the consultant rota, and an anaesthetic consultant locum with ICU experience moved to work in ICU full time.

55. Anaesthetic consultants from the general rota were approached to support ICU on 9th March 2020. Familiarisation sessions took place on 25th March 2020, and they created and moved to a full shift rota: 2 shifts on, 2 days off, and this was in place by the time ICU expanded its footprint.

56. Some anaesthetic trainees were reassigned from anaesthesia rotations to ICU. Normal minimum trainee numbers in ICU are 2 trainees per shift. This gradually increased to a total of 5 by the end of March and then 6 after 7th April 2020.

57. At this time (March 2020), nurses with previous critical care experience were asked to bring this to the attention of their Line Manager. In response, 21 staff were identified within the GRI: from orthopaedics; urology; acute pain; palliative care; resuscitation; cardiac rehab; corporate; care of the elderly and endoscopy. Two ICU unit trainee advanced critical care practitioners (ACCPs) moved back to support the nursing rota during this wave. Nursing students remained in practice.

58. Theatre and recovery staff were also added to the ICU nursing staff complement (there were around 100 WTE core ICU nursing staff at this point).

59. The impact of these changes was to reduce SHDU capacity at times, and SHDU Level 2 patients stayed in theatre recovery for 1-2 nights at times. From 11th May onwards an additional 'green' SHDU was opened to allow for resumption of elective operating in SARS-CoV-2 negative patients and SHDU capacity was increased to 10 from a previous 8.

60. Transferring patients to other ICUs was complicated by the IPC precautions required by the service and Scottish Ambulance Service (SAS). In the past, a West of Scotland (WoS) ICU transfer team was in place to support inter-hospital transfers however this team no longer existed. The team was disbanded around 2015 as a result of medical staffing issues, the reduction in the number of WoS acute hospitals and the resultant reduction in demand for inter hospital ICU transfers.

WoS efforts were made to re-create this service with trainees and consultants not assigned to ICU but by the time the team was formed the peak was passing, their capacity to transfer was limited in volume and limited to daytime. This team completed only one transfer for GRI ICU.

61. At the time of the ICU expansion, all staff had understandable anxieties. The nature of the anxieties varied between staff groups and between individuals. Fear for their own health, and fear staff were putting their family at risk, was particularly common.

62. All core ICU staff worked significant additional hours and all annual and study leave was cancelled across the GRI (and more widely across NHSGGC). There was absence due to sickness and significant absence due to self-isolation after contact with a potential COVID-19 case. Prior to 24.03.20, all staff identified as a contact had to isolate for 14 days. Following guidance issued on 24.03.20 we had the authority to prioritise testing for staff to allow a return to work. At this time the testing capacity was limited and results could take up to 72 hours. Rostering was therefore very challenging and there were multiple short notice gaps. The opening of the West Glasgow Ambulatory Care Hospital (ACH) testing facility improved this and meant that results could be obtained on the same day and so by the end of April the delay in receiving test results was no longer a major issue.

63. The nursing staff base was not fixed, changing roster patterns for staff that predominantly worked daytime weekdays to a full shift pattern was a lengthy process. From April 2020, theatre and recovery staff rotated according to skills sets required to maintain required theatre operating.

64. In the initial wave of the pandemic, when at peak patient numbers (31 (Level 3) patients across all ICU areas on 13th April 2020 was the peak pandemic expansion), approximately 50 nursing staff were being allocated per shift due to the relatively small size of some expansion areas and the skill sets of the supporting staff. Pre-pandemic funded clinical work would have been provided by 18 nursing staff per shift. In addition, support nursing staff were required outside the clinical areas to manage stores, stock delivery, equipment, staff allocation, relative

communication, and fit-testing. Administrative staff were also required in these areas - we received additional administrative staff support at this time.

65. Operating at this additional capacity raised several concerns by staff including:

- The volume of information that staff had to digest and process was almost overwhelming in March/April 2020. Communicating constant changes effectively was difficult. Much changed over a short period of time in initial weeks. Changing infection control guidelines (often on a Friday evening), and frequently changing public advice made it hard for staff to be sure what they needed to do.
- Nursing staff found it difficult to be in a cohorted aerosol generating procedure (AGP) area during the first wave, without continuous airway trained medical support.
- Some of our additional anaesthetic machines were not sufficient for the needs of some patients, leading to patients having to change ventilators.
- Care standards were not felt to be as good as we would hope to deliver 100% of the time. Core ICU staff felt responsible for patient safety as they had the required skill to look after ICU patients but ratios of core nursing staff and core medical staff to patients were demanding.
- Staff were not able to spend as much time as they would like with their patients.
- Support for activities of daily living such as eating and drinking, personal hygiene, elimination, and mobilisation were compromised.
- Support offered to visiting staff was not always sufficient for every individual. The level of support required of visiting staff was beyond anything they had experienced before. Individual needs were variable both personally and professionally. Psychological support was sourced, over time, for all groups of staff.
- Lack of visiting and direct family communication was a consistent concern.
- Initially, when COVID-19 numbers were low, all the ICU side rooms that were designed to be negative pressure rooms did not meet necessary standards as negative pressure rooms, and concerns were raised about staff and patient safety.
- Staff raised concerns that there could have been better pandemic planning i.e. staff could have been better prepared.

66. As previously highlighted, clinical staff numbers reduced significantly due to staff risk assessment which precluded some staff working clinically in certain areas, or at all. All pregnant staff ceased patient-facing work. PPE availability also limited some staff placement - in those situations where staff fitted no mask at all, or their specific mask was not available on a particular shift.

67. In March 2020, 15 ICU consultants were in post. Of this number, 5 were unavailable to work clinically in the initial weeks of the pandemic due to mask-fit issues or health risk assessments.

68. Pharmacy staff, in additional numbers, came to work in ICU and worked 7 days a week (instead of 5), and Physiotherapy staff from ICU and elsewhere organised to provide a 7-day 'proning team', in addition to providing chest physiotherapy. (Proning is a manual handling procedure where the team carefully manoeuvre the patient's position so that they are lying on their front. This allows for greater lung expansions and improves tissue viability).

69. The ICU expansion resulted in a requirement to upskill staff. Training sessions were organised and included:

- Proning and ICU familiarisation sessions with GRI and Stobhill theatre and recovery staff as elective theatre wound down.
- PPE donning and doffing training sessions were run towards the end of March and then filmed by way of an additional means of supporting staff in safe techniques.
- ICU liaised with the GRI anaesthesia department about utilising twilight rota anaesthetic consultants in ICU during expansion: familiarisation sessions on ICU were run for anaesthetic doctors from end of March.
- 'Intubation' teams were created mid- March, using anaesthesia and theatre staff to transfer patients to theatre to intubate when necessary. Initially there was one intubation team, then two and then one as the pandemic progressed.
- A theatre staff competency assessment, incorporating proning and ventilation, was carried out by core ICU staff, in conjunction with theatre educators, for all visiting nursing staff.
- Bespoke resuscitation training was carried out by the Resuscitation Officers, refreshing skills. This was offered to all staff.

70. ICU admissions increased rapidly towards the end of March 2020 such that we passed very quickly through 85, 92 and 100% occupancy of our pre-pandemic capacity. On 31st March we had 11 Level 3 patients - 16 on 1 April and 21 on 2nd April, at which point we were dependant on the additional capacity which had been created. Admitting capacity was maintained by transferring patients out of ICU to elsewhere (mainly the Queen Elizabeth University Hospital (QEUH)).

71. The GRI is now part of a trauma network, but the opening of the major trauma centre (located within the QEUH) was delayed by the onset of the pandemic. The network commenced on 30th August 2021 and GRI remained a trauma unit thereafter.

