

Witness Name: Dr Daniele Bryden

Statement No: 1

Exhibits: **DB1/001 - DB1/082**

Dated: 18 December 2023

## **UK COVID-19 INQUIRY**

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### **WITNESS STATEMENT OF DR DANIELE BRYDEN**

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I, Dr Daniele Bryden will say as follows on behalf of the Royal College of Anaesthetists, the Faculty of Intensive Care Medicine, and Association of Anaesthetists.

#### **OUR ORGANISATIONS' ROLE, FUNCTION AND MEMBERSHIP**

##### **Royal College of Anaesthetists (RCoA)**

1. RCoA is the UK professional and statutory body for the medical specialty of anaesthesia and has a combined membership of more than 24,000 fellows and members. It sets standards for and oversees training for anaesthetists, and both sets and runs professional examinations. It also feeds into the recruitment processes for anaesthetists in training. It is responsible for supporting its fellows and members throughout their careers, setting standards of clinical care, and acting as the voice of the specialty on behalf of the membership. This role extends to each of the four UK nations, with Boards of clinicians who keep the College informed about matters in those nations, interact with the equivalent governmental and arm's length bodies, and respond to questions and consultations. The chairs of these Boards sit on the College Council.

##### **Faculty of Intensive Care Medicine (FICM)**

2. FICM is the UK professional and statutory body for the medical specialty of intensive care medicine (ICM), the doctors who lead critical care services (intensivists), Advanced Critical Care Practitioners (ACCPs), and Critical Care Pharmacists, with around 4,500 members across the four nations of the UK. FICM sets standards for and oversees training for intensive care physicians and ACCPs, and runs professional examinations. It also feeds into the recruitment processes for

intensivists in training. In addition, it promotes education, produces standards and guidelines, influences national policy, and works to improve outcomes for patients and their families. FICM established and leads in the production of the Guidelines for the Provision of Intensive Care Services, which is the definitive reference source for the planning, commissioning and delivery of UK intensive care services and forms the basis for inspection of critical care services by organisations like the Care Quality Commission.

### **Association of Anaesthetists (the Association)**

3. The Association is a professional organisation made up of over 10,000 anaesthetists in the UK, Republic of Ireland and internationally. Its main aims are to improve patient safety, to improve patient care, to provide education for anaesthetists, to support the wellbeing and interests of anaesthetists, and to support research in anaesthesia. The Association has around 6,500 members in England, 900 in Scotland, 500 in Wales and 300 in Northern Ireland. The rest of the membership is based internationally including in the Republic of Ireland. The Association has a Scottish Standing Committee and an Irish Standing Committee which meet separately up to three times a year. The Convenors of these Committees are also co-opted members of the Association's Board of Directors and Council.

### **Our role**

4. The primary role of our members was in the delivery of care to patients. Our members were dedicated to delivering care to the most unwell patients in hospital and were required to adapt and respond to the pandemic quicker than any guidance, action, or direction was being created, or indeed clearly communicated, to those on the frontline.

5. Our members also undertook a huge amount of work outside of clinical settings, including in providing relevant and important information to those in decision-making capacities so that the response within our specialisms to the pandemic was as effective as it could be.

6. As organisations, the Association, FICM and RCoA took on proactive leadership roles during the pandemic including creating resources for clinicians and hospitals, providing clinical expertise to policy makers, advising government, signposting, supporting, and interpreting official NHS guidance, and educating the public, for example via media engagements.

7. We conducted research to track the impact of the pandemic on the experiences of our members and matters relevant to the profession including critical care capacity, staff redeployments, wellbeing, access to Personal Protective Equipment (PPE), and other matters.

8. We rapidly reviewed new information and guidance and created a unified online 'hub' between the specialties of anaesthesia and ICM to publish guidance and update the workforce on developments.

9. We produced 12 webinars between 14 March and 23 June, and they were viewed around 54,000 times. The first one, "What you need to know on the frontline", took place on the first weekend of our emergency footing and was ultimately viewed 30,000 times. Further details are included in paragraph 81.

## **OUR ENGAGEMENT WITH GOVERNMENT DEPARTMENTS/ AGENCIES, PUBLIC BODIES, NHS ORGANISATIONS AND EXPERT GROUPS**

10. As individual organisations, and as a collective, we engaged with and made representations to a wide range of stakeholders including government departments, public bodies, and wider NHS organisations.

### **Meetings with the Chief Medical Officer**

11. RCoA and FICM had regular meetings with the Chief Medical Officer (CMO) and NHSE Medical Director's Office through the Academy of Medical Royal Colleges (AoMRC). These meetings increased in frequency as the pandemic progressed. At the height of the pandemic the meetings happened twice per week. Information was shared that helped determine the content of rapidly developed NHS guidance and its dissemination.

### **Meetings with the National Medical Director of NHS England**

12. At the height of the pandemic meetings between the National Medical Director of NHSE and the AoMRC occurred twice weekly. FICM and RCoA were represented at and inputted into these meetings and discussion. There were also sometimes smaller meetings convened to discuss specific specialty related issues.

13. At these meetings FICM and RCoA received information, including:

- (a) Supplies of PPE, when next deliveries were due, how much was in storage, and how much was being distributed.
- (b) Information on the trajectory of the pandemic, the numbers infected, numbers hospitalised, epidemiology and modelling data. This allowed for planning of responses and for clinical staff to be prepared.

14. FICM and RCoA also communicated to the National Medical Director:

- (a) Issues that clinicians were facing and made suggestions as to what might be done to alleviate them.

- (b) The need for clarity around PPE requirements in different situations, which could help allay concerns about it being inadequate.
- (c) Information about staff morale and what could be done to improve it.
- (d) Advice that other hospital services should not be restarted too quickly, due to the staff pressure it would put on Intensive Care Units (ICUs) if staff drafted in to support pandemic intensive care activity were redeployed back to theatres, and the pressure of additional patients presenting to intensive care following elective surgery.

#### **Meetings with NHSE Clinical Reference Group (CRG) for Critical Care for England**

15. FICM is a member of the NHSE Clinical Reference Group (CRG) for Critical Care for England. The CRG is responsible for determining service specification standards and models of payment for specialised services commissioned within critical care. During the relevant period, as part of the CRG, FICM was involved in discussions regarding national planning relating to critical care services and escalation capacity, clinical guidance, staffing recommendations, extra corporeal membrane oxygenation (ECMO), the development of transfer services for mutual aid, and the development of post critical care rehabilitation services.

16. This group met with increasing frequency as the pandemic progressed and FICM had almost daily phone calls with the chair, Professor Jane Eddleston. During these calls and meetings, discussions centred on the rapidly changing situation during the pandemic and how to manage it. FICM provided information and discussed plans that could be shared with the government, NHSE, members, and the public.

#### **National Clinical Director for Perioperative and Critical Care**

17. FICM and the Intensive Care Society (ICS) also had weekly strategic meetings with the National Clinical Director (NCD) for Perioperative and Critical Care after they were appointed by NHSE after the start of the pandemic. These meetings allowed the organisations to share information and concerns, including what was happening within NHSE regarding critical care and issues encountered by clinicians on the ground.

18. FICM inputted into NHSE decisions and collaborated on guidance development, including on changes to staffing levels at the start of the pandemic, transfer of patients for mutual aid, especially during the second wave Autumn/Winter 2020-2021, and use of non-invasive ventilation (NIV). They also shared information with members about guidance that was about to be published to inform and try to allay any fears.

#### **Liaison with Scientific Pandemic Influenza Modelling group (SPI-M)**

19. Prior to the first lockdown FICM communicated with the government's "Scientific Pandemic Influenza Modelling group" (SPI-M) responsible for influenza modelling. This was to help SPI-M understand the current clinical situation and gain insight into how critical care could cope with a variety of scenarios. The then Dean of FICM, Dr Alison Pittard, expressed the view that she did not think intensive care could cope with the predicted number of admissions.

20. This is because, prior to the pandemic, critical care units were already running at or near full capacity. Before the pandemic, on a regular basis many units needed to transfer patients to other units during surges in local demand when normal capacity was overrun. More details of this situation are provided in paragraphs 104 - 109. Any increase in demand caused by a pandemic would not, therefore, be able to be met without substantial increases in critical care capacity.

### **Welsh Chief Medical Officer**

21. RCoA's Welsh Board had representation on the Academy of Medical Royal Colleges Wales (AMRCW) which met the Welsh CMO every two to three weeks during the early peaks of the pandemic. These meetings allowed for the sharing of views, suggestions, and clinical situation updates.

22. FICM also had representation on this group via Dr Jack Parry-Jones. Dr Parry-Jones also represented intensive care on a subcommittee of the group formed to examine the impact of Covid-19 on the BAME community in Wales.

### **Scottish Chief Medical Officer**

23. RCoA's Scottish Board engaged in regular monthly meetings with the Scottish CMO via the Scottish Academy to provide information, feedback from clinicians, and support in relation to vaccine rollout.

### **Scottish Medical Workforce Wellbeing Stakeholder Group**

24. RCoA's Scottish Board contributed to the Medical Workforce Wellbeing Stakeholder Group working with the Scottish Academy, the General Medical Council (GMC), and the British Medical Association (BMA) to provide support for medical staff including the Workforce Specialist service designed to offer psychological support to those less likely to seek it through their GPs.

### **Health and Social Care Committee Inquiry Submissions**

25. The Association, FICM and RCoA submitted written submissions to inquiries conducted by the Health and Social Care Committee in Parliament. A summary of these submissions and their dates are set out below.

26. In September 2020, the Association submitted written evidence to the Commons Health and Social Care Committee inquiry into Workforce burnout and resilience in the NHS and social care [DB1/002 - INQ000352931]. The submission made the following key points:

- (a) Resilience across the NHS was variable and depended primarily upon staffing levels but was also affected by workload pressures and lack of funding/resources.
- (b) The ability of anaesthetists to adapt their skills supported the critical care response and was key to the resilience displayed across the acute sector.
- (c) The knock-on effect of redeployed anaesthetists of all grades on anaesthesia workload in the aftermath of the pandemic created new workload pressure amidst a chronic shortage of anaesthesia workforce.
- (d) Ensuring basic transferrable critical care skills are sustained would be critical as anaesthesia and ICM gradually move further apart in terms of training and service delivery.
- (e) The medical specialities of anaesthesia and ICM have significant medical workforce shortages, with predictions pre-covid-19 of an increasing shortfall – as high as 25%.

27. In October 2020, the Association provided written evidence to the Health and Social Care and Science and Technology Committee joint inquiry into Coronavirus Lessons Learnt [DB1/003 - INQ000352930]. A number of points were made, including:

- (a) The strategy for testing was unclear, the capacity of testing ramped up too slowly, and the lack of staff testing led, we believed, to the virus spreading in the hospital setting between staff, visitors, and patients.
- (b) There were too many disjointed work streams and messages from numerous national bodies that, at times, appeared to contradict each other.
- (c) There would be long-term consequences for staff health from the prolonged burden and intensity of work they were being asked to undertake.
- (d) There was a perception that a 'return to normal' service should be focusing on urgent surgery and other interventions rather than all elective work.

28. In November 2020, RCoA provided a written submission to the Commons Health and Social Care Committee inquiry into Workforce burnout and resilience in the NHS and social care [DB1/001 - INQ000352935]. The key points of the submissions were:

- (a) Prior to the pandemic, the NHS and social care workforce was already facing considerable pressure due to the UK's ageing, changing, and growing population.
- (b) In 2017, survey work of anaesthetists in training showed that 85% of respondents were at a high risk of burnout. 2,312 responses were received, a response rate of 58%.
- (c) In April 2020, survey work of anaesthetists showed that 34% had felt physically unwell, and 44% felt mentally unwell, as a direct result of Covid-19 stress.
- (d) These figures persisted into May 2020 where 32% reported having felt physically unwell and 42% having felt mentally unwell.

29. In September 2021, the Association, RCoA and FICM all submitted written evidence to the Health and Social Care Committee inquiry into Clearing the Backlog caused by the Pandemic.

30. The submissions made by the Association [DB1/004 - INQ000352929] can be summarised as:

- (a) Anaesthetists needed more, and better, support.
- (b) Anaesthetists were burned out and spread thinly even before having to go above and beyond the call of duty during the pandemic.
- (c) The Association had been campaigning on fatigue and burnout in recent years.
- (d) Concerns were raised about bureaucracy, and the burden that has been placed on already-stretched staff.
- (e) Added to that, the shortages across the anaesthesia workforce, if unaddressed, could have a worrying impact on the future of the profession.
- (f) The Association believed that without a detailed and specific focus on addressing workforce challenges, including in anaesthesia, the government's ambitions in the Bill, the NHS Long Term Plan, and the desire to tackle waiting lists would not be met safely or in good time.

31. RCoA's written evidence covered issues and needs relating to the elective backlog caused by the pandemic [DB1/005 - INQ000352934], including:

- (a) The extensive and growing waiting list of patients awaiting treatment, which predictions from the time suggested could rise to over nine million by 2023/24.
- (b) The serious shortage in the anaesthetic workforce, 1,400 at the time, could hinder the NHS's ability to address the elective backlog – potentially preventing one million operations from taking place per year.

- (c) The need for the implementation of better perioperative care across the NHS to improve patient outcomes and boost efficiency.
- (d) The need to learn positive lessons from the pandemic around cross-skilling, leadership, communication, decision making, and digital innovation.

32. FICM's submission [DB1/006 - INQ000352932] focused on the following key points:

- (a) Critical Care lay at the heart of 21st century secondary care, underpinning all other areas of acute hospital care. When critical care capacity is unable to meet demand, other services, particularly elective services, will suffer as demand from this quarter can be cancelled whilst demand from emergencies cannot.
- (b) The elective surgical backlog is, in part, a consequence of that necessary expansion of critical care services; both in terms of physical hospital bed capacity lost to critical care expansion, but also the staffing necessary for that increase in capacity; staffing from other areas of the hospital including anaesthesia and elective surgical theatre staff were necessary because the increased workload could not be met by ICM trained staff alone.
- (c) A larger critical care capacity with trained staff would provide more resilience to future surges in demand and is a vital element of addressing unmet surgical and cancer treatment needs resulting from the pandemic.
- (d) Covid-19 also illustrates two other issues:
  - (i) First, a high-risk elective surgical patient may only require a critical care stay of one to two days, whilst 25% of patients ventilated with Covid-19 had a critical care stay of more than 25 days. One patient critically ill with Covid-19 having a longer than average stay on intensive care could conceivably result in the order of 20 to 25 elective surgical cases being cancelled.
  - (ii) Second, patients with Covid-19 had to be isolated from elective high-risk cases to ensure patient safety, reducing critical care capacity for elective work. The more patients critically ill with an infectious disease such as Covid-19 that need critical care, the fewer staffed critical care beds there are to admit elective cases.

33. The Faculty of Pain Medicine (part of RCoA) also provided written evidence to the Health and Social Care Committee inquiry into Clearing the Backlog caused by the Pandemic in September 2021 [DB1/007 - INQ000352933]. The submissions focused on:



- (a) Large waiting lists were caused by the closure of services and high incidence of redeployment of pain management teams.
- (b) Eight million people in the UK lived with pain of which 50% had severe pain preventing normal daily activities. There is a significant and urgent need for more doctors to be trained in pain medicine in order to care for patients with complex long-term pain.
- (c) Positive outcomes from the pandemic included the implementation of technology to provide remote consultations, pain management programmes, and formal teaching for doctors in training.

