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Overlooked, but not overcome: Smaller hospitals and the staff response to the Covid-19 pandemic

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The Covid-19 pandemic placed a burden, unprecedented in recent decades, across the whole of the NHS. However, while urban hospitals, particularly those in London, were hit by the largest volumes of Covid cases, most smaller hospitals were struggling with a lack of staff, resources and money, long before the first news of trouble in Wuhan.[1,2]

Right from the start of the pandemic, there were concerns that smaller hospitals, which tend to care for older and more vulnerable populations, precisely those most at risk of hospitalisation and death from Covid, might find it more difficult to cope, with the potential for an over-stretched system to fail to provide adequate care. The feeling that smaller hospitals might suffer most was exacerbated by two developments early in the pandemic. The first was the intense focus on London, despite some regional areas with a number of smaller hospitals (outer Birmingham, the Black Country) being hit equally hard.[1] The second was the announcement of the building of seven Nightingale hospitals, which would provide care for critically unwell patients across the country.[3]

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However, as was noted by the HSJ in late March 2020, most Nightingale locations were far from the rural locations they claimed might benefit from the centralisation of services and would require already stretched non-urban organisations to donate staff.[4] Despite a number of calls to shift to a needs-based response based on hospital-level analysis, including from the Nuffield Trust,[5] a key criticism of the NHS pandemic response has been that it was too centralised and insufficiently responsive.[6]

So how did smaller hospitals fare during the pandemic? The first major study of national Covid mortality across organisations found a trend during the first wave towards hospitals with larger pre-pandemic bed base and admitting more patients to ICU (again a function of capacity) having lower in-hospital mortality.[7] Despite this, overall variation between regions and organisations was relatively modest, suggesting that while smaller hospitals did suffer from a relative lack of resources, this impacted less than had been feared on patient outcomes.

Our approach to this work

This work was conceived in summer 2020 – the original intention being to understand the pandemic responses of smaller hospitals and to offer suggestions that might be helpful in the face of a (then) possible second wave. However, the second wave began to hit just as interviews were getting underway and the project was deferred until April 2021. This has meant that we have been able to track what happened in organisations over the course of the two waves of the pandemic, the contrasts between the two adding to the richness of the data collected.

This report focuses specifically on the operational responses and management approaches taken by 10 smaller hospitals over the course of the pandemic. As such, it is meant to be a snapshot of what happened to acute and emergency care pathways, rather than a definitive or encompassing study of all aspects of the pandemic in smaller organisations. We deliberately did not, for example, explore changes to surgical or outpatient services, except where relevant to the care of emergency medical patients, nor did we examine how organisations approached elective recovery.

We firstly explore what planning was in place prior to the pandemic and how organisations prepared for each wave. We then look at what changes

were made to management structures and the barriers and facilitators to good management and communication of decisions with staff. 'Pinch points' – issues which caused major problems for all organisations – such as oxygen supply and estates, are then described, before looking at changes made to patient care pathways. Finally, we touch upon the experiences of staff managing through the pandemic and their views of working in a smaller hospital.

Methods

This project sought to explore:

- what changes were made to pathways for emergency and acute medical care in smaller hospitals during the Covid-10 pandemic
- how decisions were made and operationalised
- what the barriers and facilitators to change were during the height of the pandemic.

We drew heavily on our 'Models of medical generalism and specialism in smaller hospitals' study ('medical generalism' study).[2] It provided a ready-made cohort of smaller hospitals, which were previously found to be representative of models of acute medical care across England. That study had also involved the development of interview scripts and frameworks to explore and understand systems of care in smaller hospitals pre-Covid. These were used to provide robust scaffolding for the exploration of similar issues under different circumstances. Further information on methods and results of the medical generalism study can be found in the final report. The focus on emergency medical pathways meant a systematic exploration of the impact of Covid-19 on other aspects of hospital care, such as surgery or outpatient care, was beyond the scope of this project. As such, this work does not intend to present a comprehensive picture of what happened in hospitals during Covid, but is rather a useful snapshot of the operational and organisational issues faced by smaller organisations in reconfiguring medical care.

We have used the Monitor definition of 'smaller', which specifies trusts with an operating revenue of less than £300 million per annum.[8]

The chief executive officers of the 11 hospitals who participated in the case study portion of the medical generalism study were approached for

permission to participate in this study and for staff to be interviewed. 10 responded positively; no response was received from one. We endeavoured to interview the same senior managers as had participated in the medical generalism study. If a previous interviewee was not available, hospitals were asked to nominate an alternative. A minimum of four interviews was conducted for each hospital, including: lead/senior clinician in emergency medicine; lead/senior clinician in acute medicine; senior clinical manager at divisional level or higher; and senior non-clinical manager at executive level. Where possible, senior nurse managers were also interviewed, as well as other staff who had oversight of changes to the delivery of care as a result of Covid-19.