72. Between March 2020 and June 2022, we transferred 40 patients into ICU at GRI (details are include in Exhibit CM/03 [INQ000412900]). Of this number, 7 were admitted due to capacity issues in other ICUs. Between March 2020 and June 2022, we transferred 26 patients out of ICU from the GRI and of this number, 11 were transferred due to GRI ICU capacity issues (details are included in Exhibit CM/04 [INQ000412901]).

73. As widely reported, supplies of equipment from manufacturers were difficult to secure. This gave the added challenge of trying to maintain standardisation of equipment in hospitals as unfamiliar models of equipment were required to be introduced into clinical use. Staffing within Clinical Physics also had to change to support a 7-day service to support ICUs in the 4 acute hospitals.

74. The GRI received an additional 28 ventilators to support our ICU expansion. 8 anaesthetic machines were transferred down from Stobhill Hospital (including 1 transport ventilator), 11 machines were received from National Procurement/Scottish Government, 6 from the Royal Hospital for Sick Children (RHC) and 1 ventilator was borrowed from Ross Hall Hospital (private sector). One other ventilator was able to be re-commissioned by Clinical Physics.

75. After the first wave of the pandemic, ICU ventilators were being sourced via the Scottish Government. As we entered wave 2 in the autumn of 2020, we were able to exclusively use Hamilton ICU ventilators (we had 32). This standardisation of equipment made operation much easier.

76. Given this increase in ICU beds and available ventilators, early concern was focused on the resilience of the hospital oxygen supply, and the rate at which it could be delivered. Early in the pandemic and in consultation with our respiratory consultants, we did modify targets for oxygen saturation for both oxygen delivery (92-94% for previously healthy lungs, 88-92% for patients with existing lung disease) and for escalation, but any changes were within relatively tight margins. These measures were put in place to limit oxygen usage and had no reported impact on patient outcomes.

77. Contingency plans were developed to ensure continuity of oxygen supply and a plan was worked up that would see the older part of the hospital transferred to a bottled supply. We came close to maximum utilisation on at least one occasion around March/April 2020. Oxygen delivery within the building influenced our choice for location of additional medical High Dependency Unit (HDU) beds, and we arranged for the provision of two additional oxygen manifold systems to be installed as a contingency back up. Each system was able to provide an additional 68,000 litres to the existing piped Oxygen supply, although we did not need to use them. Daily monitoring and reporting of oxygen usage was initiated to ensure that maximum utilisation was not reached.

78. The increase in ICU capacity also drove an increase in demand for infusion devices (syringe and volumetric pumps) across NHSGGC. This had in part been mitigated by the fact that a number of recently replaced and decommissioned pumps at the RHC and QEUH were able to be recommissioned and transported to pressure sites such as the GRI. From a pre-pandemic base of 132 infusion pumps, the GRI increased its infusion devices capacity to 202 (144 syringe pumps and 58 volumetric pumps). This increase was coordinated by clinical physics colleagues who were able to secure additional devices through other health boards and suppliers.

79. Whilst renal dialysis services continued throughout the pandemic, the increase in ICU provision placed a further pressure on the availability of dialysis machines across NHSGGC. The increase in ICU capacity within the GRI was supported by borrowing 6 dialysis machines from Stobhill Dialysis Unit, one from the Home Dialysis Unit and 1 from the GRI Dialysis Unit.

80. There were multiple drug shortages in the early part of the pandemic (April-July 2022) including Propofol, Noradrenaline, muscle relaxants, IV analgesics and haemofiltration fluids. Pharmacy colleagues adopted a number of strategies to address shortages including:

- Initially identifying the medicines we would require and raising stock levels accordingly.
- Listing of critical medicines and levels identified, based on the number of beds. We based our calculations on the beds we had at baseline, how many patients we had ventilated and our maximum capacity.
- 1st line medicines were identified for each indication as well as 2nd and 3rd line medicines which were stocked accordingly e.g. sedatives, opiates, and neuromuscular blocking drugs.
- Daily meetings initially to look at stock and identify alternatives: these meetings were time consuming and involved a number of senior staff members.
- When Atracurium (muscle relaxant) levels were running low, the aseptic units made up prefilled syringes. These had short expiry date and involved manipulation of many 1000s of vials. This was to avoid these manipulations being undertaken by nurses as it was particularly time consuming.
- Haemofiltration fluids shortage was at times acute and pharmacy colleagues had to supply daily usage figures to national procurement (we were at one stage down to less than 24 hours of fluids).
- Changes to clinical practice (moving to 2nd and 3rd line medicines) depending on stock availability e.g. neuromuscular blockers.
- Pharmacy provided regular updates to clinical staff as to what medicines were in short supply and to move at an earlier stage to plan for shortages if necessary.
- Stock sharing between NHS Boards. A national tool - RxInfo - was implemented by pharmacies to support this.

- Purchase of unusual presentations/ ampoule sizes for contingency. A proportion of this was not used and had to be written off after the peak period.

81. Overall, this was a huge amount of work for pharmacy, nursing and senior medical staff. Through this collaborative work, clinical consequences were avoided.

82. One area where further early discussions took place was with private sector providers and the NHS Golden Jubilee National Hospital (NHS GJNH). This was coordinated initially by the Scottish Government and our own teams were tasked with describing which services might be priorities to deliver on other sites. The NHSGGC Director of Access then engaged with local private providers to explore opportunities and agreed the scope and volume of clinical activity to be transferred. Breast surgery for example, was delivered at the Glasgow Nuffield Private Hospital during the first wave and this was highly successful. There was discussion of taking some of our more complex surgery to the Golden Jubilee National Hospital (GJNH). One service where this worked well was Musculoskeletal Sarcoma (MSK). The complexity associated with the delivery of complex gastrointestinal (GI) cancer surgery and the requirement to maintain a further rota of staff to cover this, as well as the lack of on-site specialist nursing experience, led to a decision not to pursue this option further.

Infection, Prevention & Control (IPC)

83. National guidance was followed at all times and the IPC team in the GRI worked with local teams to apply the national guidance to specific contexts/locations.

84. Guidance was coordinated by the Acute Tactical Group (ATG). Where there were challenges with implementation or interpretation of the guidance, these were highlighted through the ATG and where necessary, papers were taken to this group to be approved through the Specialist Technological and Advisory Committee (STAC) and the Strategic Executive Group (SEG), so that there was a clear governance arrangement. In the early weeks of the pandemic, we realised that there would be alternative guidance coming from specialty groups, Royal Colleges and others. We were clear with our teams that we would adhere to national guidance, rather than deviate under pressure from other interest groups. We did

on some occasions strengthen guidance or introduce guidance in anticipation of an imminent change, for example, with introducing mask-wearing by staff or additional testing of asymptomatic patients.

85. Initially, daily meetings with the Multidisciplinary Leadership Team were held at 8.30am and all guidance was discussed and shared at that meeting chaired by myself and supported by our Infection Control Doctor (ICD). These meeting were scaled back or scaled up depending on the pressures on the site and the community prevalence of COVID-19.

86. Guidance was also circulated by a number of other routes. Key changes to guidance were circulated to all staff through the Core Brief but also by myself to medical staff, and by the Chief Nurse or Director to other staff by email, and by word-of-mouth briefings at ward level. There was also an update at the morning safety huddle, attended by the Chief Nurse and myself, on any key changes and an ability for staff to seek clarification. This meeting was hosted remotely using MS Teams once social distancing guidance was implemented.