#### **Additional Evidence on PPE for the Health and Social Care Select Committee**

34. FICM provided the Health and Social Care Select Committee with a written submission on 1 April 2020 regarding the situation relating to PPE. The evidence was meant to be given in person, but the chair of the Committee, Jeremy Hunt caught Covid-19 himself, so a written submission was provided instead [DB1/008 – INQ000352936]. The key points of the submission can be summarised as:

- (a) Guidance, from Public Health England (PHE), on the use of PPE must be clear and consistent.
- (b) Covid-19 testing for front line healthcare workers (HCW) required urgent prioritisation.
- (c) Statutory bodies such as the GMC, the Nursing and Midwifery Council (NMC), and the General Dental Council (GDC), must give reassurance regarding liability for their members.
- (d) The need for a review of ICM services in England when the pandemic was over, to ensure that the system would be able to manage its normal capacity and be better prepared for expected increases in demand.

#### **Media**

35. FICM and RCoA featured in print, TV, and radio media. In some cases, this was aimed at assisting public bodies communicate messages, in others, it was aimed at influencing public bodies.

36. Media activity included, but was not limited to, explanation of critical care capacity, access to other NHS services, and vaccination – especially for pregnant women.

37. A key role of the media work was translating the government advice/information to the medical profession into an apolitical opinion as to what was happening in the health service. The CMO's office had the regular briefings from number 10, but they could not do the other media work or analysis of specific detail that fell to the Colleges and societies. We acted as credible, trusted voices

for the professions doing an important job of educating and informing the public. So, for example, explaining intensive care treatments (such as ventilation and NIV), impact on intensive care admissions and outcomes of not being vaccinated etc.

### **Liaison with the Chief Pharmaceutical Officer**

38. FICM and RCoA worked with the Chief Pharmaceutical Officer to provide support for our members managing the response to and communication of anaesthetic drug shortages and critical care therapeutics shortages including renal replacement therapy consumables. Details of such shortages are provided in paragraphs 238 - 244.

### **Nightingale Hospitals Project**

39. FICM advised the teams responsible for the Nightingale project regarding acceptable service specifications. Initial meetings concerned what sites were being investigated as potential locations for the hospitals. Later meetings involved reference to FICM's Guidelines for the Provision of Intensive Care Services (GPICS) standards and how patient safety could be maintained whilst relaxing these standards. There were discussions around staffing and rapid upskilling/training.

40. FICM signposted its documents and recommended personnel to assist with the training. FICM also pointed out that workforce would be a major issue as experienced clinicians would be required to staff the new hospitals, which would denude existing NHS hospitals and potentially make the project unviable.

### **Medicines and Healthcare products Regulatory Agency**

41. Our three organisations met with the Medicines and Healthcare products Regulatory Agency (MHRA) and supported it in preparing information for dissemination via the Central Alerting System (CAS) [DB1/009 - INQ000352869].

42. The CAS is a web-based cascading system for issuing patient safety alerts, important public health messages and other safety critical information and guidance to the NHS and others, including independent providers of health and social care. It is administered by the MHRA. CAS alerts were provided via the MHRA website and were emailed to clinical teams.

43. During the pandemic, the CAS was used to disseminate information about shortages of various medications that are used in ICM and anaesthesia. Where relevant, our organisations would provide explanatory guidance for inclusion with these alerts. For example, in April 2020 an alert was issued for shortages of neuromuscular blocking agents and in February 2021 another was sent regarding shortage of propofol which is a drug used to provide sedation in the ICUs and to anaesthetise patients in the operating theatre. RCoA and the Association provided guidance about

alternative drugs that could be used in the operating theatre to ensure supplies required for theatre were prioritised [DB1/061 - INQ000352873].

44. To reinforce the CAS alerts, RCoA and FICM would also email our members, and post the information on our Covid-19 hub. The hub was freely available online, so available to all clinicians, not just members.

### **Covid-19 Skills Passport**

45. FICM developed a Covid-19 skills passport jointly with representatives from Health Education England (HEE). HEE also endorsed the end product [DB1/010 - INQ000352891]. The passport was a competency document, broken down into elements of clinical skills and knowledge acquired by healthcare professionals (medical and nursing), who had been redeployed to work on intensive care as part of the initial wave Covid-19 response. There was no formal test or exam as it was intended to be light touch, however, each element obtained would need to be signed off by a local supervisor.

46. The intention was to provide a mechanism for recognising the additional skills acquired whilst working in critical care at this time. This would allow individuals to present the passport if skills needed to be confirmed by a future employer, or if staff were redeployed to work in another organisation as part of the mutual aid response providing support for services under pressure.

### **Guidance on Covid-19 in pregnancy**

47. RCoA collaborated with the Royal College of Obstetricians and Gynaecologists in the production of their guidance for healthcare professionals on Covid-19 in pregnancy [DB1/011 – INQ000280483].

### **Co-Production of NICE Guideline NG 159**

48. In early 2020, some clinicians were concerned that intensive care services would be overwhelmed as had been observed in parts of Northern Italy. They wanted additional guidance to be developed to enable patient triage if that situation arose and clarity around when to start triaging.

49. In March 2020, FICM co-wrote an initial rapid NICE guideline, NG 159 [DB1/011.1 - INQ000315780], with Professor Eddleston, Chair of the Critical Care CRG and NICE to facilitate staff and patient decision-making regarding intensive care treatment decisions in Covid-19.

50. The key principles of the guidance emphasised:

- (a) On admission to hospital, all adults should be assessed in a holistic assessment (including assessment of frailty where appropriate).

(b) That decisions to admit individual adults to critical care should be based on the likelihood of their recovery, taking into account the likelihood that a person will recover from their critical care admission to an outcome that is acceptable to them.

(c) That consideration of comorbidities and underlying health conditions was needed in all cases.

51. The guidance aimed towards shifting exploration of views and likely successes of intensive care treatment for patients to earlier in the admission pathway to hospital. Prior to Covid-19 these discussions would usually be held by the intensive care team at the point of referral. During the pandemic it was anticipated such teams would have less capacity to lead these discussions, due to the demands on their time from treating Covid-19 patients. Allowing other medical teams to understand the processes of intensive care decision making and explore patient/family wishes at an earlier stage, allowed patients more time to contemplate their wishes.

52. To support this guidance FICM worked with the Royal College of Physicians (RCP) and other representative stakeholders to develop a toolkit of resources to support implementation of the guidance. The intention was to give teams, individual clinicians, and the public, additional information to support discussions regarding the benefits and burdens of intensive care treatment for Covid-19 (as best as was known at the time). This toolkit included information for patients to support them in considering their wishes in advance of needing to make decisions, and for these to be considered by clinicians should the need arise.

53. This toolkit was endorsed by the RCP and the Royal College of General Practitioners (RCGP), amongst other organisations, and hosted by NHS Elect.

54. NICE guidance NG 159 was later updated and subsumed into the additional rapid NICE Covid-19 guideline, NG 191 [DB1/011.2 - INQ000361983] as the pandemic progressed and more information regarding Covid-19 management became available.

55. Both iterations of NICE guidance (NG 159 and NG 191) stopped short of setting out the ethical and legal issues relating to triage in situations in which critical care resources were insufficient to meet demand and did not provide advice on how to manage those issues. Instead, the guidance related to making normal ethical decision-making processes more effective and efficient.

56. A number of articles exploring the ethics of treatment allocation (triage) in situations where demand exceeded capacity were produced in early 2020. An example of this is an article by RCP dated 2 April 2020 [DB1/011.4 – INQ000361986]. However, it is our understanding that no agreed guidance was produced on this topic. The articles considered options such as limiting intensive care

treatment only to those who would benefit the most, determining where the greatest benefit lay and whether to provide treatment, but they did not constitute formal agreed national guidance.

57. We are aware that some of the defence organisations such as the Medical Protection Society also highlighted the professional risks doctors might face triaging patients in the absence of appropriate legislation.

58. The lack of national guidance as to whether triage was needed and how it would operate left some clinicians feeling extremely exposed and vulnerable in the early weeks of the pandemic. As a result, there was considerable debate and discussion within the profession as to whether it was the role of professional membership organisations to create such guidance in the absence of publicly released national guidance. Our view was that triage guidance could not have been produced and implemented in an ethical fashion by professional bodies in the earlier months of the pandemic because:

- (a) We had not been given a clear instruction to embark on this by the NHS or government.
- (b) It is possible that producing guidance that was not widely endorsed and supported by government, statutory bodies like NICE and the GMC, or legislation, could still leave doctors at risk of legal challenge.
- (c) The evidence base relating to judging outcomes for Covid-19 patients was rapidly evolving, with new studies emerging all the time. Our capacity as professional bodies to monitor and review this evidence was limited.
- (d) The task of producing such guidance was even more complex given that non-Covid-19 patients were also presenting to intensive care. Any guidance would need to encompass them too, putting the task even further beyond the capacity of professional bodies.
- (e) There would be inconsistency of approach to triage and provision of intensive care as Covid-19 was not impacting the UK equally at the same time (so options like the use of mutual aid were rarely fully explored in early forms of triage guidance).
- (f) In early 2020 a major focus of clinical activity across the UK was to increase critical care capacity as far as possible so that resource limited triage would not be necessary.

59. We therefore chose not to endorse any decision-making guidance other than that produced by NICE.

60. It was the view of all three of our organisations' that clinicians should use normal ethical decision-making processes when considering provision of critical care treatment unless instructed to do so otherwise.

61. The emphasis on continuing normal ethical decision making was supported by a joint letter from the FICM Dean, Dr Alison Pittard, and the Chair of the CRG, Professor Jane Eddleston, to FICM fellows and members in March 2020 [DB1/011.5 – INQ000361985]. The letter also emphasised the importance of usual ethical decision making within the context of the guidance formally outlining the importance of involving patients and relatives in discussions around treatment goals wherever possible.

62. References to ethical dilemmas are included in this case study from the Association:

*“We convened an ethics group to create a shared institutional responsibility but over time the group indicated that they did not want to share accountability. The decisions were ethically impossible - we could have escalated in 3x the number of patients and had a few survivors, but this would have diluted the overwhelmed service further and the other patients would have had a worsened outcome.”* (Anonymous)

### **Wellbeing guidance**

63. FICM published a best practice framework for wellbeing and sustainable practice in critical care in June 2021 [DB1/012 – INQ000352881]. This contained recommendations directed at trusts and boards. Examples included:

- (a) Provision of rest facilities and social areas.
- (b) Ensuring a fair chance of progression for all individuals
- (c) Proactive assessment of individuals education needs.
- (d) Provision of breaks and access to nourishment.

64. The Association and the Royal Medical Benevolent Fund created “Vital Signs in Anaesthesia: A guide for anaesthetists seeking help and advice during the COVID crisis.” [DB1/013 – INQ000352925]. This noted that the pandemic involved changes to working environments for anaesthetists (such as redeployment to critical care) and changes to procedures (such as use of PPE). Working in critical care could involve exposure to gruesome scenes, ethical dilemmas, death, loss, distressed patients, families, and colleagues. The use of PPE, while essential, could make clinicians feel more distant from patients. The guide included:

- (a) Information on how to recognise the signs and symptoms of doctors in difficulty, such as not answering bleeps, disappearing between clinic and ward, lateness, and frequent sick leave.
- (b) Advice to see their GP as a first point of contact to co-ordinate action.
- (c) Protective steps that anaesthetists could take themselves, such as intellectual interest in their job, time management, self-awareness, and use of support networks.
- (d) Signposting to other sources of information and advice, such as that provided by the BMA and the AoMRC.

65. Our three organisations, along with the ICS, also developed wellbeing guidance which was published on the hub [DB1/014 - INQ000352927], including guidance directed at trusts and boards [DB1/015 - INQ000352909]. Examples included:

- (a) Provision of rest hubs in critical care areas, theatres, and anaesthetic departments.
- (b) Provision of hospital accommodation team details for those who cannot travel home between shifts (i.e. they lived too far away, were isolating from family, or too tired to drive).
- (c) Wellbeing training for management.
- (d) Provision of self-help information.
- (e) Access to a 24-hour confidential peer support hotline.

66. A joint webinar on ‘Keeping the Carers Caring’ was also hosted on 28 March 2020, which involved the Medical Director of the Practitioner Health Programme (PHP) at NHSE, Dr Clare Gerada. More information on the webinar series delivered by the three organisations can be found in paragraph 81 of this witness statement.

**The Professional Standards Authority’s “Learning from COVID review”**

67. The Professional Standards Authority oversees the work of the ten statutory bodies that regulate health professionals in the UK and social workers in England, including the GMC. It conducted a “Learning from COVID review”. [DB1/016 - INQ000352895].

68. The Association responded to the consultation for the Learning from COVID review, [DB1/017 - INQ000352910]. In summary, the Association’s submission:

- (a) Supported the postponement of appraisal and revalidation of doctors.
- (b) Expressed support for the use of virtual meetings for hearings and meetings.

- (c) Expressed concern that revalidation processes may not have been fully thought through.
- (d) Welcomed the view that allowing regulators to be nimble was beneficial.

### **Guidance on enhanced care**

69. In May 2020, FICM published guidance on how 'enhanced care' could improve hospital service delivery and patient care by providing an intermediate level of care between intensive care and that provided on a regular ward [DB1/018 - INQ000352885]. It was aimed at clinicians, commissioners and policymakers and highlighted the benefits for surgical, medical, and obstetric patients and services.

70. The guidance set out how enhanced care could be developed, based on current knowledge and expertise, recognising that the model would vary both between and within organisations. Enhanced care is a relatively new concept and involves the provision of an additional level of care above that of normal ward care, but below that of intensive care. This can be useful as some patients may have a short-term requirement for more support than can be provided on a normal ward (for example, post-operatively) but may not need the full level of support provided by an ICU. This additional option can allow hospitals to provide care that is better matched to a patient's need but avoid the deployment of unnecessary resources. This could improve efficiency, reduce cost, and avoid the cancellation of operations due to lack of sufficient intensive care capacity.

71. This was built upon in October 2020 by a working party led by FICM and the Centre for Perioperative Care (CPOC) with detailed guidance to support NHS organisations, clinicians and managers to set up enhanced care services in hospitals [DB1/019 - INQ000352886]. This was intended to assist the restoration of elective surgical services and help address the backlog.

### **Involvement in acquisition of ventilators**

72. The then Dean of FICM, Dr Alison Pittard, was involved in advising the MHRA regarding the development of the specification for new rapidly developed ventilators. She stressed the need that any new ventilators procured could be used for as long as the patient needed to be ventilated, which may be many days continuously. Unfortunately, this requirement was ignored in the final specification document.

73. Professor Mike Grocott, a RCoA Council member and FICM fellow, was involved the Cabinet Office's Ventilator Challenge.

74. Both of these issues are discussed in more detail in paragraphs 244 - 250 of this witness statement.



## **Lessons learned**

75. RCoA published a list of ten Lessons Learnt from Covid-19 directed towards UK governments and health services [DB1/020 – INQ000352896]. These partly form the basis of the recommendations we put forward in paragraphs 296 - 314 of this witness statement.