Interview scripts were based on those used for the medical generalism study and were grounded in the Consolidated Framework for Implementation Research.[9] Additional questions around experiences of working during Covid were added. At each organisation, one 'oversight' interview was conducted, which focused more on changes made to pathways of care. This allowed the other interviews to focus on changes made to individual services.

The semi-structured interviews ranged from 45 to 90 minutes, and were conducted over the telephone or by video call. Written consent was obtained prior to the interview and verbal consent was confirmed at the time. Interviews were recorded and transcribed verbatim. Interviews were discussed on a weekly basis to note emerging themes. Emerging themes were mapped by one researcher (CL); these were reviewed by the other (LV). Discrepancies were discussed and settled by consensus.

As this study was framed as a review of service provision, formal ethical approval was not sought. It was reviewed internally and approved by the Nuffield Trust.

Demographics

The hospitals ranged in size from 350 to 700 beds, with emergency department (ED) attendances ranging from 40,000 to 130,000 per annum. Geographically, five hospitals were located in rural areas; three in urban (town) areas; two in urban (city) areas; and one in a coastal area. Full demographic details can be found in the medical generalism study.

The total number of patients treated and the levels of bed occupancy varied across organisations. Changes to the way that Covid-19 numbers were reported

makes comparisons between the waves and across hospitals difficult. Overall, the maximum number of beds occupied by Covid patients according to NHS Digital across both waves ranged from 34 to 154. The numbers cited by interviewees were consistently higher than these, with a range of approximately 60 to 400 beds occupied by patients with Covid-19. Broadly, the patterns of impact were similar across organisations between the waves – that is to say, the same hospitals were most and least impacted across the two waves.

Planning

In this section we explore what plans organisations put in place to meet the first and second waves of the pandemic.

Planning for the first wave

While all organisations had pre-existing plans for managing influenza outbreaks, no hospital had pre-existing plans for a sustained pandemic. The time at which interviewees considered that Covid-19 might become a local threat and the speed and nature of the response varied markedly.

For some, the news coming from China in early January was sufficient spur into action, while others reported only becoming aware of the seriousness of Covid when it struck Italy in late February/early March. To an extent, these responses were contingent on the personal experience of interviewees. Those who had been involved in the influenza preparedness exercise of 2013 were markedly more concerned by the emergence of Covid – as to a lesser extent were those who had previously treated patients with Ebola, those who had contact with colleagues in countries impacted early by Covid and, in one case, someone having witnessed changes in local behaviour (stockpiling) while on holiday in Italy:

The first thing that happened was that everybody got very, very anxious.

So we're always very aware of those sorts of things, even when they're in another country. Because we have had query Ebola patients turn up at our front door in a taxi from Gatwick in the past.

All organisations reported a combination of bottom-up (informal and clinician-led) and top down (formal and manager-led) responses to Covid. The balance between the two was dependent on which individuals in the organisation became concerned first; their role and relative influence in the organisation; and the ability to co-opt others into the process of planning at an early stage. Some clinicians reported becoming frustrated and distressed at the reluctance from non-clinical managers to engage until asked to so by the centre.

Something need[ed] to be done, and everyone seem[ed] to be asleep.

The geographical spread of the pandemic also played a role in the nature of initial planning. Hospitals in areas where Covid-19 arrived early were almost entirely reliant on internal staff and advice from the centre for planning and had relatively little time to modify estate for infection prevention and control purposes. By contrast, staff in areas where Covid-19 arrived later were able to tap into formal and informal external networks, to understand what had and had not worked in other organisations and adapt plans accordingly. They also reported being able to make more substantial changes to their hospital estate in preparation, as well as being able to up-skill and train staff for redeployment to high-dependency areas.

Most interviewees felt, in retrospect, that their initial Covid plans were quite underspecified. Consideration had been given, almost universally, to the identification of unwell patients with Covid-19 and their subsequent isolation on the acute medical unit (AMU) and intensive care unit (ICU). One organisation commented that their planning had been based on a handful of Covid admissions per day, with the majority of patients being subsequently transferred out to a central isolation facility. Few, if any, contemplated the possibility of complete reconfiguration of all hospital services. All interviewees admitted that their plans became redundant within one to two weeks, if not within days, of the first cases presenting to their hospital.

It's laughable, now, when you think on what we were planning. The plan we came up with, it was never enacted. It was pure rubbish.

The initial plans were what I would describe as rather noddy.

There was tacit admission that no organisation had the skill-set required to plan adequately for a long-term pandemic. Only two hospitals employed full-time infectious diseases consultants, the lack of which was considered by some to be an impediment to planning. A number of emergency department leads commented that while they had experience of managing disasters, the usual time course of these before a hospital goes back to 'business as usual' is 24–72 hours, or a week at absolute most, rather than the months that the Covid-19 epidemic lasted.