87. There is no doubt that the often changing guidance from the Scottish Government/ Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) /Health Protection Scotland (HPS) caused confusion and required reinforcement. The late Friday afternoon updates became something of an issue, but the content was often anticipated so that we were ready for immediate change, or in some cases had made the change already. Where a change to guidance would require significant changes to patient pathways, such as changes to front door testing, we did on occasion defer implementation until the Monday morning, following an assessment of risk but in the main, we worked across 7 days and changes to guidance were usually hotly anticipated and welcomed. For example, teams were asking for universal front door testing for many weeks before this guidance was issued, and testing capacity increased to allow its implementation.

88. As highlighted under para 84, one difficulty early in the pandemic was that professional organisations' own guidance was different to that from the statutory national guidance. For example, RCUK (Resuscitation Council UK) recommended

full PPE for chest compressions. This was the initial guidance given to staff but following PHE (and HPS) guidance that chest compressions were no longer considered to be AGPs, this local guidance changed. We then had further statements form the RCUK and the Royal Colleges endorsing the view that chest compressions were still in their view AGPs. Similarly there was advice from the Chartered Society of Physiotherapists to include chest physiotherapy as a high risk AGP. The British Association for Parenteral and Enteral Nutrition (BAPEN) also provided guidance that nasogastric tube insertion may be an AGP whilst the British Association of Oral Maxillo-Facial Surgeons (BAOMS) and the British Association of Dermatologists (BAD) stated that no facial surgery should be carried out without full PPE.

89. From 2021 onwards, following the introduction of vaccination, there was growing concern about non COVID-19 harm being caused to patients awaiting elective treatment or investigations. Maintaining 'green' and 'red' pathways was a challenge. A negative test alone did not allow us to dispense with airborne precautions as the guidance mandated self isolation as well as a negative test. This meant that emergency patients always required airborne precautions for surgery which greatly reduced patient throughput. There was considerable discussion about how much reliance could be placed on a negative test in an asymptomatic individual and how much we could rely on self-reported isolation. It was not until December 2021 that we relaxed the requirements for airborne precautions on the basis of a symptom questionnaire and negative PCR test.

90. As previously highlighted, the GRI has a mix of estate, some of which dates back to 1915. There is very limited single-room accommodation, particularly in the Medical and Medicine for the Elderly (DME) wards, which are located in the oldest part of the building. Guidance on the need for isolation in single rooms was therefore difficult to implement.

91. Some of the difficulties we encountered in implementing IPC guidance related to:

- Side room availability.
- Space to safely undertake AGPs.

- Lack of clarity regarding definition of AGPs.
- ICU capacity and space for different streams of ICU patients.
- Bed spacing in downstream wards.
- Segregation of staff for different patient streams.

92. In response to these difficulties, a range of IPC mitigations were put in place which included:
    - Where possible, SARS-CoV-2 positive patients being moved from closed wards to the COVID-19 HUBs. The wards remain closed to new admissions, but this reduced exposure to the remaining patients. COVID-19 contacts were left on the ward until 14 days had elapsed unless discharged, in which case, they were asked to complete the period of self-isolation at home.
    - The IPC team had a daily meeting with HPS to update incident reports and review approach.
    - As part of the management of ward outbreaks, the IPC team undertook the screening of all patient and staff groups, where indicated.
    - The IPC team took part in the daily leadership meetings and provided a service over weekends to provide advice and support to staff, and to give real-time guidance on the safest options for patient placement and ward configuration.
    - There were specific discussions in October and November 2020 in response to an increase in ward outbreaks, where additional options for the site were explored. The risk and benefits were fully explored and decisions based on these discussions were made with a measurable reduction in nosocomial cases.

93. A range of IPC and estates improvements were considered and implemented in the GRI Nightingale wards which included:
    - Installation of a floor to ceiling door between the ward area and the start of the nurses' station.
    - Ensuring all windows were able to open top and bottom.
    - Installation of Expelairs vents on windows.
    - Provision of 'air scrubbers' (portable HEPA filter air units).
    - Installation of an extractor between ward and toilet/sluice area.
    - Increase extraction in the toilet/sluice area.

- Increase hand gel stations across the ward.
- Consideration was given to the requirement to reduce the number of beds in these wards.

94. Specific IPC challenges lay within the ED. The initial challenge was to create a specialist assessment and treatment area (SATA) where patients with suspected COVID-19 could be isolated pending negative tests. This in effect, meant many patients would remain within the acute assessment unit for 24 hours or more before being moved into the ward environment. The accommodation within this area is in separate cubicles, but not single rooms and so, from an IPC viewpoint this was never considered ideal. The SATA was established on 26 March 2020 and all COVID-19 related referrals were directed there. The potential for cross infection of patients and staff was a major cause of anxiety and concern.

95. Significant work was undertaken to redefine patient pathways for specific patient groups to direct them away from the ED (for example orthopaedics, minor limb trauma, ambulant spinal trauma, ophthalmology and obstetrics & gynaecology). GP specialty referrals (such as orthopaedics, general surgery, obstetrics, gynaecology, and plastic surgery) were also directed to newly established assessment areas.

96. Specific areas/rooms within the ED were the subject of realignment to support staff, reduce IPC risks and facilitate the flow of patients through the department. For example, one of the resuscitation bays (Bay 6) was converted into a PPE donning and doffing area for staff, and the decontamination and clean prep rooms (both negative pressure rooms) were converted to AGP only areas. The nearby Gatehouse building was used as a redirection for 'minors' presenting to the ED, and this was in operation by 16 March 2020.

97. Patient isolation in 'majors' was initially problematic with a mix of walled and curtained partitions separating cubicles. In consultation with IPC and estates colleagues, hard partitions were installed providing better isolation conditions within this area of the ED. While we were successful in redirecting specific patient groups away from the ED, mental health presentations did not reduce, and patients continued to spend protracted periods within the ED. In late March 2020, Mental

Health Assessment Units (MHAUs) were created across NHSGGC. Whilst the units took some time to embed, there was a subsequent reduction in attendances.

98. In some of our smaller wards, the need to separate different cohorts of patients meant that nursing staff were unable to cross-cover, leading to increased staffing challenges. Pre-pandemic, nurse staffing support for smaller wards (9-14 beds) was provided by neighbouring wards, however given the cohorting of COVID-19 and non-COVID-19 patients in wards, and the risks of transmission with staff movement across wards, this was not possible. This served to increase staffing and workload pressures on our staff and to have a negative impact on staff morale.

99. The lack of single room capacity led to different problems at different times. During the first wave, isolation pending a negative COVID-19 test was the main challenge. Cohorting patients awaiting a test before moving to a downstream ward could result in creation of a large number of contact patients then requiring creation of contact cohorts, but there was often little option.

100. We discussed options to improve turnaround of virology testing - which had been identified as a measure which would reduce the need for prolonged isolation in single rooms - whist awaiting tests, and also facilitate earlier triage of patients into appropriate streams. We worked closely with the Director of Diagnostics, who agreed longer working days with laboratory staff and a later cut-off time for same day results. A local escalation through the Operational Team was also agreed. We secured access to a rapid point-of-care test which, although initially limited to four patients a day, was helpful in certain circumstances.

101. By May 2020 we had agreed detailed protocols for patient placement, cohorting and prioritisation for single rooms and although this was reviewed and modified with changes to Scottish Government issued/ARHAI guidance (for example the introduction of universal testing), the Standard Operating Procedures (SOPs) were well-received by staff and gave much needed clarity. These site-specific protocols were developed with the support of our own Infection Prevention Control Team (IPCT) and taken through the COVID-specific governance routes for approval (Acute Tactical Group/STAC/SEG (See Exhibit 2). During subsequent waves,

when the hospital was at, or near capacity, the challenge of patient placement was even greater and had to be balanced against the real risk of non-COVID-19 harm caused by delayed admission.