## **The Covid-19 Hub**

76. The Association, FICM and RCoA worked with the ICS to produce a hub of information useful to clinicians, NHS departments, NHS England, and devolved nation equivalents [DB1/021 - INQ000352870].

77. Access was open to everyone, and its contents were advertised in a range of ways, including social media and via RCoA's regular 'President's News' email update, FICM's 'Dean's Digest' email update, and the Association's monthly newsletter (e-News). The hub received 665,000 visits and 1.4 million page views indicating considerable reach and use.

78. Clinical and communications representatives from all organisations had to approve documents before they went up on the website. There was a core group of one senior clinician from each organisation and then a larger group who also provided input. Final approval generally rested with the central four individuals, but that depended on the urgency with which the document was required.

79. The site was open to anyone to read although it was blocked by a lot of NHS firewalls so special permission had to be requested from IT departments to allow access. We believe this was granted in all cases.

80. Some key documents include:

- (a) Advice to clinicians on airway management for Covid-19 patients. Published 13 March 2020 [DB1/022 - INQ000352876].
- (b) Advice to ICUs on how to deal with expected increases in demand during the first wave of the pandemic, including topics related to redeployment of staff and equipment. Published 17 March 2020 [DB1/023 - INQ000352879].
- (c) Guidance to departments on how to cross-skill staff, enabling them to work in critical care. Published 17 March 2020 and 1 April 2020 [DB1/024 - INQ000352882].
- (d) Guidance for clinicians regarding PPE use. Published 11 April 2020 [DB1/025 - INQ000352908].
- (e) Guidance for clinicians working in obstetrics on PPE and transmission precautions. Published 11 April 2020 [DB1/026 - INQ000352901].

(f) Guidance for NHS departments for restarting planned surgery. Published 20 May 2020 [DB1/027 - INQ000352915].

(g) Guidance for NHS departments on how to deal with the emerging second wave. Published 21 September 2020 [DB1/028 - INQ000352916].

81. A series of 12 webinars were produced for the hub, offering clinicians practical advice on working during the pandemic. Topics included 'critical care cross-skilling' and 'wellbeing during and after Covid-19'. The webinars were extremely well attended, with both live attendees and those watching the recording at a later date. The recording of the first webinar in the series – 'What you need to know on the frontline' – has been viewed over 30,000 times. Details of the webinar series are provided in the table below:

Webinar date	Webinar Title	Recording viewings
14 March 2020	What you need to know on the frontline	30,012
21 March 2020	Critical Care cross skilling	5,679
28 March 2020	Keeping the carers caring	3,934
2 April 2020	Q&A	1,157
4 April 2020	Dilemmas	3,615
18 April 2020	Covid-19: the challenges remain	1,539
25 April 2020	Irish Update	1,779
16 May 2020	ECMO	2,272
21 May 2020	Facing Fatigue	1,114
30 May 2020	Covid-19: By trainees for trainees	739
6 June 2020	Restarting planned surgery	1,353
12 June 2020	Wellbeing during and after Covid-19	423
23 June 2020	PBM after the Covid surge	411

82. RCoA also delivered a number of webinars which can be summarised as follows:

- (a) Target zero on, 21 May 2020 [DB1/033 - INQ000352919], which involved a panel discussion regarding how to try and keep covid infection in HCW as low as possible, including that related to testing and PPE.
- (b) Obstetric anaesthesia and Covid-19 on 18 June 2020 [DB1/032 - INQ000352902], which involved a discussion about how to most effectively manage anaesthesia and pain relief for pregnant women during the pandemic.
- (c) Emerging from the Covid-19 pandemic on 17 July 2020 [DB1/030 - INQ000352884], which involved a discussion of the lessons learned during the first surge of Covid-19 that could be taken onto the second and ideas for how to restore services.
- (d) Fellowship of the Royal College of Anaesthetists (FRCA) examinations update - changes due to Covid-19 on 23 July 2020 [DB1/031 - INQ000352890], which provided information for exam candidates, trainers, and examiners about the changes in the delivery of exams which had had to be taken online during the pandemic.
- (e) Working through the pandemic, 22 February 2021 [DB1/029 - INQ000352911], which involved a discussion about how to restore services in early 2021.

## **THE ROLES AND EXPERIENCES OF OUR MEMBERS DURING THE PANDEMIC**

### **Intensive care medicine**

83. ICUs are specialist hospital wards that treat and monitor patients who are critically ill and require a higher level of care and monitoring than is available in a general ward. Their staffing includes doctors who specialise in ICM (intensivists), many of whom are fellows and members of FICM, and others such as intensive care nurses and other specially trained professional groups e.g. critical care pharmacists. ICUs are fitted with specialised equipment to closely monitor patients, maintain vital bodily functions, and provide treatment for failing organs. Intensivists are expert in managing an individual's failing organs in totality whilst treating and addressing the medical problems that led to the organ failures. Properly functioning intensive care services are required to support many hospital areas including emergency departments, surgical services, medical wards, and maternity care.

84. During the pandemic the sickest Covid-19 patients were treated in ICUs. Hence intensive care capacity was absolutely critical in dealing with the crisis.

### **Examples of support provided to Covid-19 patients in intensive care**

### Invasive ventilation

85. One significant effect of Covid-19 is the development of pneumonitis (lung inflammation) in response to the virus, which in severe cases can damage the lung architecture and lead to the development of acute respiratory distress syndrome (ARDS). This viral impact on the lungs can lead to low blood oxygenation which meant many patients had difficulty in breathing. In such situations patients needed to be administered with additional oxygen which required admission to hospital.

86. There were different means of providing oxygen and respiratory support, which could include simply inhaling higher concentration of oxygen in a hospital ward environment, use of continuous positive airway pressure (CPAP) devices either on a specially adapted ward or in an ICU, and in extreme cases of low blood oxygenation or respiratory failure, sedation, intubation, and invasive ventilation. The latter is delivered within an intensive care environment. Invasive ventilation carries considerable risks to an individual including risks of additional infection and worsening of pre-existing lung injury.

87. At the onset of the pandemic, there was no direct treatment for Covid-19 or its complications including viral pneumonitis. The care provided in hospital was essentially supportive until such time as the viral pneumonitis settled or it progressed to a situation in which even ventilation and intensive care treatment could make no impact on the individual's recovery. Patients initially died from either severe respiratory failure or the impact of low blood oxygen levels on other organs leading to conditions of multi-organ failure e.g. renal failure, cardiovascular collapse, and persistent inflammation unresponsive to treatment. Initially intensive care mortality for patients admitted with Covid-19 was of the order of 60% although this mortality was falling over time due to better understanding of how to treat the lung damage and greater understanding of associated medical complications.

### Dealing with the consequences of micro vascular thromboses

88. Some Covid-19 patients developed micro vascular thromboses (small blood clots). As the pandemic developed, it became apparent that these occurred far more frequently during Covid-19 than in cases of other respiratory diseases, such as influenza. This provided an additional challenge for those working in intensive care. The effect of these thromboses on tissue oxygenation was very important in the development of conditions like severe refractory hypoxia, where the alveoli in the lungs collapse or become flooded. This led to deaths from Covid-19 of many intensive care patients.

89. To deal with this, intensivists employed specific interventions, such as ventilation in the prone position. This involves ventilating a patient while they are lying on their front often for up to 16 hours at a time. This can improve gas exchange in the lungs but carries additional risks to the critically ill patient (including other organ instability, difficulties of delivering other treatments e.g. physiotherapy,

and the chance of pressure sores from being in the same position for long periods). In addition, prone ventilation added considerably to the workload of the critical care team turning the patient and ensuring their safety. Many conscious patients on the wards received benefit from lying prone, but in an unconscious critically ill person, the risks of the treatment are much greater than for the conscious ward patient who can position themselves and adjust for their own comfort accordingly.

90. In the most severe cases, intensivists employed ECMO. ECMO enables temporary additional oxygen delivery to and carbon dioxide removal from the body when the lungs are severely damaged or mechanical ventilation is difficult. It involves bypassing a patient's lungs by continuously pumping blood out of their body and sending it through a series of devices that add oxygen and take out carbon dioxide, before being pumped back into the body – essentially providing an artificial lung. This could only be performed in a limited number of sites, which meant that some patients had to be transferred between hospitals to receive it.

#### Administration of life-saving drugs, such as dexamethasone

91. Dexamethasone was the first recognised treatment for Covid-19 reported from the Recovery trial on 22 June 2020. Its introduction provided clinicians with a recognised treatment that could specifically improve outcomes for Covid-19 patients, as did other drugs that followed, such as tocilizumab.

92. Dexamethasone was very easy to administer and was already familiar to critical care staff, as such it was easy to integrate into clinical practice. Its use meant the clinical course for some patients was less severe, meaning fewer patients that came to hospital needed to be transferred to ICUs, and outcomes for those who were in ICU improved.

93. Both dexamethasone and tocilizumab had a mortality benefit for patients, but have side effects, including risks of additional infection. A number of Covid-19 patients admitted to intensive care died as a result of refractory hypoxia or multi-organ failure. A number also died of secondary infections and septic shock later on during the course of their intensive care stay. Secondary infection is a known risk of treatment on intensive care for any critically ill ventilated patient.

#### **The pressures of working in intensive care**

94. Intensive care is a complex, rapidly changing high-pressure environment, and the staff groups that work within it (medical, nursing, pharmacist, and allied health professionals) have all undergone additional training, study and/or examinations beyond their basic professional qualifications and operate with a range of advanced practice skills e.g. non-medical prescribing, tracheostomy insertion. It is not an environment in which untrained staff can be expected to work without a high degree of supervision and support and in which their contribution will inevitably be limited by their lack of intensive care experience and skills.

95. The GPICS set out the expected staffing standards for intensive care services [DB1/033.1 - INQ000361989]. These include the required training and qualifications of staff, and the number of those trained and qualified staff per critical care bed. The GPICS recommend that each patient on mechanical ventilation requires one nurse to look after them safely and appropriately and each doctor should look after a maximum of eight patients.

96. During the pandemic, due to the need to considerably increase the number of critical care beds, there were not enough trained critical care staff to call upon to meet expected staffing standards. To compound matters, at any point, some of those who were trained were themselves intermittently off work due to personal or family illness, or isolation requirements, making staffing standards even harder to maintain.

97. Staff not trained in intensive care may be able to do some elements of basic care but are not able to do many of the highly skilled elements e.g. putting patients onto renal replacement therapy (haemofiltration or dialysis), and operating and managing mechanical ventilation appropriately. Untrained staff working in ICUs therefore required continuous supervision and support by a trained staff member. Working in this way can place an enormous psychological burden on both the person being supervised and the supervisor.

### **Critical care staffing ratios**

98. Critical care staffing ratios significantly derogated from pre-pandemic levels in some hospitals during the first Covid-19 wave and delivery was reliant on untrained critical care staff to deliver care. As an example, one trained critical care nurse may have been supervising up to four untrained nurses each looking after their own intensive care patient.

99. NHSE commissioned FICM to lead a piece of work on bridging guidance for critical care staffing in May 2020 endorsed by critical care stakeholder membership organisations (Royal College of Nursing, British Association of Critical Care Nurses, National Outreach Forum and Critical Care Networks National Nurse Leads) [DB1/033.2 - **INQ000353463**]

100. The guidance was clear that GPICS standards remained the goal and any deviation must be time-limited with a clear strategy for returning to these. An appropriate governance structure during the period of deviation and a plan to ensure the safety of these temporary models of care was also required. Deviation from these standards risked having a negative impact on immediate and longer-term retention of staff. The guidance emphasised the need to take this into account during the recovery phase when considering whether to operate staffing ratios outside of GPICS and Paediatric Intensive Care Society (PICS) Quality Standards.

### **Addressing needs of intensive care survivors**

101. Many intensive care survivors still have complex rehabilitation needs and ongoing health issues, both physical and psychological. A considerable ongoing burden of poor health has arisen in those invasively ventilated as a consequence of Covid-19 infection. Recognition of this mirrors the general wider recognition of the long term physical and mental burden that all critical illnesses can have on patients.

102. The sicker patients are, the longer it takes to recover, and some patients never fully recover. Covid-19 patients were often very sick, and 25% were in intensive care for over 30 days. The time frame for recovery from critical illness is in the order of six to 12 months during which the patient may need support from primary and secondary healthcare services. Chronic pain, chronic weakness, neuropathies, reduced mobility, post-traumatic stress disorder (PTSD), anxiety and depression are all recognised sequelae in critical illness survivors.

103. FICM introduced provisional guidance for addressing the aftermath of an intensive care admission of patients with Covid-19 in May 2020 [DB1/053 - INQ000352889]. This was based on work that was already under development for critical illness survivors more generally – but was published early, in provisional form, due to the pandemic. It made the case that more and larger follow up services would be needed. The full guidance was released in October 2021 [DB1/054 - INQ000352894].

#### **Critical care capacity at the outset of the pandemic**

104. Even before the pandemic, ICM was significantly under-resourced in terms of funding, bed capacity and staff – and the UK's intensive care capacity lagged behind other comparable nations. The Organisation for Economic Co-operation and Development (OECD) estimated that England had 10.5 ICU beds per 100,000 population in 2020, which was lower than the OECD average of 12. It was also substantially lower than other comparator nations, such as France (16.3), the United States (25.8), and Germany (33.9) [DB1/034 - INQ000352903].

105. The highest level recommended for intensive care bed-fill rate for safe and efficient patient care is 85%. However, ICUs were running above this pre-Covid-19, making the UK woefully underprepared to cope with a large additional demand for intensive care.

106. FICM collected survey data in 2018 that showed the bed fill rate for Northern Ireland and Wales was estimated to be at least 95%, and 84% in Scotland [DB1/035 - INQ000352888]. 386 ICM consultants responded to the survey, a response rate of 20%. NHS England data put the critical care bed capacity rate at 87%, but a number of units responded to express doubt that the rate entered for their Trusts was a true reflection of their real capacity. FICM produced a report and an article in the Guardian on 7 March 2018 highlighting the chronic shortage [DB1/036 - INQ000352900].

107. The Guardian article notes, *"Patients whose lives are at risk are being turned away from their local hospitals because of a lack of intensive care beds, doctors who work in those units have revealed. Four in five intensive care units (ICUs) are having to send patients to other hospitals as a result of chronic bed and staff shortages."* [DB1/036 - INQ000352900].

108. Pre pandemic staffing was also overstretched, with some larger units lacking sufficient resident staff to support a ratio of one doctor to eight patients, and 62% of units lacking a full critical care nursing complement. This was leading to cancelled operations, reduced quality of care, and potentially negative impacts on patient safety. 40% of units had to close one or more beds on a weekly basis due to lack of staff. To cope with demand patients were transferred between hospitals in at least 80% of units, and this occurred at least monthly in 21% of units [DB1/035 - INQ000352888].

109. It is important to note this was two years before the pandemic.

### **Increasing staffing capacity**

110. As the pandemic emerged, the existing capacity of ICUs was overwhelmed with Covid-19 patients. As a result of this ICU capacity had to be rapidly expanded in terms of space, staff, beds, and equipment.