We don't have an infection control, medical lead, really, and we don't have that kind of in-depth, virologists guiding us and professors of microbiology helping us...So we didn't have that kind of wisdom or collective research knowledge.

Planning between the peaks

All organisations reported holding various types of debriefing events over the summer. However, only one organisation reported a trust-wide, whole-system debriefing event. In others, debriefing tended to be more ad hoc, taking place at divisional and departmental levels.

No hospital considered that later waves might be substantially worse than the first and planned accordingly. Instead, most considered that they had coped reasonably well with the first wave and had developed a good understanding of how to manage Covid-19. As a result, few substantially revised the standard operating procedures (SOPs) and protocols in place at the end of first wave in preparation for a potential second. It was considered that should there be a Covid-19 surge, they would immediately revert to systems previously put in place.

I think after the first wave, we were shell-shocked a little bit. We do a couple of after-event reviews, but that did not really come up with anything new, just more of the same.

I don't think we ever debriefed in any way, shape or form. I think that's a bit of a shame.

In terms of estates (see more below), most hospitals embarked on programmes to improve ventilation, infection prevention and control measures, and facilities for staff over the summer. However, this tended to be targeted, and based on problems identified during the first wave, rather than a systematic review of the whole hospital estate.

For all the planning, the second wave caught virtually all hospitals and interviewees off guard. Interviewees in the hospitals most severely impacted reported that contingency measures, particularly the finding of additional bed capacity and managing oxygen supplies, had to be rolled out even more quickly than in the first wave. This failure to anticipate and plan appropriately was a source of much distress to many of the interviewees, particularly the sense of being overwhelmed by both patient numbers and the management burden that this created. These issues are discussed in more detail below.

The first surge and the second surge...they were totally different. So the first surge allowed us to be prepared to deal with the patients not in large numbers, get the staff trained and start to support the staff...in January, all hell broke loose.

I think the lesson from the second surge was not to expect that it was going to be exactly like the first.

Managing through the pandemic

In this section, we look at the new management arrangements put in place by all organisations dealing with the pandemic. The barriers and facilitators of good management are then explored, with the problem that much managerial work goes 'unseen' by staff being discussed.

New management structures

Overall, the changes to managerial structures in hospitals were surprisingly similar and consisted of the following components:

- 'Command and control' at executive level
- Clinician-led review committee/panel
- Ethical committee (at most, but not all)
- Setting up (if absent) or involving more (if already present) infection prevention and control teams.

There were, however, marked differences between organisations, including:

- The timing of the change to command and control
- Whether organisations maintained or altered existing gold/silver/bronze structures
- The regularity of 'gold' meetings – in most hospitals, the meetings were daily at the heights of the waves
- Levels of feedback, explanation and dialogue between gold, silver and bronze and with the rest of the staff/areas
- The remit of the clinician committees – in some hospitals, all clinically relevant information, including central edicts, were reviewed prior to enaction by the executive; in others, remit was limited to therapeutic decision making
- The degree of involvement of the ethical committees.

Everything else was freshly set up into these kind of work cells ...we set up a whole new structure basically to support the response planning and infrastructure. There's a whole new structure that was set up and brought clinicians and managers together and support each of these different sort of work streams...in terms of capacity to make changes and to respond...it was easier than the normal day job because it was just about one thing.

Changes to management over the course of the pandemic

Managerial arrangements differed between the two peaks. A number of organisations chose more devolved structures during the second wave, with divisions being more autonomous.

Few organisations 'actively managed' their way out of either wave of the pandemic.

In some, there was expectation that lines of management and decision-making should simply revert to 'business as usual' on an arbitrary date, despite the logistic problems of maintaining separate green and amber streams* and the need to rapidly ramp up certain services to cope with the backlog of outpatients and interventions created by the pandemic. Other organisations kept in place aspects of the pandemic managerial structures, particularly the devolution of decisions to divisional level, but removed the surrounding supportive infrastructure. Both of these responses led to ambiguity about lines of management over the summer and the beginning of the second wave. Some clinical managers viewed this ambiguity as highly useful, leaving them 'separate on' with restarting services without interference, while others thought this an abrogation of executive responsibility. Only one organisation systematically 'unwound' their pandemic response by reviewing relevant decisions made during the pandemic and sense-checking whether reversion to old polices and SOPs was appropriate or whether new ones should replace them.

Facilitators and barriers of good management

Interviewing managers at three or more levels in each organisation (executive, divisional and departmental) was highly revealing. While interviewees in individual organisations gave similar accounts of how their organisations structurally managed through the pandemic, accounts differed as to how effective these structures were and as to where and how decisions were

* During the first and second waves of the pandemic, patients were often 'streamed' into three categories, to separate those with confirmed Covid-19 ('red' grouping) from those suspected of Covid-19 ('amber'). Both of these groups of patients also needed to be kept away from those that probably did not have Covid-19 ('green').

actually made. All organisations were beset by similar sets of managerial tensions, such as:

- Rule-bound versus improvisation
- Command and control versus devolved
- Whole system versus silos
- 'Clinician architect' versus management by committee.