102. Patients testing positive for SARS-CoV-2 within an open ward resulted in ward closure and the challenge of maintaining patient flow on the site when there were often multiple closed wards required daily consideration of the optimal ward configuration. Nightingale wards do not allow different cohorts to be accommodated within the same ward, so COVID-19 hubs and contact wards had to be flexibly created depending on the changing demand. This became even more complicated following the introduction of routine flu and respiratory syncytial virus (RSV) testing, with creation of capacity for separate cohorts with COVID-19, flu, RSV, or any combination of the above.

103. Daily meetings with the IPC team allowed us to determine the optimal ward configuration for any given day. Key to success was the utilisation of surgical wards as COVID-19 hubs or contact wards. For the latter purpose, our surgical wards in the more modern part of our hospital estate, allowed different contact cohorts to be accommodated within different bays. We found that mixing different contact cohorts resulted in high numbers of patients subsequently testing positive and the use of our gynaecology and plastic surgery estate to house different contact cohorts from September 2020 appeared to reduce the rate of Healthcare Acquired Infection (HAI) COVID-19. This however, had a major impact on elective capacity and staff morale.

104. The requirement to accommodate shielding patients in single rooms added further complexity to an already difficult situation. We had to make difficult decisions on a daily basis about how to prioritise our limited single room resource. We increased single room capacity where possible by re-purposing a plastic surgery ward (47) and a cardiology ward (24), giving us an additional 17 single rooms above the normal medical complement. The challenges on the GRI site were recognised and an escalation plan was agreed with the Acute Tactical Group and implemented from 4 June 2020. This involved the diversion of referrals from one of the

community assessment centres to the Queen Elizabeth Hospital (QEUH) and a daily single room escalation meeting.

105. From the 4 June 2020, referrals from the Barr St Assessment Centre were diverted to QEUH. This was expected to reduce the number of GRI SATA referrals by approximately 10 per day and was hoped to help with the competing requirements for single room accommodation. An afternoon Single Room Escalation Meeting was initiated so that we could request transfer, or diversion of high-risk patients if single room capacity was critical.

106. There was also agreement on cross-sector support for certain high-risk groups such as renal patients or those receiving chemotherapy.

107. Preventing HAI in our downstream Nightingale wards was a concern for GRI from the outset. The medical teams, with the support of the IPCT, developed cohorting principles and many other measures described in para 93. We confirmed with HPS that in our older estate, 2.7m bed spacing was satisfactory and ensured compliance with this.

108. On 28th April 2020, GRI introduced testing for all patients over the age of 70 - regardless of symptoms - as it was clear that in this group in particular there were many patients with atypical presentations. In addition, the risks to patients within DME wards from asymptomatic cases seeding infection into open wards was considered higher. Universal PPE was introduced by NHSGGC on 2nd April in response to these concerns, well in advance of the national guidance which was not confirmed until 21st April.

109. The introduction of COVID-19 testing for asymptomatic staff and patients was rolled out in line with national guidance in November 2020.

110. In November 2020, and again in line with national guidance, LFT twice weekly testing for all health care staff was introduced. In addition, by the beginning of December, all emergency admissions had to be tested - this extended to all admissions by the end of Dec. NHSGGC's IPC team helpfully produced a summary

providing an overview of hospital testing covering patients and staff and this was shared with our hospital teams (Exhibit CM/05 **INQ000412902**

111. Patients were tested on admission and when recommended by national guidance, were re-tested on day 5. Staff were advised to test using LFTs in line with national guidance. Testing took place during outbreaks on assessment by the local IPCT. Testing policy did not diverge from national guidance. There was also testing as patients moved through the system, but this was again, in accordance with what was in the national guidance at the time.

112. I am not aware of any instances where there was an issue with test kits, reagents, or other testing supplies. There was no point where test kits were not available once they had been introduced. Availability was closely monitored to ensure that there was no impact on testing requirements.

113. Outbreak management followed national guidance. At various time-points, each cluster was managed through an incident management team (IMT) process. Outbreak checklists were used and issued to every ward. Outbreaks were managed in line with the COVID-19 addendum and Chapter 3 of the National Infection Control Manual (NIPCM) and the ARHAI checklist was used during clusters or outbreak investigations.

114. In October 2020 (highlighted in para 92) there were growing concerns that HAI COVID-19 infection was increased on the GRI site, and many options were considered, including closing of the site for a short period. A formal IMT was convened, and an option appraisal considered. Universal testing of admissions was one of the options discussed but required additional testing capacity 24/7 for this to be implemented at that time. This was achieved (through roll out of Lumira DX point-of-care (PoC) testing) by November 2020 prior to the national guidance which was implemented from 30th November.

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

115. PPE procurement was handled by NHSGGC and supplies provided to the site in line with agreed volumes, and in line with additional requests which were made to the local stores team. There were widespread issues with PPE availability in the early weeks of the pandemic, including FFP3 masks, aprons, and visor masks. Despite some anxious moments, to the best of my knowledge we were able to supply staff with the necessary PPE, at all times.

116. Requests for PPE and RPE from centralised NHS supplies and from other health boards and non-NHS suppliers were coordinated through the NHSGGC procurement team and the GRI benefitted from additional supplies secured through such routes.

117. Education events were held for staff on 10th and 13th March 2020, with guidance on PPE, ICU expansion plans and escalation plans. This was an opportunity for senior colleagues to ask questions and voice concerns. Much of these sessions were dedicated to sharing advice on PPE usage, when and how to test, AGPs and other key topics. Another concern was the guidance around point-of-care testing (for example measurement of blood gases or blood sugar), with a requirement that a risk-assessment be carried out. Guidance was eventually shared but it was an early example of the difficulty in translating informal, pragmatic advice into formal written guidance and the sign-off process involved.

118. PPE supply hubs were established close to the ward areas which maintained an accessible stock of all PPE and from the beginning of April 2020 we had begun monitoring PPE usage through the hubs in an attempt to anticipate requirements. The hubs were managed by staff who were able to be redeployed from other areas within the hospital. These staff liaised with colleagues within the stores department of the GRI to ensure that appropriate levels of PPE stock were maintained and were able to respond to any local ward emergency requests for PPE supplies. This process worked very well and was well received by our staff. In preparation for weekends the staff would ensure that additional stock was in place and ensure that PPE related information was shared at daily hospital huddles.

119. As highlighted, PPE/RPE stock levels were also discussed at daily (x3) hospital huddles with local supplies often being reallocated to areas of greater need. This cooperation and understanding of our staff in the support of their colleagues in such situations was positive.

120. Contingency plans were in place, including the potential of re-sterilisation of FFP3 masks. All requests for PPE were handled by NHSGGC procurement and although there were occasions when there were concerns about the resilience of supplies, to my knowledge there was no occasion when PPE supplies were insufficient for us to provide safe patient care within HPS guidance at the time.

121. There was a particular problem for a small group of staff who could only be fit-tested with one type of mask. It was therefore necessary to identify these staff and prioritise available supplies of these masks for this group. We also explored the use of powered respirators and the failure to reach agreement on the use of these was a source of frustration for staff. Infection prevention and control colleagues raised the issue of powered respirators with Antimicrobial Resistance and Healthcare Associated Infection Scotland (ARHAI) however agreement on decontamination of the respirators could not be reached. This led to a statement from ARHAI Scotland that as they were unable to provide assurances on the efficacy of respirator decontamination methods so the use of re-useable respirators was not recommended. (ARHAI COVID 19 Acute Addendum V2.4)

122. There was a shortage of visor masks during April 2020 and reuseable visors were provided which bridged to the period until additional supplies were secured. By the end of April there were sufficient supplies.