111. Staffing capacity was increased by a range of means. This included staff working longer hours, cancellation of leave, suspension of other duties, and redeployment of staff from other hospital activities – contributing to why other aspects of hospital work had to stop, or proceed at severely reduced capacity, during the pandemic. Despite this, intensive care still struggled.

112. In November 2020, a FICM survey relating to the first wave Covid-19 response found 80% of intensivists reported increased working hours and 88% reported leave cancellation. 63% reported redeployment of colleagues from partner specialties to support either ICM work or other work. 549 members of FICM's consultant membership responded to this survey, a response rate of 22% [DB1/037 - INQ000352926].

113. Furthermore, all additional work undertaken by existing intensive care staff was cancelled to focus on the immediate threat of Covid-19, such as teaching, training, supporting professional activity, and other clinical activities. This had a subsequent impact on wellbeing and morale.

114. Redeployments included bringing in anaesthetists and other staff from their usual theatre duties, as well as recalling other staff with critical care training who had been working in other services, such as resuscitation, oncology, and community services.



115. Results from the 3-round Anaesthesia and Critical Care COVID Activity Survey (ACCC-Track), which surveyed local co-ordinators and clinical leads, gave an indication of the scale of redeployment. Redeployment increased the intensive care workforce by approximately 38% in October 2020, rising to an approximately 125% increase of the workforce in January 2021. By the end of that month, 74% of ICUs were expanded above initial capacity. It is noteworthy that redeployment was not uniform and, in many cases, did not run beyond the first few months of the pandemic: in many units, intensive care staff carried the burden of ongoing additional provision for most of the pandemic. The response rate to the ACCC-Track survey completed in three rounds were 64% (October 2020), 56% (December 2021) and 51% (January 2021) [DB1/038 - INQ000352866].

116. As a result of factors such as these, services saw a 45% increase in capacity after the first wave of Covid-19. However, only 18% of respondents to FICM's November 2020 survey felt their unit was adequately staffed [DB1/037 - INQ000352926], suggesting that ICUs were still overstretched despite the efforts undertaken to provide additional clinical support staff:

117. During the peaks of the pandemic, services still only had the resources to deal with Covid-19 and lifesaving emergencies, leading to other services suffering from lack of intensive care support e.g. postponement of elective surgery that would require intensive care support.

118. Staffing issues were not just related to doctors but included lack of ACCPs, critical care nurses, pharmacists, and Allied Health Professionals. A case study from the Association references wider shortages:

*“...there is something about a normal ITU where you got large bed spaces and it's one-to-one nursing and even though everyone in the unit is really unwell there's as calmness to it. This was not the case when coronavirus hit because you were no longer having one-to-one nursing, it was one ITU nurse to two or three patients or one ITU nurse was supporting two non-ITU nurses and had her own patient so the environment wasn't as it usually would be.”*  
(Anaesthetist in Training)

### **Increasing bed capacity**

119. Burdens were placed on intensive care staff by the need to rapidly create expanded or new temporary ICUs due to lack of sufficient pre-existing capacity.

120. At the start of March 2020, there were around 4,100 adult intensive care beds available in England (source: King's Fund 'Critical care services in the English NHS' 25 November 2020) [DB1/039 - INQ000352878]. However, over the course of the pandemic, demand far outstripped that initial supply. At the peak of the second wave at the end of January 2021, based on information we received from NHS England, capacity increased to over 6,000 beds.

121. Our organisations do not hold the relevant data on how the bed availability and fill rates changed over time, but this data may be available from the Intensive Care National Audit & Research Centre (ICNARC).

122. In Scotland, the baseline provision of intensive care beds was 173 at the start of March 2020 (source: Scottish Intensive Care Society Audit Group (SICSAG) report on COVID-19 2 May 2020) [DB1/040 - INQ000352858] rising to 585 in May 2020 (source: SICSAG report on COVID-19 16 May 2020) [DB1/041 - INQ000352859].

123. In Wales, there were 180 adult intensive care beds pre-pandemic. At the height of the pandemic, on the 10 April 2020 there were 398 beds, including 276 beds in the unit space and 172 beds located outside their critical care unit footprint [DB1/042 - INQ000352867].

124. Within English regions, expansion rates of ICU ranged from 45% (Yorkshire and Humber) to 100% (North-East). This may reflect the known unequal provision of ICM beds across England prior to the pandemic.

125. A case study collected by the Association provides one example of capacity issues encountered in an ICU:

*“The most we had ventilated I think was 28 – 28 Covid plus of course all of the other ventilated patients that we had for all the other things that people get ventilated for. It was still way beyond our critical care colleagues’ normal, work capacity. Normally we have 16 in the intensive care units maximum plus a small single figure number possibly ventilated in the HDU.”* (Consultant Anaesthetist)

### **The role of FICM pharmacists**

126. FICM pharmacist members worked pan-professionally to maximise the continuity, quality and safety of medicines used in critical care and anaesthesia. Our members were able to support informed and timely decisions around medicines use (including involvement in clinical trials), and positively contribute to the care quality of our critically ill patients. Many hospital pharmacy services met the medication safety challenges by reassigning and training staff to support critical care via direct clinical services and aseptic pharmacy services, supporting the dramatic change in nursing staff skill mix and experience, helping to maintain patient safety.

### **Accounts of healthcare workers in ICU**

127. FICM published a number of contemporaneous reflective accounts from HCW working in ICUs during the pandemic. An example is [DB1/049 - INQ000352861] which identified themes including:

- (a) The significant need for teamwork as staff were required to work beyond their usual roles.
- (b) The importance of staff feeling physically and psychologically safe.
- (c) The pace and scale of the change that was occurring.
- (d) The chronic lack of intensive care resources (human and physical) and the impact this had.
- (e) The difficulties of communication with patients and families

### **The role of anaesthetists**

128. The role of the anaesthetist is vital to the functioning of the NHS. Most operations cannot take place without an anaesthetist. In the operating theatre the anaesthetist administers the anaesthetic and, importantly, monitors and responds to changes in the patient's vital functions to ensure they remain stable and comfortable during the operation.

129. However, the work of anaesthetists extends beyond operating theatres. Their skills and expertise are needed for patients of all ages in a large range of settings where resuscitation, anaesthesia and pain relief are needed, including pre-hospital care, emergency departments, labour wards, ICUs, interventional radiology suites, acute and chronic pain services, gastroenterology, dentistry, and psychiatry.

130. They are also involved in preoperative assessment and preparation of patients ahead of surgery, training of many medical and other health staff, and in research and governance.

131. During the pandemic anaesthetists continued to provide anaesthesia for patients who required it, such as during operations (including elective surgery when it occurred) and labour wards. Many were also redeployed to ICUs to support the intensive care medical workforce as anaesthetists do some intensive care work as part of their training.

### **Redeployment of anaesthetists**

132. In a survey of anaesthetists conducted in June-July 2020, 43% of respondents reported being redeployed to ICU during the first wave and, as of that time, 29% had been unable to return to routine work activities. 334 RCoA members responded to this survey. [DB1/043 - INQ000352922].

133. Redeployment of anaesthetists to support intensive care delivery diverted them away from other NHS services. Most operations require the presence and skills of an anaesthetist. Therefore shortages, and redeployment away from theatres limited the rate at which NHS elective activity could occur. Given the anaesthetic workforce was already facing substantial shortages this further stretched an already limited resource. RCoA's 2020 workforce census showed a shortage of 1,400

(14%) consultant and SAS anaesthetists. The response rate to the census was 97% from Trusts and Boards across the UK [DB1/044 - INQ000352898].

134. Anaesthetists were also sometimes redeployed between hospitals, as demonstrated by a case study collected by the Association.

*“In the second wave from January-March 2021 some of us were redeployed to our local acute trusts. The trust we were redeployed to were very helpful and welcoming, ensuring we had an induction and looking after us whilst we were there. Again, the leadership in our department was lacking in that they at no point checked in to make sure we were OK and the decision-making process over who went where was opaque.” (Anonymous)*

135. Redeployments also included many theatre staff and other HCW.

### **REDUCTION IN ELECTIVE SURGERY**

136. Elective surgery was considerably hit during the pandemic. Our data show that national surgical activity reduced by 54% between January 2020 and January 2021, equivalent to 9,770 operations lost per day. This was revealed in three ACCC-Track surveys which were sent to local co-ordinators in NHS and independent sector hospitals, and to anaesthetic department clinical leads. Response rates, by round, were 64%, 56%, and 51% [DB1/038 - INQ000352866].

137. Partly because of reduced surgical activity, waiting lists for consultant led care grew rapidly during the pandemic. In England, while waiting lists were already large and growing prior to the pandemic and had reached 4.24 million people by its eve, they grew even further when Covid-19 hit. By the end of the relevant period, numbers had risen to 6.7 million, an increase of 2.46 million.

138. It is not possible to provide an exact numbers-based timeline of the changes to the volume of elective surgery, and staffing levels available to undertake it, given the data we hold. However, data from other sources, such as ICNARC may help fill in the gaps.

139. Nevertheless, while we cannot provide all details of what happened, we can give some insight into the factors that drove the reduction in surgical activity. These included national guidance, local decision making, and numerous real and perceived clinical factors. Differences likely occurred between different UK nations.

### **National guidance**

140. While our organisations are not able to give a comprehensive account of all national guidance issued, we will note certain key examples of importance.

141. On 17 March 2020 a letter was issued by Simon Stevens and Amanda Pritchard of NHS England, which called on trusts to *“Free-up the maximum possible inpatient and critical care*

capacity” and “Assume that you will need to postpone all non-urgent elective operations from 15th April at the latest, for a period of at least three months.” [DB1/045 - INQ000087317]. This undoubtedly influenced the decisions of trusts in England as witnessed by our clinicians.

142. Later, moves were made to restart some elective surgery. On 29 April 2020 NHS England published the following guidance, which stated “Where additional capacity is available, restart routine electives, prioritising long waiters first. Make full use of all contracted independent sector hospital and diagnostic capacity” [DB1/046 - INQ000352871].

143. Our organisations, plus the ICS, issued our own guidance [DB1/027 - INQ000352915]. The guidance addressed considerations relevant to the return to planned surgery in four broad categories: Space, Staff, Stuff (equipment) and Systems (the four S’s). Within each category, preparedness for a return to activity was RAG-rated, i.e. Red (signified not ready for a return), Amber (close to being ready for a return) and Green (ready for a return). Examples of considerations included:

- (a) The occupancy rate of permanent and temporary ICUs.
- (b) How much need there was for redeployed staff to remain on intensive care duties.
- (c) Whether availability of equipment and drugs was sufficient.
- (d) Whether systems, such as covid-negative and covid-positive pathways had been developed and implemented.

### **Local decision making**

144. Ultimately trusts decided what procedures were stopped or could continue during Covid-19, and when they were ready to restart. We are unable to give a comprehensive account of this.

### **Clinical realities**

#### Shortage of theatre space

145. There was a shortage theatre space because operating theatres and recovery areas were repurposed to provide space for critical care patients.

#### Staffing shortages

146. Anaesthetists and other healthcare staff were redeployed to work in ICU as outlined in paragraphs 132 - 135.

#### Infection prevention and control measures

147. Normal clinical practice was impeded by restrictive processes as outlined in paragraphs 187 - 193.

#### Availability of drugs

148. Drugs normally used in anaesthesia, such as propofol (which is used to induce and maintain anaesthesia), opioid pain-relieving drugs, and muscle relaxants, needed to be conserved for sedation, pain relief and to facilitate ventilation in Covid-19 patients in intensive care so only urgent surgery was considered.

#### Sickness absence

149. Although intensive care had lower rates of staff Covid-19 infection than other hospital areas, it still reduced capacity. This reduced capacity for elective activity.

#### Perceived risks of surgery

150. It was not clear what the effect might be of operating on people who might have Covid-19 or might develop it subsequently. There was evidence that suggested mortality and morbidity was greatly increased if patients contracted Covid-19 in the perioperative period.

151. Research work at the time showed that surgical patients who had Covid-19 were at a much greater risk of death (21.4%) than those who did not (0.8%) and suggested that precautions could not be safely relaxed [DB1/047 - INQ000352857].

152. Furthermore, in the early stages of the pandemic, testing was not easily available, so doctors had to treat everyone as potentially infected.

153. Later in the pandemic there was more information about outcomes available and more testing which allowed for more elective surgery and anaesthesia. However, guidance persisted that surgery should be delayed for at least seven weeks after Covid-19 infection, and this is only now being revised in the light of new data following the widespread use of vaccines and the less fatal nature of the disease.

154. The seven-week guidance was based on a large international study of surgical patients who had contracted Covid-19. This again showed that Covid-19 patients were at greater risk, with mortality being increased in patients having surgery within zero to two weeks, three to four weeks and five to six weeks of the diagnosis with odds ratios of 4.1, 3.9, and 3.6 respectively. Surgery performed on patients greater than or equal to seven weeks after Covid-19 diagnosis was associated with a similar mortality risk to baseline with an odds ratio of 1.5 [DB1/048 - INQ000352865].

#### Variances

155. For all these reasons, elective activity, including for the conditions specified in the question, was severely reduced. Nevertheless, experiences varied hospital by hospital and some sites were able to maintain elective activity better than others. For example, in Sheffield, some elective activity was maintained for the highest priority surgical patients using a cardiothoracic ICU and beds as a clean pathway. This option was not available for many smaller hospitals which did not have the ability to separate Covid-19 and non-Covid-19 ICUs. In other cases, larger hospitals could cope as they had sufficient space to allow Covid-19 work, and a degree of non-Covid-19 work, to continue.

### **Case studies regarding elective surgery**

156. Case studies collected by the Association illustrate the challenges experienced by clinicians and the differences between sites:

*“My trust is slightly unusual as in the main we normally only undertake elective work. In the first wave our health system decided that the best option was for our trust to take emergency work from elsewhere freeing up space in the acute hospitals. This took a lot of reorganisation and was a very steep learning curve for all concerned.”* (Anonymous)

*“Everything was changed. A lot of the elective operating moved to the private hospitals, but I stayed in my usual place of employment. I therefore lost several of my usual lists and the familiarity of working with my usual surgeons and teams.... large amount of elective operating was stopped, and only the most clinically urgent surgery was undertaken at various points.”* (SAS Anaesthetist)

*“We stopped all our normal operating during the two main waves. There is no doubt that some patients will have suffered detriment because of this but I do not have specific examples.”* (Anonymous)

*“We maintained essential cancer work throughout the waves of pandemic. Typically running 6-7 theatres every day to meet cancer demand.”* (Consultant Anaesthetist)

*“Frequent sickness and rota rearranging as people had COVID and dropped off the rota. The fact that so much activity had been curtailed meant that there were usually enough people to do the COVID workload, but at the cost of an awful lot of other activity.”* (SAS Anaesthetist)

### **IMPACT OF REPURPOSING HOSPITAL AREAS FOR INTENSIVE CARE USE**

157. While expansion of intensive care capacity across the UK nations was positive, this was often achieved by repurposing other areas of hospitals, such as wards and operating theatres.

158. Some hospitals used off-site or isolated facilities (such as independent sector hospitals) to help provide capacity for elective operating but were still constrained by lack of staff in many cases.