Despite these tensions, interviewees were unanimous in considering that the changes to management structures brought benefits. Decisions were made more quickly and with less friction than under normal operating conditions. The reduction in red tape from the government and NHS executive functions was also thought to be highly helpful in reducing the workload on managerial staff. The allocation of managerial staff to deal with specific issues was also commonly mentioned as highly helpful. This was easier in organisations that effectively had a higher proportion of managerial staff – for example in cases where the hospital was mid-merger and so had two teams of senior managers, where certain work streams (such as strategy) were stopped, or where senior clinicians who were shielding were redeployed into management roles. In all cases, giving senior non-clinical managers responsibility for specific, but complex tasks (e.g. procurement of PPE) was reported as being more effective than expecting such tasks to fall to clinical managers.

We were changing practice. And you know what, we were given the opportunity to do it without 14 meetings, and 27 business plans – we could do it just like that, and change it and make a difference.

They put all that sort of stuff in place; there was someone put in charge of uniforms, and someone in charge of laundry and someone in charge of all that. Somebody in charge of testing and masks and all that sort of stuff. There's people put in charge of those things, everything just worked really smoothly.

Other factors which were considered to improve operations included:

- Regular predictable meetings
- Clarity around where responsibility actually sat within the organisation
- Removal of red tape, in terms of process of decision making and amount of paperwork
- Removal of financial considerations
- Involvement of infection control team in executive decision making
- Record-keeping of decisions
- Regional collaboration/mutual aid with other nearby hospitals
- Logistical support provided by the armed forces.

We had a fantastic chief operating officer [who] set up and [led] the kind of command and control structure and really kind of got that, that battle rhythm embedded in people about how we were going to run this, how we were going to spread information out, how we were going to make sure we logged everything, you know, so actually, it was that kind of leadership from the top internally.

As clinician-led review panels were incorporated into management structures in all hospitals, their good functioning was critical to operational responsiveness. Reviewing and incorporating information from the rapidly evolving scientific literature into local SOPs was considered to be significantly less contentious than assessing guidance from the centre.

Excessive scrutiny of this guidance was thought to impede organisational responsiveness and implementation of critical change. Conversely, some clinicians felt that the guidance was not drafted with smaller organisations in mind and therefore needed to be adapted for local circumstances. Others felt that blindly following guidance opened both the panels and management up to criticism if the guidance was subsequently changed or shown to be incorrect. In any case, conflict was not uncommon, both within the panels and between the panels and senior management.

[We were told] we need to do what Public Health England tell us because that's in the national guidance, and we need

to stick to it, which I understand but you know, you need to apply that guidance to local needs of your trust, because every case is different in their own architecture, and physical needs and patient age groups and all that.

Other factors identified by interviewees as making the operational response to the pandemic more difficult to navigate, included:

- Failure of management teams to make decisions
- Expectation of clinicians to deal with issues well outside experience/ expertise
- Failure to mediate and manage dissenting opinions
- Perception of interference from the centre and/or outside organisations
- Failure to provide reassurance/confidence/unified messaging – e.g. around PPE.

It was apparent from the interviewees that regardless of the structures put in place, the bulk of decision making in most organisations fell to the most senior clinician with relevant experience. In most organisations, this was the medical director. Where the MD was not a physician or an emergency doctor, this devolved to their deputy (where there was one) or the divisional lead for acute/emergency medicine. In one organisation, a member of the executive was a physician. Some organisations attempted to manage this type of daily decision making as using groups of two or three, where the clinical manager took all decisions in conjunction with a senior nurse and/or non-clinical manager. However, this often broke down in the face of operational pressures and illness. The upshot of this was that, in all but the most supportive organisations, the bulk of day-to-day operational and management decisions were left to one person, who often had to make decisions well outside of their knowledge and experience.

People placed in this role were often highly conflicted about it. They acknowledged the benefits of running decisions through a single node in the organisation and the control that this gave them in co-ordinating the pandemic response. However, all in this situation ended up working well in excess of their usual hours – often 12–18 hours per day, seven days per week at the peaks – the reason almost universally being that there was no-one else in the organisation who had the tacit knowledge or experience to be able to make decisions.

Keeping SOPs current and staff updated were felt to be important parts of this role, although it was found to be particularly onerous when they were time-poor. Most exhibited considerable emotional distress during the interviews at the heaviness of the burden placed upon them. This distress was often more noticeable in clinical managers whose organisations had given more autonomy to divisions during the second wave, as the trade-off for more freedom in decision making was a lack of senior advice and support.