123. All decisions regarding PPE were made centrally by the NHSGGC Procurement Team and issues with supply were communicated through the Chief Nurse. PPE related information was shared with GRI COVID-19 Response Group, with updates given on PPE issues raised with staff as part of the daily huddle communications. This process was two way, as staff experiencing issues relating to PPE were able

to highlight this as part of daily huddles and this would be escalated to the GRI Management Team/Acute Tactical Team/GGC Procurement Team as appropriate.

124. By the second week of March 2020, we had used the bulk of our FFP3 supply to complete the fit-testing of our staff. We then received a supply of FFP3 masks (Cardinal) from the national stock which proved difficult to fit - the initial failure rate being 75%. Fit-testing is mask-specific, so the national stock being different to that which we had originally tested our staff to meant that the fit-testing exercise had to be repeated. This was a surprise to us and proved time consuming. A further batch of different FFP3 masks was delivered (3M 1863) which had failure rate of 45%. These dated from 2012 and although they had been revalidated for clinical use, there were concerns that the elastic had lost its resilience there was evidence that some of the straps snapped when donning these mask (these cannot be tightened as fixed straps).

125. Face fit-testing of staff began at the beginning of March 2020 and was coordinated by the NHSGGC Health and Safety Team with additional support from volunteers and latterly the British Army. Additional capacity was generated by peer-to-peer training to support the process. Daily sessions were available from March 2020 and evening sessions were provided for night teams. There were a small number of staff who proved very difficult to fit test or for whom only one of the available masks was suitable.

126. There was clearly anxiety amongst staff that PPE was in short supply and that critical shortages might occur, leading to exchanges about how we would manage this scenario. From an ethical point of view, we would never have asked staff to put themselves at risk, but it was always my belief that faced with this scenario, many staff would have prioritised patient care over their own safety. Staff were aware of the shortage of certain types of RPE and there were proactive attempts by late March 2020 to source powered reusable respirators.

127. One of the issues which caused greatest staff anxiety was the management of cardiopulmonary resuscitation (CPR). In the event of cardiac arrest, HPS guidance was to use RPE for endotracheal intubation (as this was considered an AGP) but

not for chest compression. This would allow immediate resuscitation to commence while full PPE was donned. This pragmatic guidance caused anxiety for staff who felt that all aspects of CPR posed significant risk to staff and the situation was further inflamed by position statements produced by Royal Colleges and others, stating that chest compressions were also aerosol generating. The circulation of conflicting guidance by colleges and other organisations proved unhelpful and caused unnecessary anxiety for staff across NHSGGC. The leadership team were clear on the necessity to adhere to statutory guidance rather than ad hoc position statements from other organisations, however well-meaning.

Visiting Restrictions

128. NHSGGC Board-wide instructions were issued on 13th March 2020 to restrict visiting under certain circumstances to protect both patients and visitors. Visiting restrictions were imposed through national guidance on 25th March 2020. This caused much upset for patients and relatives, but also for staff who were faced with the need to turn away relatives under what were often very difficult circumstances. We did, however, feel that this step was necessary to protect both staff and patients, particularly in the older parts of our estate.

129. Visitors were asked to call the wards prior to visiting and asked to refrain from visiting if they were showing any signs of COVID-19. Visitors were asked to keep their visits and numbers to a minimum with priority given to immediate family/Next of Kin. No children were permitted to visit unless otherwise arranged with Nurse in Charge.

130. Hospital entrances and exits were reduced, to control and monitor visitors to the hospital. A volunteer led 'Give and Go' service was established around April 2020, which supported patients' relatives attending the hospital to drop items off for patients. Relatives would be met at the hospital entrance area and items would be placed into bags and then delivered to patients in our wards by a team of volunteers. Communication about this service was promoted at ward level by staff engaging with relatives during telephone conversations and information on the service was also placed on the NHSGGC website. We received lots of positive

feedback from our patients and their relatives following the introduction of this service.

131. All wards were issued with iPads to allow virtual contact. At all times, our staff tried to manage this very difficult situation with compassion and understanding. NHSGGC Communications Team produced and circulated posters confirming visiting arrangements, and these posters were on display across the GRI site. Posters were updated in line with SG changes when these took place.

132. Visiting restrictions were particularly challenging in the intensive care environment, where only one relative was permitted to visit in an end-of-life situation. The donning of full PPE for all visitors during such visits only served to add to frustrations. Most of the communication with relatives was initially by telephone and there was a lot of public misinformation. The lack of family presence was very challenging for patients, families, and our staff. Within ICU, families would receive a routine medical update 2-3 times a week however in April 2020 the aim was for every day. Telephoning families every day placed further pressure on the workload of medical and nursing staff and given the workforce changes that had taken place, not all staff had experience of this kind of communication.

133. During the winter of 2020 we were faced with the challenge of multiple ward outbreaks of HAI COVID-19 and considered the need for further restrictions on visiting. Across NHSGGC we had very different estates and we were always most concerned about our open (Nightingale) wards. Visiting policy was therefore managed by an NHSGGC Board-wide Committee and decisions taken through COVID-19 governance routes where there was deviation from national guidance. Exhibit CM/08 **INQ000480768** describes the timeline of national guidance relating to hospital visiting and how this was managed by NHS GGC.

134. Prior to universal vaccination, visiting restrictions still felt like one of a number of essential measures to minimise patient risk. At this time different visiting rules were in place, nationally dependent on the 'tier' of community prevalence.

135. Management of patients who had limited or no English, or other communication requirements was by telephone/video translator and NHSGGC guidelines were already in place to support staff in such situations. This was never highlighted as a particular issue or cause for concern within the GRI.

136. There is no question that visiting restrictions during the pandemic had a negative effect on the patient experience and the experiences of family members/loved ones and our staff. In the main, patients and their relatives were understanding of the position being taken and the rationale for this. However, on occasion there were situations which had to be escalated in order to be resolved. Staff were faced with having to turn away relatives which, when national guidance was not in place, sometimes felt arbitrary. Nurses in particular were placed in a very difficult position where often they could see that a visit from a relative would have a positive impact and serve to reduce anxieties on the patient or their relative, however national guidance precluded this from taking place.

137. In recognising some exceptions, and the challenges faced by our frontline staff, the view is that the guidance on visiting generally struck the right balance between minimising the risk of infection and enabling patients to benefit from the support and comfort of visitors. With specific reference to end of life visiting, national guidance was adopted, in December 2020 NHS GGC approved guidance to support end of life visiting (Exhibit CM/09 **INQ000478112**

Patient Treatment & Support

138. Management of non-COVID-19 conditions changed throughout the pandemic. In the first wave there was a reduction in admissions with non-COVID-19 illness and marked reductions in referrals through the usual elective routes. The concern over endotracheal intubation and other AGPs led to significant delays in theatre management and the need for surgical teams to work on a full shift basis so that operating could continue into the night. There were also major concerns over endoscopy and only urgent/emergency endoscopy was carried out, with full PPE in use in theatre. The air exchange rates in our endoscopy suite were such that they were not considered suitable for AGPs.

139. Initial proposals for limited cancellation of elective activity were issued on 13th March 2020 to allow ICU training, fit-testing etc. Similarly, requests for elective medical cancellations were approved. The plan within GRI on 13th March was for significant cancellations the following week. We would then run half-day training sessions for theatre staff to prepare for ICU expansion.

140. The first formal discussions about elective surgery took place on 19th March, and teams were asked to consider the lists for the following week, particularly where there was an expectation of a need for HDU or ICU care.