159. The expansion of intensive care into other hospital areas meant that space could no longer be used for its original purpose. This could restrict capacity for surgery, and could impact the capacity of wards that remained, potentially restricting a hospital's ability to treat patients with non-Covid-19 issues, The repurposed areas could also be imperfect for intensive care use. These issues are illustrated in the following stories from intensivists:

*"...patients were managed on another floor of the hospital that was a repurposed hospital ward. It was able to deliver sufficient oxygen to run the ventilators safely, but the bed spaces were too small (which carries infection control concerns, and the physical space wasn't correctly set up for ICU patients because it was built as a ward not an ICU. The unit would not have met GPICS standards for an ICU in terms of building and estates, but it did enable neuro ICU patients without covid to be kept away from covid patients. I remember trying to intubate a patient in one of those spaces and put them on the ventilator- it was very difficult to function in a space that was too small and do procedures in a clean fashion. There was too little space- there is a reason why the HBN [Health Building Notes] regulations for an ICU bed space are different from a ward bed space."* (Consultant Intensivist)

*"...wards with non-covid patients were way above capacity, with patients on trolleys. Staff on these wards were responsible for patients with conditions they wouldn't normally have had to deal with."* (Consultant Intensivist)

160. Repurposing other hospital areas was also referred to in several case studies from the Association:

*"The pop-up ITUs that we had – so, we turned our Recovery into an ITU, and those bed spaces are not made for ITU. You had a bed you couldn't get round to the front end without having to go through, under, over wires and on one end you'd have the ventilator on the other side you might have a haemofiltration machine and then all the patient's emergency airway equipment, because it was each patient's own, at the head of the bed and that's not even including the pumps, the drip stands, all the sorts of things that you never really think about are suddenly in the way."* (Anaesthetist in Training)

*"The critical care unit expanded several times and spilled into several operating theatre complexes. Capacity was found to ventilate patients in multiple areas that had previously not been used for this purpose. At least 5 operating theatres, and an entire additional 10 bed ward. were converted to allow ventilation of COVID positive patients in these areas."* (SAS Anaesthetist)



*“ICU expanded to almost 4.5x baseline funded capacity. We had the busiest ICU in the country for a couple of weeks in January.” (Consultant Anaesthetist)*

## **RESTORATION OF SURGERY**

161. Later in the pandemic, including during the second wave, the restoration of surgery meant that there were fewer anaesthetists, and other staff, to help in critical care. Staff in ICUs also had to manage more non-Covid-19 patients who needed treatment following elective surgery. Many intensive care clinicians found it stressful to deal with the volume of Covid-19 patients, and the volume of non-Covid-19 patients, and this contributed to increased feelings of burnout as they did not have the former amount of assistance from anaesthetists and other professional groups.

## **THE ROLE OF OUR MEMBERS FOR WOMEN UNDERGOING LABOUR AND CHILDBIRTH**

162. Pregnant women continued to be treated during labour and childbirth and our members were involved in providing pain relief and anaesthesia as required, as well as being part of the teams looking after women who had Covid-19 during pregnancy.

163. In the acute phases of the pandemic there was a much greater than usual reliance on consultant delivered care. Clinical practice had to be changed because of the need for PPE and to protect patients and staff from aerosol generating procedures (AGP). Several papers have looked at general anaesthetic rates for caesarean section during the pandemic and shown that it fell [DB1/070 - INQ000352863].

164. One possible explanation is that the presence of consultants or other senior decision makers within the unit provided immediate support to more junior anaesthetists allowing them to use regional anaesthesia rather than general anaesthesia even in emergent situations. Outside of Covid-19 supervision is often more distant.

165. Patient flow through maternity services was greatly affected as women who were, or were thought to be, infected with Covid-19 needed to be kept separate from those who were not infected. Birth partners could not be accommodated in the same way as they are normally. For instance, it is usual for a birth partner to be present in the operating theatre if this is where the birth takes place, but this was difficult or sometimes impossible because of constraints on the movement of infected individuals.

166. The effect on staff of having to deliver care in this way at such an important moment in someone’s life should not be under-estimated.

## **OTHER CHALLENGES AND CHANGES TO NORMAL CLINICAL PRACTICE**

### **Testing**

167. In April 2020, RCoA survey work found that nearly 40% of anaesthetists were unable to access the testing they need for themselves, 50% couldn't access the testing they needed for household members, and 22% were unable to access the testing they needed for their patients [DB1/058 - INQ000352924]. At the time 17% of anaesthetists were self-isolating because of suspected Covid-19 which restricted the workforce at a time of high demand. Given some of those self-isolating did not have Covid-19, better access to testing could have helped them quickly return to the frontline to treat patients and support their colleagues. 2,174 RCoA members responded to this survey.

168. By May 2020 matters had improved slightly, but availability of testing remained inadequate. 18% of anaesthetists had low or no confidence in their ability to access testing for themselves, 31% held such views in regard to testing for household members, and 17% in regard to their patients. Around one in 10 anaesthetists were still self-isolating due to suspected Covid-19 in either themselves or a household member. 1,496 RCoA members responded to this survey [DB1/059 - INQ000352923].

169. In July 2020, in relation to rapid testing specifically, 38% of anaesthetists report that it was either not available, or only available to a small extent for staff. The figure was 26% for patients. 334 RCoA members responded to this survey [DB1/043 - INQ000352922].

170. The impact of lack of testing on staffing was exacerbated by other factors. These included the slow pace at which advice regarding distancing and mask wearing was issued, and complicated and changing isolating requirements for HCW whose family or other contacts developed symptoms.

## **Issues related to PPE**

### *The availability of PPE*

171. The availability of PPE was of great concern to doctors in the early stages of the pandemic. In a survey of anaesthetists in April 2020, 71% cited PPE as their top priority and 73% stated they were concerned for their health due to shortages. At the time of the survey 17% were unable to access the PPE they needed. 2,174 RCoA members responded to this survey [DB1/058 - INQ000352924].

172. This issue emerged again in a follow up survey in May 2020, 56% continued to feel concerned about the impact on their health from a lack of PPE. 9.8% still were not confident that they could access the PPE they need, and 12.5% were delaying patient care due to a lack of PPE. 1,496 RCoA members responded to this survey [DB1/059 - INQ000352923].

173. By July 2020, 72% of respondents reported that, in their hospital, there were sufficient stocks of PPE available for effective critical care and planned surgery, but over one in ten (15%) reported that stocks remained insufficient. 334 RCoA members responded to this survey [DB1/043 - INQ000352922].

### Appropriateness and distribution of PPE

174. Many clinicians had concerns that PPE was sometimes poorly distributed, out-of-date, and not always received on the front-line in a timely fashion. For example, the initial stock (for at least six months) of 3M FFP3 masks used in a converted ICU in Manchester was seven to eight years past the manufacturer's expiry date. The stock was made in 2003 with a ten-year shelf-life. The boxes had two corrected date stickers added to them to make it 2019 but they were still one year past that date in 2020. The issue was not with the filtering matrix degrading but perishing of elastic retaining straps. This meant the PPE did not always fit correctly, reducing its effectiveness, and increasing the potential for viral transmission.

### Impact of PPE shortages

175. In some areas where there were early shortages of PPE, measures to conserve PPE were used: staff were prioritised for entry into ICU, actions were bundled up so that one person wearing PPE could do a run of jobs/actions. Some PPE was reused after cleaning due to shortages (fear rather than actual in some places). This meant that activity when caring for patients was impacted e.g. bundling up patient related activities by medical and nursing staff to conserve PPE and limit the number of staff requiring it at any one point with fewer changes into and out of PPE. This meant individual staff had longer periods of time in PPE and fewer breaks in a shift e.g. one break as opposed to two.

176. This situation also pertained in anaesthesia where numbers of staff in theatre were kept to a minimum impacting on teaching and training. Anaesthetists also reused PPE after cleaning due to worries about shortages.

177. PPE shortages affected all manner of critical care services, including critical care dietitians, who were told to stay away and work remotely. Unfortunately, remote working did not allow the collection of basic patient information such as height and weight which were critical for determining patients' energy and protein needs. First hand testimony of this is provided in the story from critical care dietician, Ella Terblanche [DB1/071 - INQ000352862].

### Impact of PPE use on physical and mental health

178. While access to PPE was hugely important, working for long periods in PPE could also cause physical and mental stress to staff: it was often difficult to communicate with patients and the rest of the team and practical procedures were made more cumbersome by the need to wear higher levels of PPE when working in intensive care and theatres.

### PPE guidance

179. Guidance issued at the end of February 2020 on appropriate PPE for intensive care was slow to come out. This caused some consternation. There was a lack of clear leadership on this issue. When official guidance was forthcoming, our organisations, along with the ICS produced a guide on how to interpret it in an easily accessible format [DB1/025 - INQ000352908].

#### Stories related to PPE

180. A number of individual stories, collected by the Association of Anaesthetists' Heritage Centre as part of their Oral Histories series, illustrate the various problems that arose [DB1/072 - INQ000352904]:

*"Individuals were left working for several hours in full PPE with no break, only to finish their case to find that another case had been added and they had to carry straight on."*  
(Anonymous)

*"When we first started treating patients, we were only allowed surgical facemasks. The evidence from Italy at that time was to beware the patient who had tested negative. I am sure that there were members of staff who became infected due to not being allowed the appropriate level of PPE. We did have enough PPE most of the time although FFP3 masks were rationed to a degree and there were individuals who struggled to find one to fit with little regard being paid to this."* (Anonymous)

*"I remember the sound of my own breath in my ears, amplified by the respirator. I remember sweating under plastic PPE and viewing the world through a smeared visor. I remember struggling to recognise colleagues under their PPE or understand what was being said. It made everything harder."* (SAS Anaesthetist)

*"Coming in for mask fittings, so as the weeks went on, we had various types of PPE masks, and some fit some people, and some didn't. So every time there was a new mask that came in circulation, everyone would have to go and get fit-tested again because it was just – they were all fairly different and what really helped because of the way of the change in shift patterns was they had somebody who was helping to fit-test at the height of it, even out of hours because if you were only coming in for night shifts for a certain stretch of time it was very difficult then to catch these people at the appropriate times, so you would have someone on sort of late shift doing all of the fit-testing and it was just a commitment, really."* (Anaesthetist in Training)

*"I remember we got a shipping of PPE and all of it said large, large scrub tops but on me they fit just nice and I'm not very large. [laughs] On some of my colleagues the sleeves came up to their elbows, you know, technically we had PPE but it didn't really fit a lot of my colleagues and so we were scrambling to, you know, preserve the really large sizes for people who*

*needed them and, at some point, I remember, because things just didn't fit very well, or – the way you need to doff, it needs to be able to be torn off easily so that you don't contaminate yourself.” (Anaesthetist in Training)*

*“What is interesting is, had I not become unwell at work, I would've never have even got the swab. If I'd spiked a temperature at home, the advice would have been stay at home for 7 days.” (Consultant Anaesthetist)*

*“The only difficulty I suppose was finding an FFP3 mask that fitted. I'm not alone in that. I managed to find one that fitted me, but we also had respirator hoods as a backup – not many, I think we only had 4 hoods for the whole of theatres.” (Consultant Anaesthetist)*

*“A lot of it was logistics initially; how would we move these patients around without contaminating everyone else, how would we get from A to B and have all the right PPE that we need, how do we have all the equipment in, because once you're in PPE it's very difficult, as we discovered later on, to get just random little bits of equipment that you would easily able to get if you could reach out of your PPE.” (Anaesthetist in Training)*

*“People were very aware that in the role that we are as anaesthetists it was a fairly high-risk position to be in with a lot of aerosol generating procedures and around a lot of patients, you know, in ITU where you do lots of suctioning and you know just airway manoeuvres, so they were very keen to get us all one: trained at donning and doffing, as you said, so you didn't start a shift unless you already had a session with one of the trained staff who were – their job was, the whole day, just to be teaching people to don and doff.” (Anaesthetist in Training)*

### **Changes to real estate**

181. Changes to the physical structure and set up of some hospitals could make a big difference to clinical practice. The extent and nature of physical changes varied site by site depending on the age of the buildings, the layout, and the particular needs of that area. The key driver of such changes, where they occurred, was to ensure that secure pathways of care could be developed for non-Covid-19 patients that reduced the chances of them acquiring the infection in hospital.

182. We cannot give a comprehensive account of the changes, especially given the variation, but examples of changes in some hospitals included new doors, new walls, and the implementation of one-way systems. Hospitals could be segregated into a Covid-19 positive and negative wings to keep infected and non-infected patients segregated, including bisecting the theatre suite with a new stud wall.

183. These changes could make moving around the hospital time-consuming and complicated, reducing the efficiency of the working environment.

## **Managing transfers**

184. In the early stages of the pandemic, there was no formal transfer service that was set up and funded to facilitate transfer of patients between units under pressure. That meant intensive care staff had to manage transfers between hospitals when local intensive care capacity was overwhelmed. This placed an additional burden on the unit that was doing the transfer, which was already in a situation of extreme pressure.

185. Prior to the pandemic there were organisations of geographically aligned critical care services in cells of operational delivery networks (in England), as part of mutual aid. In Winter 2020 - 2021 this mutual aid became vital as areas of the country under pressure needed to transfer patients for intensive care treatment. At that point a transfer service was set up in England run by NHSE to facilitate transfer of patients out of areas under pressure (e.g. London and the West Midlands) to other areas e.g. the North East and the South West.

## **Retraining redeployed colleagues**

186. Existing intensive care staff also needed to devote time to retraining and updating redeployed colleagues with established procedures. The potential or actual need for mutual aid transfers (transferring critically ill patients to other hospitals) ranged from 0% in North-East England to 78% in the West Midlands.

## **Infection prevention and control measures (IPC) and aerosol generating procedures (AGPs)**

187. At the start of the pandemic a number of procedures were classed as 'aerosol generating procedures' (AGPs). Essentially, 'aerosol generating,' means the procedures could lead to the virus being suspended in the air in tiny particles that could take a long time to settle – as opposed to larger droplets that tend to settle more quickly. Aerosolised particles could linger, spread up to two metres and be inhaled by people in the vicinity and hence be a vector for viral transmission. The initial national list of AGPs included manual facemask ventilation, tracheal intubation, and tracheal extubation.

188. In operating theatres, tracheal intubation is often used as a way of managing patients' breathing during the operation. Because this was considered an aerosol generating procedure, aerosol clearance times had to be enforced after intubation and extubation during which no one else could enter the theatre.

189. Typical aerosol clearance times were judged as between 12 and 20 minutes depending on the level of ventilation in the area. During that time doors could not be opened. Patients also had to be woken up and recovered in theatre rather than in recovery rooms as is normal practice. These factors led to long fallow times between operations and a huge decrease in efficiency.

190. In intensive care, the number of tracheostomy procedures (where a surgical opening in the neck is made to help air reach the lungs) was hindered also due to concerns about aerosol generation which had an impact on length of stay and capacity.

191. Our organisations produced airway guidance for the endemic phase of Covid-19 which provided information about aerosol clearance times [DB1/050 - INQ000352877].

192. Eventually a body of research was formed and showed the aforementioned procedures did not lead to aerosol generation. National guidance was revised and tracheal intubation and extubation in anaesthetised patients and manual facemask ventilation were removed from the AGP list in June 2022 [DB1/051 - **INQ000257952**].