And we didn't have any sort of organisational barriers if you like, because to be honest, I was just left to do whatever I wanted.

It was just huge, it was. I think it was just having to do so much every day and feeling like you have to do it or no-one would do anything... And they would bring so many problems, that this isn't working, that isn't working. And they were telling you so you could do something about it. So there was just so much to do. Every single day. Every night.

Complaints of 'Zoom/Teams fatigue' were universal and several interviewees noted that it was possible to spend the whole day in meetings, rather than actually 'getting anything done'. Certain types of decision making, particularly those around escalation of patient care, were thought to be extremely difficult by video-call, with organisations reverting to socially distanced face-to-face meetings.

We've seen a mushroom, an explosion in meetings...we should be using [Teams] carefully and precisely.

A number of interviewees reflected on the tensions between 'real' group decision making versus groups or committees where decisions already taken were presented for review by the group. These tended to take two forms – committees for 'sanction' and committees for 'airing of dissent'. A handful of senior clinicians described convening 'committees for sanction' so they could lift burdensome decisions from the shoulders of their colleagues without the

appearance of doing so. Others purposefully provided forums for dissenting opinions to be aired. While the differences between these two were often subtle, the former tended to focus on clinical decision making, while the latter was the preserve of managerial and operational issues. Both convenors and participants found 'committees for sanction' to be almost universally useful, while 'committees for dissent' were frequently considered to be useful by convenors, yet frustrating and a waste of time by some participants.

Nobody made a decision on their own. It was an absolute group decision.

I intentionally said 'I am making these decisions, so you guys don't have to'. That has lain quite heavily on me.

We came together every day at 4pm...the reason it started... the MD wanted to know what was going on...it was just a bit of decant... It did buy the seniors into going in the same direction instead of squabbling at times, which was quite useful.

The need for senior managers to be involved in work at regional level, such as setting up Nightingale hospitals or supporting local ambulance services, was seen as a double-edged sword. While the necessity of such involvement and the advantages it brought to the hospital to be 'plugged into' the wider system were undeniable, this was found to be a distraction from managing within their own organisation.

'Unseen work' versus absent management

The fact that managerial work often went 'unseen' by staff wholly focused on clinical work was a source of conflict in all organisations, although the exact nature and extent varied. Clinicians were often criticised for spending time away from the wards, especially at the heights of the waves, despite this being the time when managerial demands were greatest. Non-clinical managers were often accused of being 'invisible'. Many, however, spoke of the infection

control implications of 'touring' the hospital and their wish not to interrupt the care of critically ill patients. In the more extreme cases, senior management were perceived as being entirely 'absent' or 'withdrawn'. This took two main forms – first, the perception that senior managers did not understand what was actually happening in their organisation, and second, the inability of clinical managers to access and engage directly with the executive team – both of which were thought to impede timely and effective decision making.

The entire management should have spent more walking the talk rather than just huddled in the Command and Control centre talking amongst themselves. They need to show that they do care... Showing their faces is really important for staff morale.

[You cannot lead] from a Teams screen. People need you there. They need to see you.

Managers often found this particular type of criticism, as opposed to people disagreeing with particular decisions, extremely painful. This was particularly the case with clinician managers, who were carrying out mission-critical work (such as ensuring oxygen supplies) when away from the wards. In some cases, this actively undermined their confidence as leaders, even to the extent of people stepping back from their roles. In one organisation, however, this particular criticism resulted in management rethinking their whole leadership style and devoting considerable efforts to be visible and connect with staff.

The feedback [from staff was] we weren't supported. We didn't see any of the senior management team, which is really difficult when you're in that team. You're working at 21, 22-hour day. Yeah, you're not on the ward giving care, but you're doing it all in the background.

Communications

The issue of how decisions were communicated to clinical teams emerged in the interviews as being as important, if not more so, than how decisions were actually made.

Information flow was one of the biggest barriers [to operations], slowness of the information, volume, the content, and the efficacy of that information was challenging.

No hospital thought that they managed to get their communication strategy right in the first instance and most admitted to a long period of trial and error. It was also universally acknowledged that it was impossible to meet the needs and expectations of all staff – some wished to know only the basics, while other preferred to be constantly apprised of all details.

Communication strategies which were reported to be well received included:

- Use of as many channels as possible for distribution of information – in person, announcements during remote meetings, email, messaging platforms, noticeboards, computer screensavers
- Regular briefings (often daily) from the CEO/executive team
- Centralising and clearly sign-posting all relevant guidelines, protocols and standard operating procedures on the hospital intranet and/or server
- 'What you need to know today' updates by email and messaging platforms
- Nominating 'clinical champions', who were responsible for filtering and disseminating information, in all areas
- Use of team 'huddles' at the start of shifts
- Opportunities for regular feedback, ideally with responses from the executive that demonstrate 'listening' and responsiveness.