141. The response from GRI was to:

- Review all major surgery requiring critical care on a patient-by-patient basis, with a view to postponing all but clinically urgent cases. There was agreement that any patient who did undergo surgery would do so with full understanding that critical care may not be available at the time of need. This was considered essential to allow expansion of critical care. We also appreciated that there was a 7–10-day lag before any new patients undergoing such surgery would leave hospital. Cancer resection not requiring critical care was planned to continue at this stage.
- All non-urgent endoscopy was cancelled as clinically appropriate (as this is aerosol generating procedure) to free gastroenterologists and other staff for training and redeployment. Urgent referrals continued, along with cancer referrals, urgent interventional procedures, and urgent endoscopic retrograde cholangiopancreatography (ERCP).
- All non-urgent clinical appointments were reviewed, again to allow staff to be freed for training, additional front door activity and redeployment. This was initially for respiratory clinics and sequentially involved other specialties giving health records time to work through clinic lists. Arrangements were be made for urgent appointments where possible by telephone or 'attend anywhere'.
- Activity continued (until staff required to be redeployed).
- Elective inpatient activity (not requiring critical care) initially continued as anaesthetic training requirements and ongoing capacity allowed but was reviewed daily.

The escalation plan beyond this was:

PHASE 2

- All elective in patient surgery will cease, other than for clinically urgent cases, urgent cancer resections with decisions made on a patient-by-patient basis in consultation with Clinical Leads and Chief of Medicine.
- Ambulatory Care Hospital (ACH) activity will continue as staffing allows.

PHASE 3

- All elective activity will cease.
- Rotas will be redesigned to increase weekend support, ED shifts (with redeployment of surgical staff). Cancer and urgent referrals prioritised on an individual basis.

  (This phased approach to reducing elective activity was used again in the winter of 2021 during the Omicron wave, when hospitals were back at full capacity).

142. Decisions on cancellation of elective activity required to be approved by the Strategic Executive Group but different hospitals were impacted at different times. In addition, each hospital site had a different range of surgical procedures with different levels of perceived risk to patients and likely requirements for ICU. There was an early appreciation that for some patients the risk of post-operative COVID-19 was such that surgery was very high-risk and non-surgical options were introduced for many cancer patients and even non-cancer emergencies such as appendicitis, in line with practice elsewhere in the UK.

143. Specific arrangements were put in place to support emergency activity, for example, a 'mutual aid' arrangement was agreed with the GJNH to take all myocardial infarction patients (emergency cases) from the West of Scotland. Pre-pandemic, the arrangement was to transfer patients back to their parent Health Board however during the relevant period patients remained within the GJNH and were discharged directly from there. Orthopaedic sarcoma cases were also referred to, and treated within the GJNH by GRI surgeons.

144. At the start of the Pandemic in March 2020, private sector activity was in effect closed by SG and they were not allowed to operate in other than very tightly controlled circumstances. Around July 2020, SG engagement took place with the private sector to identify surgical capacity. NHS Health Boards were allocated clinical sessions within the private sector and response to this, GRI patients in a number of specialties such as: plastic surgery; colorectal cancer; breast cancer and urology had surgical procedures (undertaken by GRI clinicians) within the private sector facilities.

145. As services restarted after the first wave, there were many efforts to reintroduce services whilst minimising patient and staff risk. Proposals to de-escalate PPE requirements for colonoscopy were approved in June 2020. In addition, a revised upper GI referral pathway minimised the use of endoscopy and introduced cytosponge as a lower risk investigation. High speed cutting (unless respiratory or nasal sinuses) was removed as an AGP in June 2020 making elective orthopaedic surgery feasible.

146. At this time, measures were taken to introduce pre-procedure testing that would allow surgery to be carried out within 'green' pathways, although full PPE was still required for all AGPs. The backlog of cancer surgery was prioritised and required separate 'green' HDU and ICU capacity to be protected. There was much discussion about how best to use our cold sites across NHSGGC, but practical limitations (mainly staffing and the need to use surgical bed capacity for medical boarding patients) prevented reorganisation of services in a Board-wide way.

147. With the re-opening of our Ambulatory Care Hospital, we were able to reintroduce elective non-cancer surgery and successfully developed short stay arthroplasty. Subsequent re-organisation of our surgical wards allowed 'green' areas to be protected within GRI and allowed reintroduction of elective general surgery, gynaecology, orthopaedics, and plastic surgery - although capacity continued to be limited by the need to adhere to full airborne precautions for all general anaesthetic procedures. Prioritisation was coordinated in line with national guidance which continued to impact on certain patient groups.

148. There were many changes to maternity services at different stages of the pandemic and this included:

- An amalgamation of the peripheral antenatal clinics due to some of the Primary Care Health facilities being repurposed as a result of COVID-19.
- Antenatal clinics were redesigned to increase virtual clinics and reduce footfall.
- A reduced antenatal and postnatal schedule of care with increased use of virtual technologies, and significant compromises in bare minimal achievable care pathway was agreed and implemented with roll out of virtual technology.
- The Homebirth service was temporarily suspended on 19th March 2020 and the midwives reallocated to support Community Midwifery Service.
- Parent Education Classes and Enhanced Recovery for Obstetric Surgery (EROSS) Classes were suspended and replaced online with written resources.
- There was review and changes to other antenatal and labour ward processes/guidelines to support a reduced footfall and maximise the prevention and management of obstetric emergencies.

149. At GRI we have always maintained that patients are safer waiting within the hospital, rather than in the back of an ambulance, and so patients are routinely moved into corridor space. This creates additional workload for ED staff but allows ambulances to be freed to attend other emergencies.

150. Early engagement with SAS ensured that the ED were pre-alerted to potential COVID-19 patients. There were occasions when - due to the space constraints within the ED - patients had to remain within the ambulance and the tracking of these patients became a separate administrative task for reception and nursing staff. I appreciate that there were many instances of handover delays and excessive waiting times for ambulances reported in the media, but this was less of an issue for us in GRI due to our local arrangements.

151. Prior to the first admissions to GRI, we were well aware of the difficult decisions requiring to be made by colleagues in Italy and elsewhere and we were naturally

concerned that we should have a system in place for agreeing treatment escalation plans. This was one of the stimuli to have additional senior cover overnight so that these decisions would never need to be made by junior doctors in isolation. However, it was quickly apparent that decision making was not straightforward and so, a daily escalation meeting was held with representation from respiratory medicine, critical care, and emergency medicine - where individual patient discussions could be ratified and agreed. National ethical guidance was issued in April 2020 proposing NHS Board and national ethics groups to be established.

152. Non-Invasive Ventilation (NIV) provision was rapidly expanded by developing a SOP for NIV use and by re-tasking respiratory physiologists from lung function and chronic ventilation roles towards acute patient care. We diverted from the early experience in other countries by favouring NIV over continuous positive airway pressure (CPAP) well ahead of similar changes elsewhere. We modified the NIV circuit used to best maintain principles of infection control and explored the use of hood-ventilation as soon as was practicable.

153. An NHSGGC-wide Treatment Escalation Plan (TEP) /COVID-19 plan was introduced in March 2020 and agreed through the Acute Tactical Group (Exhibit This represented a simplified version of the previously used TEP and was incorporated into the admission proforma to ensure that it was completed for all patients on admission. The TEP focused on the appropriate level of escalation, with the added precaution that two senior decision makers needed to agree in situations where comfort care only was appropriate. The TEP included a trigger to complete a Do Not Attempt Cardiopulmonary Resuscitation (DNACPR), if appropriate. A daily escalation meeting was in place to ensure that individuals were supported in decision making and there was an early understanding of the futility of escalation to ICU care for certain groups. A Clinicians' Guide was prepared by our Respiratory Team and included signposting to the RedMap (a system developed in University of Edinburgh to aid end of life discussions with patients and families) framework to guide discussions with families. **CM/07 - INQ000477554**

154. I am not aware of any concerns raised by clinicians about a national tool for decision making about rationing care. The focus initially was not on rationing care

but rather on expanding level 2/3 provision to accommodate increased patient numbers. I do not recall any discussions about criteria for rationing care for individual patients, although we were all becoming aware of the limitations of escalation for certain patient groups who had particularly poor survival, e.g. older patients and those requiring multi-organ support. In the early stages of the pandemic and in consultation with our respiratory consultants, we did modify oxygen saturation targets given the concerns regarding our oxygen capacity (previously covered under para 43).