193. The classification of procedures as aerosol generating impacted on patient care due to additional staffing and time required per procedure. This limited capacity to see other patients and led to deferments and delays – which could harm those waiting for treatment. This is attested to in the following case study:

*“...in my unit because of worries about AGPs (which were ultimately found to be unproven, but that is irrelevant), intubations in theatre cases for positive or potentially positive patients were carried out in theatre by two fully PPE'd consultants, who stayed in theatre fully PPE'd for the whole operation in case of airway difficulties, then both stayed for extubation. This had the effect of sequestering two senior anaesthetists for the whole case, which had a direct knock-on effect of capacity to carry on other cases and often led to deferments or delays.”*  
(Consultant Anaesthetist)

### **Paediatric services**

194. Paediatric services in hospitals were hit in addition to adult services. We are aware that in the Northwest, both regional Paediatric ICUs (Alder Hey and the Royal Manchester Children's Hospital) were converted to accept adult intensive care patients. Critically ill children were displaced to High Dependency Units (HDUs) and wards. Elective surgery was also curtailed. This was mainly because the paediatric anaesthetists, who had some training in adult critical care, were expected to cover those now adult units. It is likely this scenario was replicated across the UK.

195. Many non-tertiary centres, such as District General Hospitals, stopped operating on all children, both for emergency and elective cases. This further impeded the NHS's capacity to operate and further drove up paediatric waiting lists.

196. Waiting lists for paediatric services could have extremely deleterious impacts on children given that most paediatric surgery is time critical for a child's development. For instance, if a cleft palate is not repaired at nine to 12 months this impacts on the child's ability to talk in their second year of life.

197. Our members are now seeing the effects of delayed surgery on the severity of conditions that are presenting. For instance, in orthopaedics, the former Vice-President of RCoA, Dr Russell Perkins, a consultant paediatric anaesthetist, with a career of 25 years, had anaesthetised only one child for a femoral head resection for pain control in chronically dislocated hips prior to the pandemic. This procedure is a last resort for pain control. Since the pandemic, in the last year, alone he has seen at least half a dozen cases.

198. Usually, the appropriate course of action would be to relocate the hips, preserve the joint, and encourage standing, weight bearing and mobilisation. However, it seems likely that because the children had not had timely surgery, and possibly no physiotherapy, their condition deteriorated way past the point of conservative intervention.

199. Recovery of paediatric services has been slow, given the overwhelming majority of the recovery resource provided by the government has been ring-fenced for adult services. Failure to resource paediatric recovery could put a substantial burden on the NHS in future years.

#### **Perioperative care**

200. Good perioperative care is important for ensuring the NHS runs efficiently. This covers things like pre-screening patients well in advance of operations and dealing with their co-morbid conditions and lifestyle factors that could lead to surgery being cancelled or increase the risk of complications if it goes ahead. Examples include diabetes, anaemia, frailty, smoking, or being physically inactive. Anaesthetists play an important role in delivering perioperative care.

201. Unfortunately, our members' ability to deliver good perioperative care services was hit during the pandemic. In July 2020, 42% of anaesthetists reported that in their hospital, anaesthetic services supporting theatre activity, e.g. preoperative assessment, acute pain services and perioperative care, were only to a small extent or not at all working to pre-Covid-19 levels [DB1/043 - INQ000352922].

#### **Senior resident overnight cover**

202. Across the UK, the amount of resident overnight cover provided by senior doctors, including consultants, increased. Consultants stayed in the hospital overnight when they would normally be on call from home because of the anticipated need for extra help when dealing with large numbers of sick patients and unfamiliar processes.

203. The importance of this in terms of provision of healthcare is that doctors who are resident on call overnight cannot work the next day as they require a period of compensatory rest. Intensivists in the majority of UK hospitals moved to increased resident consultant cover and increased numbers of medical staff on rotas, increasing their overall workload. This was achieved at the expense of



other professional activities, including teaching and training as well as increasing the numbers of hours worked and in many cases, the cancellation or postponement of leave.

204. However, because there was a reduction in the amount of elective work during the pandemic, consultant anaesthetists could also be freed up to help support resident staff rotas overnight. Anaesthetists of all grades became available to provide anaesthesia for any surgery that needed doing and others ready to intubate patients on the wards or in the emergency department who needed to go to ICU because they were seriously ill with Covid-19.

205. The issue for many was not the challenge of having to provide overnight cover, but the fact that it went on for so long with significantly changed working practices for some groups that were not necessarily mirrored in the rest of the hospital or in job planning and had a significant impact on morale and wellbeing.

### **Mobile emergency response intubation teams (MERIT)**

206. Much planned surgery was cancelled during the pandemic, particularly during the first wave. The anaesthetists who would normally have been doing this work were either redeployed to ICUs or continued to provide anaesthesia for urgent and emergency care in all areas, including trauma and obstetrics. One new way of working was that some anaesthetists became involved in the provision of mobile emergency response intubation teams (MERIT) although they were not always known by this name and were not provided in all hospitals. Members of these teams would go to wards, or other locations in the hospital, and provide anaesthesia and endotracheal intubation (a tube into the windpipe to allow for artificial ventilation) for Covid-19 patients who required it before being transferred to the ICU.

207. A service of this kind is not usually needed in normal times except in exceptional circumstances where a patient suffers a cardiac arrest or other catastrophic illness on the ward necessitating endotracheal intubation and life support before transfer to critical care. In these cases, the service would be provided by the critical care outreach team not by anaesthetists who were not working in critical care.

### **Proning teams**

208. In some hospitals, proning teams were developed. These are teams that would help to turn patients in intensive care onto their fronts for periods of time as this was shown to improve outcomes in intubated and ventilated patients. Various clinicians were trained in how to do this safely in patients who were ventilator dependent and attached to a large amount of monitoring and therapeutic equipment.

### **Communicating with patients' families**

209. There were challenges in communication between staff members and patients. These included difficulties in communication whilst wearing PPE.

210. There was also the fact that in most cases relatives could not attend in person in hospital. This meant that bad news had to be communicated either via telephone or, where allowed, video calling. These factors made both communicating treatment plans and breaking bad news more difficult as relatives could not attend the hospital or see their loved one in a video call enabling them to contextualise the severity of the illness and treatments being given.

211. Some clinicians stated that it was hard to watch families while on video 'calls' to ventilated patients, where they may be watching them die remotely. This was hard on staff and undoubtedly even harder on the families at the other end of the call. Clinicians with sick relatives sometimes found themselves in this situation themselves as they were unable to visit their loved ones even if they were being treated in the same hospital they worked in.

212. Some hospitals and organisations also raised ethical concerns about the use of video calling which meant that it was not universally offered to relatives of unconscious patients, potentially leading to confusion and inequity. Guidance on the use of video conferencing was produced by a group of organisations involved in critical care named 'ICS Guidance on the use of video communication for patients and relatives in ICU' (the ICS Guidance) (undated) [DB1/052 - INQ000352892]. Our organisations were not involved in the production of the guidance, nor did we endorse it.

213. The Legal and Ethical Policy Unit of FICM was asked by a member to review the ICS Guidance on the use of video communication for patients and relatives in ICU. It judged that the guidance was overly restrictive in its framing and could unduly restrict video calling by relatives. This is because the guidance suggested permission was required from the patient, which was often not possible or, in other situations, impractical when a patient was critically ill with Covid-19. We believed the impact of the guidance would discourage use of video calling unless there was clear evidence it would be in a patient's best interests rather than the opposite view, which was to presume it would be in the best interests of a patient to be connected with their family. The guidance was also felt not to adequately address end-of-life situations and the needs of relatives to say their last goodbyes.

214. We were also unclear if the guidance was intended to operate in Scotland as it did not consider the appropriate and relevant legislation for Scotland.

### **Developing and delivering research for the pandemic response in acute and critical care**

215. Our members also helped with vital research which saved lives both in the UK and across the world. As this research developed, and as experience grew, particularly in the first wave, clinicians' understanding as to the 'best' way to provide treatment or the 'best' treatments changed. For

example, many patients were able to tolerate CPAP for longer than had previously been thought and the period of ventilation required could be up to several weeks requiring tracheostomies and complex weaning plans, to enable them to breathe independently.

216. Our members and fellows supported the development and delivery of a number of multi-centre randomised controlled trials. Those trials helped identify lifesaving treatments that could be rapidly introduced into NHS and international healthcare practice.

217. Such research was supported by the Clinical Research Network (CRN) of the National Institute of Health Research (NIHR), which is funded by the Department of Health and Social Care (DHSC). Some of our members worked in NIHR roles as clinician scientists and many others contributed to the research effort by enrolling patients into trials and submitting data from their local units.

218. Key examples include:

- (a) The RECOVERY trial – a rolling study re-purposing known anti-viral and anti-inflammatory drugs aimed at understanding which approaches would reduce the need for critical care for patients in hospital wards and saving life. With over 40,000 participants, numerous drug therapies have been investigated with results supporting the effectiveness of corticosteroids and other anti-inflammatory drugs e.g. Tocilizumab.
- (b) REMAP-CAP – a collaborative international platform study, focused on critical care, to re-purpose known anti-viral and anti-inflammatory drugs. This aimed to understand which approaches could reduce time in intensive care and save lives. The UK has delivered over 4,000 patient participants (two thirds of global recruitment), delivering important evidence that has confirmed the effectiveness of treatments such as corticosteroids and other anti-inflammatory drugs.
- (c) GenOMICC – a UK collaborative large-scale study led from Edinburgh to investigate the genetic basis for the susceptibility to poor outcomes from Covid-19 for patients admitted to critical care. The study has already discovered important scientific evidence from many thousands of patients that points to the potential for new treatment approaches that could help improve outcomes from severe Covid-19.
- (d) Recovery-Respiratory Support – a UK collaborative research trial that investigated the best way to support the breathing of patients with severe Covid-19 and to safely avoid mechanical ventilation. The study recruited nearly 1,300 critically ill patients with Covid-19 and found that CPAP reduces need for invasive ventilation in hospitalised Covid-19 patients.

219. Throughout the pandemic, research teams kept as much non Covid-19 research ongoing as possible, particularly research that offered the potential for life extending or improving care. However, it was necessary to pause and restart many existing studies into other health conditions, as both research and NHS services responded to the pandemic.

### **Follow up and rehabilitation**

220. During the pandemic it became more difficult to follow up patients who had been in ICU upon discharge, or to provide rehabilitation. This resulted from a lack of pathways in place to support patients needing a multidisciplinary approach to rehabilitation and limited provision for patients to return to hospital for additional face to face services.

221. FICM produced interim guidance in May 2020 [DB1/053 - INQ000352889], followed by full follow-up guidance in October 2021 [DB1/054 - INQ000352894].

222. However, the funding streams to back this guidance were not in place before the pandemic and therefore implementation in a timely manner was hindered.

### **Delays to treatment, reviews, and diagnostics**

223. There were delays to delivery of routine intensive care treatments and investigations due to the severity of illness of patients e.g. physiotherapy, speech and language therapy assessment. This partly came down to treatments being more clinically difficult and taking longer as the patients were unstable and partly due to the difficulties of delivering the same level of services to increased numbers of patients with fewer staff.

224. Diagnostics and patient reviews were also impacted due to PPE and Infection Prevention and Control (IPC) considerations, for example taking a patient for a CT scan involved more staff and more PPE than had previously been the case.

### **Suspension of routine data collection**

225. During the pandemic, some aspects of routine data collection were suspended due to staff redeployment. ICNARC data collection takes place for all NHS ICUs in England, Wales and Northern Ireland. ICUs in Scotland contribute to the SICSAG dataset. Many of the metrics that would usually give an indication of the quality of care provided in hospitals were unavailable for a critical period as data collection and outputs had pivoted to a focus on data related to Covid-19 patients in intensive care.

226. Whilst extremely beneficial for understanding the changing patterns of care and outcomes for patients with Covid-19, other aspects of care may have suffered. Without key data identification of problems was made more difficult, opportunities for quality improvement missed, and accountability

reduced. Examples include incidence of ventilator associated pneumonia (VAP) and hospital acquired infections. When data collection resumed, VAP rates were reported to have increased in some hospitals.

### **Dealing with the unknown**

227. At the start of the pandemic, there was limited information about just how dangerous the virus was. Nevertheless, intensivists, anaesthetists, and other HCW placed themselves in harm's way for the sake of patients and the wider public.

228. This is illustrated by the following story:

*"I remember going to my first emergency intubation in the emergency department, all gowned and hooded, and although it was willingly, it was not exactly knowingly, because we had no idea what level of harm we were exposing ourselves to. We didn't know if this was going to be some kind of Hollywood style virus that killed everyone that touched it or something less. That whole uncertainty was huge, and I know others felt exactly the same. At the outset, we really didn't know what level of risk we were exposing ourselves to."* (Consultant Anaesthetist)

### **Patient concerns about intubation**

229. Patients who required intubation were the sickest and therefore most likely to die. Unfortunately, this created a perception among some members of the public that ventilation itself was dangerous. This led to some patients refusing to be ventilated, which was difficult for staff. FICM tried to utilise media opportunities to inform the public of the reality of the situation, for example via an article in the Guardian [DB1/057 - INQ000352920]. In summary the article states that:

- (a) Senior doctors warned that some critically ill Covid-19 patients were dying as they refused to go on ventilators due to fears that they increased the risk of death.
- (b) This misconception appeared to stem from the fact that the death rate in critical care fell at the same time as the use of ventilators was reduced. Dr Alison Pittard, Dean of FICM, stressed these two trends were unrelated and that patients were dying from Covid-19 itself, not from use of ventilators.
- (c) She stated the importance of the general public being accurately informed on intubation as, for critically ill patients, ventilation might reduce their chance of dying.

### **Accounts of other issues**

230. The Association has collected a range of other stories from clinicians that attest to various experiences during the pandemic, and the psychological impact they had.