The great anti-viral was Whatsapp...because you can share information so quick.

The consequences of poor communications

Poor communications was considered to be singularly corrosive to the functioning of the hospital, the morale of staff and trust in the management team. This was most problematic during the first wave, when senior

management were themselves unsure of the right thing to do, especially in the face of rapidly changing messaging from the government and NHS executive functions. However, longer-term breakdown of trust between management and employees appear to have contributed significantly to the problems experienced with the deployment of staff during the second wave (see 'Staffing' section).

So to have constantly changing advice [was] ...the most challenging because I think... the staff have lost complete respect for us all.

Pinch points

In this section we examine the 'pinch points' that were ubiquitous across organisations; that is, issues which slowed down or even halted changes to hospital systems, or required excessive amounts of managerial time and attention to solve. This includes problems with the supply of oxygen, the state of hospital estates, the provision of specific types of equipment (particularly personal protective equipment) and the deployment of staff.

Oxygen

All hospitals considered problems with their oxygen supply and delivery to pose a major threat to patient safety, especially during the peak of the second wave. While no organisation actually exhausted their oxygen supply, all of them reported design flaws or other problems with their delivery systems, such as:

- High-dependency areas located at the furthest point in the hospital from the oxygen tanks, with insufficient pressure to deliver ventilatory support
- Inconsistent flows across identical wards areas, i.e. some wards with very limited supply or inconsistent supply within the same ward
- O-rings and valves freezing due to a combination of very high flows and cold temperatures.

No organisation was actually aware of these problems during the pre-pandemic planning phase and these only became apparent as demand for

oxygen increased. Moreover, while some organisations had become aware of problems during the first wave, none properly estimated the magnitude of the problem created by the second.

The problems with oxygen had major knock-on effects. They drove the rearrangement of wards, sometimes repeatedly, and determined ward configurations by levels of supply, rather than infection control considerations or clinical adjacencies. In one hospital, the respiratory unit, which delivered CPAP and HFNO†, was moved three times, resulting in considerable disruption and distress. In another, the problem of low pressure in high demand areas was solved only by the British Army working 24/7 to deliver additional oxygen canisters.

Solving problems relating to oxygen almost inevitably fell to the most senior clinical manager, rather than to the executive or to estates teams, none of whom had any prior knowledge or experience. All spoke of the enormous effort required to initially understand and then to ameliorate the problems, often with little support. Given that problems with oxygen supply happened at the peak of the second wave, they distracted considerably from other major managerial issues and clinical duties.

We had to move [the respiratory high dependency unit] because of the oxygen that we were using. The pressures were dropping and the alarms were going. We had to move these very sick patients quickly onto another ward...That happened three times. It was horrible.

Other issues with estates

The issues experienced with oxygen supply were mirrored in other contexts across the hospital estate during the pandemic. All organisations were beset by problems in trying to increase capacity (including for high dependency patients), improve ventilation and implement infection control protocols. In many cases, these imperatives were in direct conflict with each other. Most commonly, hospitals had reduced the number of available beds due to the

† Continuous positive airway pressure and high-flow nasal oxygen.

need to increase the distance between them and to create spaces for donning and doffing. At the height of the second wave, many hospitals then needed to put beds into non-ward areas ('corridor medicine') in order to meet the massive spike in demand. Many of these non-ward areas were not well equipped to cope with bedded patients and were often geographically remote from the rest of the hospital.

If you've got beds less than two metres apart, they should be taken out of that circulation. Well, that would have decimated the bed base by something like 100...you can't just take out 100 beds from a district general hospital and not have an impact.

Many organisations found other problems with their ageing estates when works were commenced. One hospital, for example, found asbestos in the walls and ceilings when trying to improve ventilation, putting a whole hospital wing out of commission. It also frequently highlighted pre-existing problems with clinical adjacencies that had been tolerated pre-Covid, such as long distances between the wards and ED or radiology.

These issues, combined with the fluctuating demand, meant that clinical areas were reconfigured with surprising frequency, sometimes on a daily basis. This had a substantial knock-on effect across the whole organisation, interfering with the ability to maintain separate 'red' (Covid) and 'green' (Covid-free)' clinical pathways and requiring the further re-distribution of staff (see 'Staffing' section below). As with the oxygen issue, this was usually left to senior clinical managers to negotiate and was a source of considerable additional work and concern.

[We need] an estate and infrastructure that it is fit for purpose... instead of having tape holding everything together.

So we need a new estate. It's falling to bits...And it's, it's an ugly, long, flat building with very leaky ceilings. Our estate is our main constraint.