155. As above, there was a clear guidance document prepared which detailed management protocols, TEPs and signposting to other sources of information. We did not specifically use ReSPECT forms in GRI but all patients with COVID had completion of a TEP and DNACPR form if appropriate - this was reviewed on a regular basis and as above there was a system in place for discussion and escalation of these decisions through the daily escalation meeting which I, or my deputy would attend.

156. GRI had paper records and the DNACPR form was scanned as part of the final Electronic Patient Record. To my knowledge, there were no concerns about disproportionate use of DNACPR forms in any patient group, nor was I alerted to any concerns about patients arriving at GRI with inappropriate DNACPR forms.

157. I do not think that community DNACPR notices had any meaningful effect on our practice within the hospital, since it was standard procedure to consider TEP and DNACPR forms on new admissions, based on clinical characteristics identifiable at the time of admission. I do not remember any apparent community forms which appeared inappropriate, nor any sense that protected characteristics were an influence. Guidance on DNACPR completion and discussion was issued by the Palliative Care Team, with posters on the wards highlighting the need for discussions and guidance for completion.

158. Scottish Palliative Care guidelines on COVID-19 were issued in early April 2020.We issued local guidance to staff on the use of TEPs with signposting to RedMap.

159. Existing practice arrangements for patients with sensory impairment were maintained throughout the relevant period. Translation was achieved through online services, and I am not aware of any issues with this service or of any specific concerns raised about disproportionate impact of PPE or visiting on people with protected characteristics.

Impact on Staff

160. The pandemic impacted on staff morale, health and well-being in different ways through the relevant period. In some areas this impact was profound. Initially, there was considerable and justifiable fear about the personal risk to staff (and their family members) of managing patients with COVID-19. Staff with other health problems or those over 55 were perhaps most concerned. Staff working in ICU where full PPE was worn throughout a shift, suffered facial trauma from FFP3 masks and physical exhaustion working in full PPE. Staff managing the sick and dying found this traumatising.

161. The impact of dealing with high levels of mortality and the compromised level of family engagements as a result of the hospital visiting restrictions was particularly challenging for many staff. Reduced staffing inevitably had an impact on the standards of care our staff were able to offer our patients and this also served to have a negative impact on job satisfaction, morale, and wellbeing.

162. During the autumn of 2020, there was considerable staff concern about HAI COVID-19, particularly amongst our DME team. As the pandemic went on into 2021 and 2022 the main impact on staff was the disruption to normal working arrangements and the necessity of dealing with patients waiting for appointments or procedures, particularly as services were slow to recover and guidance continued to mandate universal testing and COVID-19 precautions.

163. ED teams faced long waits for patient transfer to wards and often came to work facing a department at maximum capacity with patients from the previous 24 hours. This created a working environment which was often felt to be unsafe, leaving staff feeling exposed.

164. Medical teams had discontinued elective work to support the extended medical bed footprint during the first wave in 2020 but for the remainder of the pandemic there was a necessity to maintain (as far as possible) normal elective activity. This resulted in teams having to take on additional patients within existing job-planned activity or to accept additional paid shifts. This became more difficult to sustain as paid shifts were unattractive for various reasons, and those few who were prepared to take this on became less willing to continue. The pressure on medical managers to maintain cover during this time was immense.

165. A range of staff wellbeing support measures were developed and coordinated at a GGC level and were put in place in response to COVID-19 (several of which have continued post-pandemic), including:

- Staff Rest and Relaxation Hubs to provide staff with a safe environment, enable peer to peer support conversations and to signpost all the support provision available.
- Face-to-face psychology support was made available to staff at the forefront of managing the pandemic.
- A Staff Helpline run by Trauma Services.
- Support to staff who were shielding and to staff newly working from home.
- Training in, and use of Psychological First Aid by staff to enable more effective Peer Support conversations.
- Targeted use of Psychologist led team-based reflective practice models (for staff in ICU).
- The promotion of 'end of shift 10-minute Wellbeing Huddles' as a routine for patient facing care teams.
- Staff Mental Health Check-in and Assessment Process developed by Psychology Service – carried out at 3, 6 and 12 month intervals and mental health assessment and treatment/care pathway.
- The provision of Mindfulness Based Stress Reduction (MBSR) sessions.
- Hospital chaplaincy services providing pastoral support to staff.

166. Rest & Relaxation (R&R) hubs were created in two areas within GRI during the first wave. These were supported by volunteers from the airline industry and were often

provided with meals by local restaurants. We also made available a staff counselling service provided by NHSGGC Mental Health teams. These measures were well received and resulted in permanent repurposing of these areas for staff use during breaks and mealtimes. In May 2021 the NHSGGC Occupational Health department established a Long-COVID service in response to the high numbers of staff who were absent from work with Long-COVID. The service was funded for two years. A total of 454 staff engaged with the service. All staff had a minimum of one management referral appointment to establish Long-COVID symptoms, work status and barriers to employment. Of the staff who engaged with the service, 68% attended the eight-week self-management group and 65% needed one-to-one input from occupational therapy (OT) and/or physiotherapy (PT). At the point of referral to the service, 108 staff were at work and this figure increased to 281 at work on discharge.

167. Risk assessments for staff were managed by local managers and for nurses by the Lead Nurse. There was some concern raised regarding the time which was taken to agree the terms of the national risk assessment tool, and this was raised by staff-side colleagues (Unions and professional bodies). Following receipt of the tool in the early stages there was a need for HR leads to provide clarification and support to line managers. The introduction and completion of staff risk assessments served to have a further impact on short and long term staffing plans and the identification of staff who required redeployment away from frontline service.

168. I am not aware of any Equality Impact Assessments (EQIA's) being undertaken in respect of IPC guidance however EQIAs may have been undertaken at a national level. The only consideration of which I am aware where we conducted an EQIA was for face fit-testing for those who, for religious reasons, preferred not to shave. In February 2020 this issue was escalated by the Deputy Medical Director to the Deputy Director of HR and in turn to the Head of Equalities and Human Rights. I am unaware of any national response or guidance around this however we considered that to ask a member of staff to shave was, in the circumstances, a reasonable management request. Allowing staff to wear a mask without being clean shaven would put them at risk of exposure. Staff who were not prepared to

shave were placed in low-risk environments after a formal risk assessment was completed

169. Our vaccination programme did prioritise Black and Minority Ethnic (BME) staff and patients in light of emerging learning about disproportionate impact. The NHSGGC communications team circulated details of this via the Core Brief and on the GGC Website towards the end of 2020. NHSGGC also developed a risk assessment for BME staff with feedback from the BME forum which was then used across all sites.

170. At the beginning of the pandemic, a briefing document was shared with me and other NHSGGC Chiefs of Medicine by the NHSGGC Public Health team on 24th February 2020, at which time there had been no positive cases notified in Scotland. Also on 24th February, we were asked to repatriate a patient from Thailand for an orthopaedic procedure and this required us to consider the infection control precautions we would need to put in place. At this time, HPS had very specific guidance on what constituted an at-risk individual, where management would involve full PPE and isolation pending a laboratory result. This guidance was updated on the HPS website and was communicated to me as a medical lead by email from the Public Health Department. Initial guidance was that any patient meeting the case definition would require to be isolated and tested in a negative pressure room, of which we had only four in GRI.