*"We were told early in the pandemic that things were likely to change rapidly, and so we were strongly encouraged to have our work emails directly to our phones so we could stay up to date. This meant we could be kept informed, even when we weren't at work. The knock-on effect however was that we could never actually escape work, or discussions about COVID, admissions, death rates and PPE availability."* (SAS Anaesthetist)

*"I was the Lead for Critical Care during the Pandemic, and I worked an intense rota for 4 months in the first wave. I have not recovered from the impact of that time. Decisions taken at that time weigh heavily."* (Consultant Anaesthetist)

*"Made me reassess how much work I was doing so that I am prepared to do less going forwards. The lack of leadership and poor decision making both nationally and locally has led me to be more disengaged from my work and means the NHS has lost whatever goodwill from me it had left. We were treated as numbers not individuals. Although for me the reality was better than it was predicted to be, the totally uncaring attitude displayed to us as we watched the awful scenes from Italy and read stories from elsewhere demonstrated to me what little regard there was for any of us. The lack of appropriate equipment and PPE to protect us was appalling; as a country we should look after those who were literally going to be putting their own lives on the line to look after others. Instead, there was just obfuscation and excuses. It seemed as if both locally and nationally some individuals used this situation to get as much out of it for themselves as they could. It has all left me tired and disillusioned."* (Anonymous)

*"I was terrified. In the early pandemic, the stories from Italy and China gave us some idea what to expect, and there was a very real expectation that some of us would die because of COVID we caught at work. On a personal level, we were shielding a family member with cancer in our home, while my wife and I were looking after COVID positive patients at work. I shaved my beard so I could wear a respirator, and I cut my hair short for easier washing at work. After every shift I showered at work, washed my lanyard, clogs and glasses with soap in the shower with me. I cleaned my phone and pens with alcohol gel, and tried to leave things in the car rather than bringing them into the house. I was frightened I would die, but I was more frightened I would give my mother-in-law COVID, and she would die. I felt that if my PPE wasn't perfectly applied, or that if doffed incorrectly, I would contaminate something with COVID and give it to others or myself. The fear was very real. I have lost a lot of trust in medical managers, and in society. There has not been adequate recognition of what we did and what we went through. I suspect healthcare professionals will be dealing with the trauma acquired during the pandemic for many years to come. Many will never be the same again."* (SAS Anaesthetist)

## THE AVAILABILITY OF THERAPEUTICS AND MEDICAL EQUIPMENT USED TO PROVIDE CARE FOR COVID-19 PATIENTS

### Oxygen shortages

231. The potential for a condition like Covid-19 to increase the demand for oxygen in hospitals had not been properly considered before the pandemic. Much of the hospital estate was not set up for this much oxygen demand and at times oxygen supplies were at risk of running out due to high ward use. This was exacerbated by a significant increase in demand for CPAP both on wards and in intensive care. Two CAS alerts were made on 1 April 2020 and 6 April 2020 highlighting the potential for shortages. Guidance was issued on how supplies could be optimised and protected, for example by stopping ice build-up in delivery and storage systems.

232. To our understanding, the level of demand caused evaporators to ice up due to the amount of heat that is needed to change the oxygen from a liquid to a gas (latent heat of vaporisation) which is taken from the surroundings thereby lowering their temperature. This is particularly the case when the demand is high and can leave the evaporators unable to deliver oxygen.

233. There were also issues in the design of some hospital buildings, and the capacity of the piping, which impacted on the ability to deliver high flow oxygen through the pipes. At the Northern General Hospital in Sheffield, the flow could not be easily upscaled to allow a ward area to be used as an additional ICU.

234. One account of oxygen shortages, already in the public domain, occurred in January 2021 at Southend Hospital. The hospital had to restrict the amount of oxygen it provided per patient due to the sheer level of demand. This involved reducing the target range for oxygen levels that should be in patients' blood from 92% to 88-92% [DB1/055 - INQ000352875].

235. Another account from January 2021 in Northern Ireland included a warning from a respiratory doctor at Belfast's Mater Hospital, that the hospital's oxygen supplies were under "*extreme pressure*". Also, the Southern Health & Social Care Trust acknowledged moving patients to "*reduce pressure on the Southern Trust Hospital system*" [DB1/056 - INQ000352874].

### Renal replacement therapy (RRT) fluids

236. Many Covid-19 patients experienced renal (kidney) failure and required support in the form of renal replacement therapy (RRT) which requires RRT fluids. Unfortunately, during the pandemic, shortages of RRT fluids occurred.

237. One factor behind shortages was that supplies of RRT fluids were not managed in the same way as other therapeutics at the start of the pandemic as each hospital procured supplies directly from the manufacturer. When usage of RRT increased in intensive care, it was difficult to know which

hospitals held reserve supplies, and which had shortages, as there was no central procurement or management. This required hospitals to co-operate and look at alternative means of providing renal support at times e.g. provision of haemodialysis or peritoneal dialysis.

### **Anaesthetic drugs**

238. During the pandemic there was a vastly increased worldwide use of intensive care drugs, also used in anaesthesia, including propofol, rocuronium, atracurium, and fentanyl. This resulted in shortages. In April 2020, RCoA survey work found that 14% of anaesthetists did not have access to all their usual drugs, and 39% were not confident that they would have sufficient supply in the coming month. 2,174 RCoA members responded to this survey [DB1/058 - INQ000352924].

239. In May 2020, 13% were still unable to access the anaesthetic drugs they needed, while over 27% were still not confident they would be able to access the anaesthetic drugs they needed in the coming month. 1,496 RCoA members responded to this survey [DB1/059 - INQ000352923].

240. RCoA and FICM had regular meetings with the chief pharmaceutical officer and others to monitor shortages, and to advise our members as to how to continue to provide anaesthesia with alternative drugs and techniques. FICM pharmacy members also contributed to these workstreams including advice on use of alternatives drugs/preparations, ordering and avoidance of stockpiling [DB1/060 - INQ000352905].

241. The Association and ICS were not invited to meetings but any documents RCoA and FICM produced to advise clinicians were shared with them for input and published jointly.

242. Procurement was another issue. We were told the quantity of any drug in the UK and how long it would last, based on current usage. We used ICNARC data to help predict how usage might change and to assess how critical the supply was [DB1/061 - INQ000352873].

243. Clinicians' adaptation to use of alternative drugs was a rapid learning curve.

### **Ventilators**

244. There were not enough ventilators in ICU to meet the new demand from Covid-19 patients.

245. Prior to the pandemic most ICUs had just enough ventilators to provide one per bedspace, occasionally with a small number of spares. However, when Covid-19 hit, there was a need to rapidly expand ICU bed capacity and, correspondingly, the number of ventilators. Unfortunately, ventilators require a long lead-in time to manufacture, and it is challenging to scale up supply quickly. As a result, there was a shortage of suitable equipment and estate fit for purpose, hence the need to use operating theatre ventilators in some hospitals.



246. Efforts to boost the number of available ventilators included the Department of Health & Social Care (DHSC) purchasing ventilators on the global market. The Cabinet Office also set up a 'Ventilator Challenge' group and commissioned PA Consulting (a commercial consulting company) to provide project management. The purpose of the group was to screen possible ventilators to see if they were suitable. They procured as many of the known ventilators as possible, looked at new ventilators to see if they were viable, and invited inventors to come up with new devices.

247. These programmes were examined by a National Audit Office report [DB1/062 - INQ000087456].

#### Rapidly Developed Ventilators

248. The MHRA, an executive agency of the DHSC, issued a specification to manufacturers for new, rapidly developed ventilators. To our understanding, conventional intensive care ventilators took a long time to manufacture (a period of many months) so there was a need for something that was new, simpler, and could be rapidly manufactured in bulk.

249. To this end, the then Dean of FICM, Dr Alison Pittard attended meetings with the MHRA in an advisory capacity. She recalls two meetings, with the latter occurring on the 17 March 2020. One issue she raised during the meetings was that it was vital that any new ventilators procured could be used for as long as the patient needed to be ventilated, which may be many days continuously. Unfortunately, this requirement was ignored in the final specification document [DB1/063 - INQ000352917], published the next day, which stated:

*"It is proposed these ventilators would be for short-term stabilisation for a few hours, but this may be extended up to 1-day use for a patient in extremis as the bare minimum function."*

250. This means the specification fell short of what was clinically required.

#### Redeployed Equipment

251. Other pieces of equipment, such as anaesthetic machines (which provide short term ventilation for operations) and ventilators from other hospital areas, such as HDUs, were redeployed.

252. We are unable to provide a full account of the policy decisions around the redeployment, but, we will set out a summary of the situation as we understand it.

253. As minimal surgery was occurring, there were thousands of anaesthetic machines sitting idle. One of the functions performed by anaesthetic machines is ventilation. However, those machines were not designed, or licenced, to be used in such a way as they are not intended for continuous use. They also need daily checks which requires disconnecting the patient from the machine for a brief period of time. In Guy's and St Thomas' NHS Foundation Trust a 'domino switch' technique

was used where a spare machine was used to allow the first to be disconnected, cleaned and maintained [DB1/064 - INQ000352864].

254. The MHRA acknowledged that using anaesthetic ventilators for continuous ventilation was an off-licence use but should be allowed due to the shortage of ICU ventilators [DB1/065 - INQ000352897].

255. The use of new and different pieces of equipment became problematic for some members of staff as they may have been unfamiliar with the nuances of how they should be operated and maintained.

256. This lack of familiarity likely contributed to patient harm in some cases. Her Majesty's Coroner for East London issued a Prevention of Future Deaths (PFD) report following the deaths of two patients at the London Nightingale Hospital in April 2021 regarding incidents related to breathing system filters [DB1/066 - INQ000352913].

257. In FICM and RCoA's response to the report, it was made clear that in the expert opinion of our clinicians, the use of anaesthetic ventilators was at fault [DB1/067 - INQ000352912].

258. This view was taken because, as per our response, *“anaesthetic machines have a more complex breathing system and there may be significant differences in how humidification is delivered and the need for filters compared to an intensive care ventilator. Furthermore, the ICU staff who usually set up and check ventilator breathing systems are unlikely to have had any previous experience of using anaesthetic machines.”*

259. Added to this, the staffing of the London Nightingale hospital, as acknowledged by the serious incident report, was 'dynamic and unstable'. This meant many of the staff may have lacked sufficient experience in the use of the breathing systems available and were working in an unfamiliar environment.

260. Patient care was provided outside of the recommended standard of one trained intensive care nurse per ventilated patient. This, in our view, would have contributed to the failure to undertake normal routine intensive care nursing ventilator checks which would include the correct application of humidification.

261. The central message here, in our view, is one of preparedness. Running ICU at, or close to, its limits in normal times meant there was no extra capacity in the system to easily deal with a new pandemic. Although equipment was redeployed from other hospital areas, it did not necessarily meet the demands of ICU therapies and created confusion for some staff.

## **NATIONAL GUIDANCE ON COVID-19 POSITIVE PATIENTS**

262. Guidance regarding how to deal with Covid-19 positive patients, those exposed, and when they could be considered no longer a risk to others was complex, frequently changing, and sometimes conflicting. For example, the guidance set out by NHS England [DB1/068 - INQ000352899] and UKHSA/PHE [DB1/069 - **INQ000257936**].

263. The guidance was very restrictive and more often than not hindered clinical staff. For example, it meant that patient flow was impacted as discharges to ward beds could be complicated depending on what the IPC requirements were. It also meant patients admitted to ICU might need isolation in a side room initially. Much intensive care estate at that time consisted of units with few side rooms so even if there was a bed space and a nurse, getting the side room might prove difficult (necessitating bed moves and rearrangement to accommodate).

264. As clinicians became more familiar with the situation and new evidence became available, they could see ways of adapting, especially as PPE became more available. This should have allowed for better use of intensive care beds and development of secure pathways for non-Covid-19 patients earlier. Our organisations asked the relevant agencies to address this by updating the guidance. This was slow to occur, which was frustrating to staff who were increasingly aware that the needs of non-Covid-19 patients weren't being addressed adequately.

265. Furthermore, guidance became contradictory, such as the classification of intubation as an AGP in the PHE/UKHSA guidance, but not in the NHSE guidance. This led to confusion over what PPE should be used and created delays as described in paragraphs 187 - 193.

266. The guidance could also be interpreted in different ways, and different approaches to isolation of patients made discharging patients from critical care to wards in the same hospital difficult. This created problems with patient flow and ability to admit patients in a timely fashion, either from the emergency department or from an elective pathway. It also complicated the ability for different organisations to offer mutual aid.

267. When significant issues arose in later 2020 about this, Alison Pittard, the then Dean of FICM, wrote to the CMO for England in September 2021:

*“As a profession we have written guidelines to try and address the inconsistency. IPC (Infection Prevention and Control) leads will not, on the whole, endorse and implement the Professional Guidance relating to Critical Care, some/many have but it is inconsistent across the country... we need simplicity, consistency and a healthy dose of clinical pragmatism to allow us to cope this winter”.*

## **THE PHYSICAL AND MENTAL WELLBEING OF INTENSIVISTS AND ANAESTHETISTS**

### **Wellbeing levels**

268. In April 2020, RCoA's 'View from the frontline' survey found that over 40% of respondents suffered mental distress as a result of additional Covid-19 related stress, while over a third felt physically unwell. 2,174 RCoA members responded to this survey [DB1/058 - INQ000352924].

269. In May 2020, RCoA's subsequent 'View from the frontline' survey [DB1/059 - INQ000352923] showed 42% had felt mental distress during the last month as a direct result of additional work-related stress due to COVID-19, and almost a third had felt physically unwell. 32.5% reported working considerably longer hours during the pandemic.

270. Our members adapted to a considerable change in working patterns during the pandemic peak, with many more feeling the strain of being on call more frequently, and from working nights and longer shifts. These sustained pressures also took their toll on morale for many. 20.8% perceived morale in their team to be either low or very low.

271. In July 2020 the percentage of respondents reporting mental distress rose to 64% [DB1/043 - INQ000352922].

272. Academic work also showed the impact in ICU. Evidence showed that the percentage of ICU staff reporting probable mental health disorders increased from 51% before the 2020/2021 winter surge, to 64% during, then fell back to 46% after [DB1/073 - INQ000352906].

## Drivers

273. There were many possible drivers of mental distress. A non-exhaustive list includes:

- (a) *Longer working hours*: In May 2020, 33% of anaesthetists reported they were working considerably more hours per week [DB1/059 - INQ000352923].
- (b) *Lack of rests and breaks*: In July 2020, 24% of anaesthetists stated they could not take the time off they needed to seek help or rest.
- (c) *Pure focus on Covid-19*: Additional work undertaken by existing intensive care staff was cancelled to focus on the immediate threat of Covid-19, such as teaching, training, supporting professional activity, and any other clinical activity.
- (d) *Inadequate remuneration*: In July 2020, 26% of anaesthetists reported that their employer was not properly remunerating them for clinical time owed for flexible working or additional hours under surge conditions.
- (e) *Disruption to training*: In July 2020, 89% of anaesthetists in training reported that their training opportunities had been affected and 76% had lost out on clinical learning. This created stress in relation to forthcoming exams.

(f) *Prolonged overnight cover:* As outlined in paragraphs 202 - 205 above, the level of senior overnight resident cover was both increased and sustained.

(g) *Distress among loved ones of patients:* Hospitals were closed to loved ones visiting. This had a devastating impact on families who had a family member critically ill and dying, and a significant knock-on effect on staff working in intensive care.

### **Impacts on anaesthetists**

274. RCoA's 'Respected, Valued, Retained' report found that in 2021, one in four (25%) Consultants and one in five (20%) SAS Anaesthetists were planning to leave the NHS within five years, and around one third of respondents said that Covid-19 made them less inclined to stay working in the NHS. 815 anaesthetist members of RCoA's Membership Engagement Panel responded to the survey, a response rate of 20% [DB1/074 - INQ000352914].

### **Impacts on intensivists**

275. The impact of the pandemic on intensivists was variable. Some intensivists also have a clinical practice in a second speciality, such as anaesthesia, emergency medicine. Following the pandemic, some of these staff left ICU to work in theatres full time. Others reduced or dropped their second speciality work and increased their ICU work. FICM survey work published in November 2020 found that 19% of respondents said they were considering dropping their second specialty [DB1/037 - INQ000352926]. It is, however, unclear how many intended to leave the NHS entirely.