The problem of kit

Problems with accessing equipment, especially PPE and kit for ventilator support, was a recurring theme during the interviews. Interviewees identified three separate issues:

- Obtaining kit from external sources
- Distribution of kit within organisations – ensuring wards received sufficient stock at the right times (i.e. for the start of shifts)
- Managing shortfalls.

The people (and roles) that were responsible for obtaining and distributing kit within organisations varied markedly. Some recognised the magnitude of the task and assigned senior managers not already fully engaged in the pandemic response (such as the director of strategy) to tackle the problem full-time. Regardless of where responsibility sat, there was frequently a tension between central mechanisms (both at national and hospital level) and reliance on informal networks of contacts and the endeavours of individual members of staff, who often went to extreme lengths to obtain supplies.

Even the medical director had to get in his car and drive to a neighbouring hospital to get a box of 10 masks.

While managers perceived that issues of oxygen and estates posed more of a direct threat to patient care, these issues were either invisible to clinical staff or easily understood by them, thereby creating little conflict. By contrast, issues with kit were a flashpoint. Distress at the lack of kit was compounded by the rapidly changing and often contradictory guidance from government and the NHS executive function, as well the perceived inequity of distribution not just across the hospital, but the whole of the health service. The gap between 'ideal' and 'making do' was viewed as particularly problematic, with staff seeking to eke out their kit through makeshift methods of cleaning and recycling. Interviewees reported that staff felt that their safety was compromised by the inability of the hospital to provide kit of sufficient quality and/or quantity – a position they often agreed with and expressed guilt about. In more extreme cases, problems over kit were viewed as evidence of 'abandonment' by 'uncaring management'.

When there are shortages, pandemonium sets in. It makes it hard to do your work, managing these other problems.

Staffing

The redeployment of staff was a major issue in all organisations, with different challenges posed by the first and second waves. In the first, the declaration of a state of emergency and the cessation of all elective activity gave managers a very large pool of staff to redeploy. While this created logistical difficulties, such as equitable distribution, matching skills and creating new rotas, managers had the freedom to make decisions quickly and relatively easily. In most organisations, most staff were highly willing to help, although not without concerns around personal safety, the ability to provide appropriate patient care, and the availability of PPE. In others, however, the expressed levels of anxiety were more extreme, with greater reluctance on the part of staff to work in 'red' areas. Redeployment to Covid areas was more difficult in hospitals which experienced deaths of staff early in the pandemic.

We asked for volunteers first. And to be honest, we got more than enough.

You could read from their faces the horror at the thought of looking after a Covid patient...This is our vocation. This is our calling. I made them understand that if we don't do this, who is going to do this?

Redeployment during the second wave was substantially more challenging. Burnout and fatigue was common throughout the workforce, especially in areas where Covid 'never went away', such as ICU and the respiratory wards. The central edict for procedural specialties to continue to deliver services created a host of additional problems. Not only were fewer staff available (many off sick or in isolation), but staff were less co-operative even when there was capacity to assist with other tasks. A common example was orthopaedic

services reducing the number of elective procedures carried out, but not assisting with minor injuries in EDs as they had done during the first wave.

In one or two hospitals, this resistance to deployment was even stronger, with some staff groups refusing other duties outright even though their procedural services had been halted during the peak of the second wave. Such behaviours tended to be contagious within organisations – where one service had withdrawn from the Covid effort, others were likely to follow. Junior doctors were also more likely to express concerns about loss of training opportunities during the second wave than the first.

These behaviours raised a question over who is ultimately responsible for the deployment of staff and to what extent they can be compelled to work, even during a national emergency. This was particularly the case with the junior doctors, where redeployment during the second wave meant negotiating with multiple people within deaneries (often one person for each speciality and sub-specialty), who had disparate views. Issues with consultants were compounded in organisations where redeployment was devolved by the executive to divisional level, leaving managers feeling that they lacked authority and were 'bargaining' for help from their peers rather than overseeing necessary deployment in a time of crisis.

It was frustrating. Very, very frustrating [dealing with a certain group of doctors refusing deployment]...This lot would not budge. It was not helped by the MD or the CEO...They were not participatory.

Strategies that were viewed as assisting with redeployment included:

- Mapping and matching skill-sets
- High-quality risk assessment
- Keeping pre-existing teams together or rapidly creating new teams
- Appropriate levels of training and support for those with new roles/tasks
- Provision of new rotas as quickly as possible
- Built-in cover for sickness
- Clear setting of expectations for tasks required and level of responsibility.

Provision of support for staff

The provision of material and mental health support for staff was viewed as critically important. In the first wave, the focus was on relieving the burden on staff through measures such as the provision of food and rest spaces, free car parking, free hospital accommodation, etc. Later in the pandemic, the focus shifted much more towards the provision of support for mental health.