171. At that time, the plan was for any patients to be managed within the QEUH, where there was greatest single room capacity, and for all patients requiring placement decisions to be discussed with the Infectious Diseases (ID) team. The plan from Clinical Cell was for four (or five) units in Scotland to take patients for admission regardless of clinical condition. At GRI, our expectation was that we would take the bulk of the non-COVID-19 admissions, freeing capacity on the QEUH site. This, however, was never formally worked up or communicated and plans for transferring COVID-19 positive patients across the city were never shared. In reality, there was an early appreciation that we would need to use all of our sites to manage the expected number of patients, but this initial plan (during the so-called containment phase) was to cause some unrest with senior staff for many months to come.

172. NHSGGC established an Acute Tactical Group that served as the conduit for two-way information flow between GRI (and all other sites) and the Executive-Level Senior Management Team. I attended this meeting along with the Hospital Director and later also the Chief Nurse. This system worked both as a forum to discuss issues raised by my team in GRI and to discuss implementation of guidance as this came from national teams.

173. At the onset of the pandemic, national guidance was aimed at containment of COVID-19. The guidance on testing was initially highly restrictive but this was understood to be due to the very limited testing capacity at that time. Application of the guidance on testing, prior to rapid PoC tests being available, required isolation pending results and this proved very difficult in practice due to single room availability and the other competing demands for isolation (particularly shielding). Holding cohorts of patients in bays pending test results resulted in many 'contact' cohorts and these proved to be very high-risk patients who would require isolation themselves for prolonged periods. As previously highlighted, the guidance on universal testing, universal PPE and universal patient testing were implemented in the GRI in advance of national guidance.

174. The guidance on shielding was a particular challenge. At one stage in June 2020, we had 127 shielding patients on site which already exceeded our single room capacity, before any consideration of COVID-19 patients, contacts or the many other patients who might need single rooms. The inability to isolate and protect shielding patients was a major concern and by July 2020 we had sought approval to cohort groups of low risk, test-negative shielding patients. We were relieved when the guidance to 'pause' shielding was eventually received in July 2021.

175. The guidance on pre-operative testing required much discussion between our own team, GGC IPCTs and ARHAI. There was particular confusion about amber patients and a need for logical consistency. The inability to move amber patients to a low-risk pathway with a negative test was a specific concern. Other guidance such as the need to separate green from red pathway patients in, say radiology, were not practical.

176. During the first phase of recovery in the summer of 2020, we adopted the four-nations guidance on creation of green pathways but found that at a practical level, we would admit patients 'green' but manage post-operatively as 'amber' due to the challenges of having separate cohorts of staff and the need to share critical care with both elective and emergency patients. This actually worked well and allowed us to return to cancer surgery more quickly than might otherwise have been the case.

177. Guidance on the use of NIV was challenging. This being considered an AGP required use of single rooms (negative pressure, of which we had only four on-site) and full PPE, with donning and doffing areas which we were unable to provide. Much of the debate about AGPs was very difficult for staff, as the evidence base for some of the guidance seemed weak and the impact on our ability to deliver care was (as in the case of NIV or high flow oxygen) substantial. Early concerns were raised about the guidance against use of NIV in particular – this was felt to be over-cautious as these were not considered by the clinical teams to be aerosol generating and would be lifesaving in the context of limited ICU capacity. High flow nasal oxygen was added to the AGP list on 10th March. This was the beginning of many discussions over the weeks ahead in relation to AGPs, much of which proved to be unhelpful.

178. In the early stages we were happy to draw on guidance from other health systems based on their experiences, including informal information from colleagues elsewhere in the world. Guidance for delivery of NIV was issued by NHS England in March 2020 (NHS Publications approval reference: 001559).

179. It became clear fairly quickly, across a range of areas that NHS Scotland guidance would not be available within the timescale needed for definitive action, so we became accustomed to providing local guidance with the agility to change with evolving knowledge and experience. Examples of this include the introduction of universal wearing of PPE across NHSGGC on 2 April 2020, the adoption of NHS GGC cohorting guidance on 30 March 2020 and the screening of all asymptomatic patients in November 2020. Our ability to comply with national guidance when it

did emerge had to be considered within the architectural constraints of the older estate - open wards, few single rooms etc.

180. It was also clear on the ground that some of the advice about infection control early in the pandemic was incorrect and unhelpful - we were advised about droplet spread in a situation where airborne spread increasingly seemed possible, and guidance on AGPs and the PPE requirements for different scenarios were regularly challenged by staff.

181. At a national level, the lack of a supply of approved powered respirators was difficult to understand. We were advised by HPS that there was a national stockpile of RPE (FFP3 masks) and that there was no validated powered respirator for use in the healthcare environment. As it turned out, the national stockpile was different to the masks used for fit-testing and ultimately was largely unfit for purpose. Powered respirators, at least for ICU staff, would appear an essential measure in preparation for a future pandemic.

182. Terms of reference for a NHSGGC Board-wide group (Acute Tactical Group) were circulated on 3rd March. This initially was planned for once weekly but escalated to twice weekly or daily, depending on the evolving situation. The first meeting of the Acute Tactical Group was held on 9th March and discussed the need to prepare for a step change in the number of cases, including the likelihood that sites would need to have in place measures to manage their own COVID-19 cases, although at that point cases from around the West of Scotland were being transferred into the QEUH regardless of clinical condition.

183. I held our first meeting of our own COVID-19 response team in GRI on 28th February, where we discussed our response and what we would need to consider in the weeks ahead. Specifically, we reviewed the pandemic flu plans which we were advised would form the basis of our initial response.

184. The first GRI suspected COVID-19 patient was admitted on 8th March – although plans in place were for admission to QEUH, this did not happen due to the complexities of patient transfer arrangements under such circumstances, and the

first patient to test positive came via SAS through an uncontrolled pathway. The first GRI patient to test positive was admitted on 12th March. From this date there were daily cross sector calls, followed by a GRI pandemic response group meeting.

Reflections

185. COVID-19 has presented Glasgow Royal Infirmary with a challenge which is unprecedented in both scale and impact. Whilst there are key lessons for both the GRI and the NHSGGC as a whole, my view is that the NHSGGC response has been effective in increasing available critical care and acute in-patient capacity to a level that was never breached even during the peak prevalence of the virus. Emergency services were also effectively maintained during the period(s) when the virus had maximum impact.

186. Key elements in the effective GRI response have been the incredible staff commitment and flexibility, and effective planning in a rapidly evolving crisis.

187. NHSGGC's and GRI's pandemic preparations could have been better, despite plans being in place and desk top testing of the plans being undertaken. It is accepted that pandemic plans have been updated at NHSGGC level to reflect local learning. Further work is required around pandemic preparedness plans for each acute hospital site and the planning should include the provision of elective care on protected sites as well as private sector provider engagement.

188. Parts of the existing GRI estate are over 100 years old and not ideal for managing a pandemic of a respiratory virus capable of airborne spread. This presents a significant transmission risk in open wards. Health board pandemic plans should recognise the challenges within the GRI and other older hospitals as part of their pandemic planning process and help prioritise strategic plans to improve the estate.

189. Staff followed national guidance in the delivery of care however the frequent changes in guidance served to increase confusion and undermine clinical confidence. National decision makers must at all times be clear, consistent and

evidence based with their message. Guidance needs to take into account the risk to all patients from non-infective illness and not just the risk of transmission of infection.

190. Given that NHS Scotland operates a centralised procurement model, NHS National Services Scotland (NSS) should ensure that pandemic contingency stock is always fit for purpose. The rotation of this stock would ensure that there would not be an issue with expiry dates when the stock needs to be brought into use. Further, standardisation of contingency stock and in particular FFP3 masks would allow for effective fit-testing and reduce the need for repeated exercises.

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: 14/05/2024