### **Clinician stories**

276. Stories collected by the Association provide further examples of the impact of the pandemic on wellbeing:

*"My activity changed several times over the different waves of the pandemic, and not always in ways that were discussed or agreed. There was a presumption of flexibility, because of the pandemic, and an expectation (spoken by at least one medical manager) that we would do whatever was required because of the nature of the emergency. This was also, sadly, carried over to payment for additional work done. A lot of doctors, consultants and SAS doctors alike, became resident at night, when their role previously didn't involve this. These night shifts were then remunerated in a very untransparent way, by granting of additional leave that couldn't be taken, or payment at different rates for different groups even within the same department. The BMA had to be involved in some areas to force medical managers and the Trust to pay for work done. I was never paid for some of the activity I undertook, especially at night, and I remain pretty bitter about it. The idea that I might have caught COVID, while working in a COVID ICU, and died from it, while my medical managers were seemingly trying to make sure*

*I wasn't being paid to be there, is a difficult pill to swallow. Some SAS colleagues joined consultants on a resident rota covering obstetrics. They were told that this was a consultant rota, and some were apprehensive about taking on this responsibility, but did so because of the nature of the emergency. The Trust agreed to pay for this work at consultant rates. The department then insisted this had not been a consultant rota and refused to pay the rates that the Trust had agreed. A lot of work was done by doctors wanting to do the right thing in extraordinary circumstances, and a lot of this good will was exploited.” (SAS Anaesthetist)*

*“You couldn't leave work at work. You could literally bring work home with you and there was a lot of anxiety about contamination.” (Anaesthetist in Training)*

## **THE IMPACT OF COVID-19 RECRUITMENT, TRAINING AND EXAMINATIONS**

### **Recruitment into specialty training**

277. On 30 March 2020, the four national statutory education bodies (HEE, Health Education and Improvement Wales (HEIW), NHS Education for Scotland (NES) and Northern Ireland Medical & Dental Training Agency (NIMDTA)) published contingency plans for specialty recruitment during the Covid-19 pandemic and agreed a general approach to support the appointment of doctors to medical training programmes [DB1/075 - INQ000352872]. This included a decision to cancel all face-to-face specialty recruitment. This meant that in 2020, anaesthesia and ICM recruitment was based on self-assessment scores of training portfolios and experience alone because there was no capacity to hold even online interviews.

278. For ST3 anaesthetics recruitment in 2020, for example, unverified self-assessment scores were used as the sole means of ranking and appointing applicants. Self-assessment scoring entailed applicants submitting a self-assessment score by comparing their educational and training history (compiled in their portfolio) to the scoring criteria. This method of recruitment was potentially problematic due to the variable way in which people complete this and it may have disadvantaged some groups with protected characteristics. Subsequent rounds of anaesthetics appointments were conducted using self-assessment, verified by senior anaesthetists, and online interviews, which have gradually been refined.

279. Recruitment into specialty training is not directly the responsibility of RCoA or FICM. Responsibility rests with the Anaesthetics National Recruitment Office (ANRO) and the ICM National Recruitment Office (ICMNRO), which, during the pandemic, were part of HEE, and are now part of NHSE (which HEE was merged into). Our members were, however, involved in the process as either interviewers or as trainers or assessors.

### **Examinations**

280. Due to the pandemic, certain exams were cancelled including:

- (a) Fellowship of the Faculty of Intensive Care Medicine (FFICM) Objective Structured Clinical Examination (OSCE)/Structured Oral Examination (SOE) in March 2020 and the Multiple-Choice Question (MCQ) exam in June 2020.
- (b) The Primary FRCA OSCE SOE in May 2020.
- (c) The Final FRCA SOE in June 2020.

281. Online exams were introduced in August 2020 for both written and oral components of College and Faculty exams. Capacity to deliver the FRCA oral exams was stretched due to a number of factors which resulted in the need to prioritise applications:

- (a) A backlog of students resulting from cancellations of the oral exams.
- (b) Fewer examiners available due to Covid-19 rotas.
- (c) Additional time that was added to the exam schedule to account for connectivity issues in the online exams meaning fewer candidates could be examined per day compared to a face-to-face delivery; this was mitigated to an extent by running one-week exams over two weeks for most exam sessions.

282. Candidates were affected by an error in the Constructed Response Question (CRQ) component of the Final FRCA written in 2021 and this added to the mental distress they were already suffering.

283. An anomalously low result was reported in the FFICM OSCE for October 2021. No clear evidence was found to account for this result but a contributory factor was considered to have been the pandemic which had an impact on the breadth of training undertaken by doctors in training, who had been working in intense conditions for a prolonged period of time.

### **Impact on provision of anaesthetic training**

284. As the first and largest group of doctors in training redeployed to support intensive care, many anaesthetists in training did not complete usual specialist modules or complete their training. This meant fewer new training posts were available as people could not progress out of their current higher training positions.

285. Early in the pandemic, the GMC put in place temporary derogations, which allowed doctors in training to progress without meeting all pre-pandemic requirements in terms of curriculum outcomes and evidence. These requirements were not dropped entirely but could be deferred to a later date prior to the completion of training. The derogations remained in place until 30 September 2023

[DB1/076 - INQ000410905]

286. In regard to anaesthetics specifically, the derogations allowed anaesthetists in training to progress through elements of practice within the training programme, and to facilitate completion of training. The derogations also allowed anaesthetists in training in core training posts to apply for and progress to ST3 (the first year of higher training) without having successfully completed all elements of the Primary FRCA examinations, as would normally have been the case. They also allowed anaesthetists in training in higher posts until the end of ST5 to achieve the full Final FRCA exam.

287. The derogation in relation to the Primary FRCA exam led to pressure on recruitment with far more people applying to ST3 level than there were jobs available.

288. There was also a change/hold in rotation dates across other grades e.g. foundation grade. Many did not rotate (or rotated late) into community placements e.g. GP, psychiatry in favour of keeping them in acute areas e.g. ICM, emergency departments, and acute medicine to help support staffing areas under pressure.

### **Impact on Association meetings**

289. The Association puts on meetings relevant to anaesthetists in training. During the early stages of the pandemic its Trainee Conference (June 2020) and its Annual Congress (September 2020) were cancelled. Some later meetings became fully virtual, including the Winter Scientific conferences (January 2021 and January 2022), the Annual Congress (September 2021). Others became hybrid, including the Trainee Conferences (June 2021 and June 2022), and Winter Scientific conference (January 2023). Approximately 30 seminars and eight Core Topics meetings were converted to virtual.

290. The Association had to learn very quickly new ways of putting on meetings and clinicians also had to adapt to the new way of attending what had previously been traditional 'in person' conferences. There was a steep learning curve for both parties. At the start of the pandemic, video conferencing was new to many people, and many felt they did not get the same out of such meetings as they previously had. This means that educational provision for members was reduced.

### **TRANSMISSION OF COVID-19 AMONG OUR MEMBERS**

291. While frontline HCW were, in general, at higher risk of infection, anaesthetists and intensivists seemed relatively less affected, both in terms of infection and Covid-19-related mortality. In April 2020, 119 deaths of HCW were looked at and no deaths were found amongst anaesthetists or intensivists who would be considered to be at high risk [DB1/077 - INQ000352887].

292. The reasons for this have been explored [DB1/078 - INQ000352883] and include:

- (a) The use of higher performing PPE.



- (b) That ICUs are already well-ventilated.
- (c) That anaesthetists and intensivists were already expert in the use of infection control precautions given the environments they routinely operate in, therefore their roles required relatively fewer behavioural changes.
- (d) That a Covid-19 patient's peak infectivity usually occurs before critical illness, which means intensivists and anaesthetists encountered patients who, while more ill, were less infectious than those encountered by other healthcare professionals.
- (e) That interventional airway management may not generate aerosols and hence lead to lower aerosol levels than in wards, where coughing and sneezing may occur more frequently.

293. Research has shown that use of higher performing PPE has been found, in general, to reduce risk of infection [DB1/079 - INQ000352907]. This remains the case even after controlling for possible bias due to frequency of testing and reinforces the need for not just quantity of PPE, but also quality.

#### **UNEQUAL IMPACT OF COVID-19 ON OUR MEMBERS**

294. Some members raised concerns about the unequal impact of the pandemic on people with certain protected characteristics. To provide one quote:

*"It was clear from early on that older and BAME individuals faced a worse outcome from Covid, yet individuals with these characteristics were amongst those doing the most work. I pointed out the inequality going on and was told publicly in a departmental meeting that "life wasn't fair" and that there was no problem here that they were going to rectify." (Anonymous)*

295. In the early phase of the pandemic, concerns around working as an international medical graduate (IMG) were highlighted by FICM who shared examples of good practice and ideas of how to support IMG and also BAME colleagues until more was known [DB1/080 - INQ000352928]. This included:

- (a) Focussing on the health and wellbeing of IMGs who may be away from and unable to visit family during the pandemic.
- (b) Recognising the commitment IMGs were making to the UK Covid-19 response.
- (c) Provision of training and mentoring in addition to ensuring concerns could be highlighted and addressed where possible.
- (d) Risk assessment and appropriate deployment based on this assessment.

- (e) Discussions around appropriate personal protection from infection and management of health whilst working.

## **RECOMMENDATIONS IN THE EVENT OF A FUTURE PANDEMIC**

### **Workforce**

296. It is vital that the NHS has enough staff to ensure that critical care, emergency departments, and elective care are equipped for present demand, future expected demand, and the possibility of a future pandemic. This includes intensivists, anaesthetists, nurses and other members of the ICU and theatre team.

297. Workforce is one of the critical, rate-limiting factors in the country's ability to scale up a pandemic response. Any expansion of bed capacity, or space – such as in the case of the Nightingale Hospitals - can only come into operation if there are enough qualified people to staff them. It is important to ensure more hospital staff maintain a core level of skills to facilitate working in an intensive care environment in a future pandemic.

298. Recruiting new staff during a pandemic can be difficult as training can take years and requires existing staff time and resource to do the training. Workforce planning must be done in advance and account for the possibility of another pandemic.

### **Intensive care capacity and planning**

299. Intensive care capacity needs to be increased across the UK. This includes the provision of additional human and material resources to ensure services can cope with current demand and have sufficient head room to deal with increases caused by any future pandemic.

300. Increased capacity planning requires identification of surplus equipment that can be rapidly brought into use if required alongside sufficient staff to facilitate this. Wider medical training also needs to be considered, potentially ensuring that doctors in training receive some exposure to critical care during early years careers, which could make possible, or ease, redeployment to ICU if necessary.

301. Hospital layout should also be considered when creating new estate, or modifying existing space, so that it is designed to cope with pandemic situations. This includes situations where some patients need to be separated; situations where other hospital areas, such as enhanced care units, need to rapidly be converted to ICUs; and situations that require oxygen provision and distribution systems at much higher than usual levels of demand.

302. Non-material factors include identifying and risk-assessing possible scenarios and 'war gaming' in advance of their occurrence as a routine part of service planning.

### **Appropriate and timely supply of PPE**

303. Shortages of staff PPE increased staff infections and reduced the functionality of ICUs. In order to ensure that adequate PPE is available in times of crisis, a central PPE stockpile should be kept for future use and, where possible, domestic production and supply systems should be built up to make the UK less reliant on imports from other nations.

### **Incorporation of staff perspective**

304. By taking into account the views, knowledge, and experience of frontline staff, poor decisions can be mitigated against or avoided. For example, there was insufficient involvement of ICM staff in decisions around the procurement of ventilators. As such, the procurement process resulted in machines that were either anaesthetic machines or unsuitable for ventilation/support of patients with severe lung injury.

### **The healthcare system preparation**

305. Better planning and preparation for future pandemics should be incorporated across the risk management processes of health and social care systems, as well as across the full spectrum of other public services. Selected examples include training in medical schools, equipment and supplies (including oxygen and drugs), supplies of PPE, and public health strategies. Now that the UK Health Security Agency has been established, futureproofing for pandemics will hopefully become the norm and provide standards and guidance for preparedness.

### **NHS staff wellbeing**

306. Given the number of staff expressing desires to leave the profession, factors that undermine wellbeing must be addressed.

307. As per the wellbeing guidance issued by our organisations (outlined in paragraphs 63 - 66) and the research into the wellbeing of our members during the pandemic (outlined in paragraphs 268 - 273) we make the following (non-exhaustive) list of recommendations:

- (a) Better provision of rest facilities and social areas.
- (b) That sufficient time is made available for breaks and rest.
- (c) Better provision of access to refreshment and nourishment.
- (d) Efforts to ensure a fair chance of career progression for all individuals.
- (e) Proactive assessment of individuals' education needs.
- (f) Wellbeing training for those in management roles.

(g) Provision of self-help information for staff who need it.

(h) Access to a 24-hour confidential peer support hotline.

### **We should maintain pandemic skills**

308. RCoA's Covid-19 winter survey, 53% of respondents said they had learnt new, transferrable skills during the pandemic. 477 RCoA members responded to this survey [DB1/082 - INQ000361991]. Although training programmes were significantly disrupted, many anaesthetists in training were able to enhance their learning by working in intensive care and gaining skills in the management of acute respiratory distress syndrome, ventilation strategies and using PPE correctly. Just by offering regular training or rotation to different roles in relevant care settings, such as enhanced care units, we can maintain the knowledge gained and build a pool of 'reservists' amongst other hospital staff groups who can quickly step up to support ICUs when needed.

309. By way of additional example, FICM Pharmacy members illustrated ways in which a cross skilled workforce can provide additional support in times of pressure. Pharmacy services in many hospitals met the medication safety challenges of the pandemic by reassigning and training staff to support critical care via direct clinical services and aseptic pharmacy services (RTA, RTU medicines), supporting the dramatic change in nursing staff skill mix and experience and helping to maintain patient safety.

### **Perioperative care**

310. Better perioperative care has a critical role to play in the NHS recovery and beyond: high quality perioperative care – the integrated care of patients from the moment surgery is contemplated through to their full recovery – can have a transformative impact on the lives of patients, improving their overall health, reducing complications after surgery, and helping them get back home or back to work sooner. Using perioperative approaches, such as preoperative assessment, shared decision making, and prehabilitation programmes, we can help ensure that patients are ready for their surgery for when the NHS is ready for them. Or as colleagues have argued elsewhere, we can turn 'waiting lists' for surgery into 'preparation lists.'

### **Collaboration and information sharing**

311. The pandemic has also demonstrated the value of collaboration between national organisations. Royal Colleges have worked successfully with regulators and NHS leaders to coordinate guidance and responses as situations arose. This level of alignment should endure to ensure that clear messaging and strong leadership remain a critical component of the response to future surges.

### **Local decision-making works**

312. A reduction in bureaucracy and top-down management during the pandemic has made staff feel empowered and enabled faster implementation of plans for local services. The urgency of the Covid-19 pandemic accelerated the simplification of decision making and governance, and we should continue to dismantle barriers within systems to improve morale and develop leadership amongst NHS staff.

### **Digital innovations**

313. Covid-19 accelerated the pace of digital innovation, and we should continue to make the best of these new tools where appropriate, while remaining mindful of the needs and preferences of individual patients, particularly those who may not have access to technology.

### **Data collection and release**

314. During the pandemic near real-time data collection and release of descriptive data, such as that collected by ICNARC, was extremely useful in benchmarking, building understanding and guiding decision making.

**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: 18.12.2023