Most interviewees considered that they did not always get the offer for staff right in the first instance. This was particularly the case for consultants and managerial staff, who were viewed, in retrospect, as having different psychological needs from junior doctors and nurses, as well as being perhaps more resistant to conventional counselling. Some organisations recognised the complexity of the task and assigned executive team members to improve the wellness/mental health offer.

A number of interviewees commented on the relative futility of wellness initiatives, especially after the end of the second wave when the real problem was a combination of too few staff and mounting work pressures, which meant that exhausted staff were unable to take time off to recuperate.

Going on a wellbeing morning... is not going to help me if I'm working 14 days in a row...what would help me is actually having enough people to work four days in a row and having adequate breaks.

One interviewee commented on the particular problems faced by the non-hospital workforce, such as community nurses and school nurses, over the course of the pandemic. With all attention on the hospitals, there was acknowledgement that these staff were relatively ignored during the first wave, with staff then being expected to deal with an increasing workload over the summer due to the increase in physical and mental health problems in the community. It was noted that these staff needed different mechanisms for the provision of support, as they often worked in isolation and could not easily access the drop-in services provided for hospital staff.

Changes to service delivery

In this section we outline the specific changes made to the pathways of care for patients with acute and emergency medical conditions. This is arranged by hospital department, i.e. emergency departments, intensive care and high dependency units, and medical wards. As the changes to acute medical units and the downstream wards are inextricably linked, these are discussed together. The role of local Nightingale hospitals is explored.

Emergency departments

The challenge of keeping potentially infected patients ('amber stream') separate from those with other presentations ('green stream') was a major one in all organisations. No two hospitals had identical responses – it depended on the pre-existing size and configuration of their emergency department (ED) and other available estate. However, responses can be broadly grouped as one or a combination of the following:

- Creation of parallel 'green' and 'amber' departments
- Internal separation of 'green' and 'amber' streams within the existing department
- Assumption of all patients as 'red' (Covid-positive) until proven otherwise (predominantly during the second wave, when rapid testing was readily available).

The creation of parallel departments was only possible in organisations where other major infrastructure was fortuitously available. In one hospital, a new ED was nearing completion and rather than vacating the old department, both were used during the pandemic. Another had recently purchased a private hospital, which had a large number of single rooms, and rapidly adapted this as an 'amber' admission facility.

Most hospitals struggled with separating 'green' and 'amber' streams within the footprint of the existing department, especially for patients needing intubation and other forms of ventilatory support. The only hospital which did not struggle had a relatively new build ED, with a separate paediatric waiting area and pre-existing dual-doored cubicles in their triage area. In all cases, the ED expanded beyond its walls to co-opt adjacent spaces for ED functions to meet the demands of isolation and social distancing. Inevitably,

the combination of lost cubicle spaces and the expanded size made managing the ED more difficult. Co-opting other areas also had a knock-on effect on the distribution of staff.

All organisations wrestled with the problem of triaging patients into the correct streams, especially during the first wave. Some hospitals relied on patients to self-select the correct stream, while others actively triaged at the front door. One organisation used demountable 'pods' in the car park as a triage area. This changed with the advent of rapid testing for Covid-19, with most hospitals switching to the isolation of all patients until the results of tests were available.

All organisations reported excellent support from other teams during the first wave. Orthopaedic teams, for example, commonly took over the running of minor injuries services and innovated on aspects of service delivery, such as joint consultations with physiotherapy and use of teleconferencing for patient follow-up. Direct admissions to services such as obstetrics and gynaecology, with patients bypassing the ED altogether, were common. Many of these services were not reconstituted for the second wave, which substantially increased the burden on EDs.

The restarting of services during the summer added to the problems of capacity after the first wave. Where EDs had expanded into adjacent outpatient and other clinical areas, they were often required to relinquish these, reducing the amount of available space further. This, in turn, led to patients being placed in inappropriate areas, such as corridors, while waiting for inpatient beds to become available. This created considerable concerns for ED managers around patient safety and the burdens placed on staff.

Intensive care units and high dependency areas

Every hospital considered that their intensive care unit (ICU) capacity was insufficient for the local population even prior to the pandemic. Every organisation increased their ICU capacity and created additional resource for the delivery of ventilatory support.

The size of ICU expansion varied markedly across organisations. Most increased their capacity two or threefold, expanding into theatre and recovery spaces. Some organisations also used converted their coronary care units into ICUs. One organisation relocated their ICU wholesale into the space

created by the move of their acute medical unit into a new purpose-built block and another created a second ICU which had previously been their respiratory high dependency unit. Even with expansion, most organisations did not have sufficient ICU capacity at the peak of the second wave and were reliant on ventilated patients being transported to other units. The formal support of ICU regional networks and more informal networks of information were critical in managing patient care, and sometimes in providing additional staff and supplies.

And there was a huge amount of hard work. I know that the Chief Operating Officer for about three weeks was constantly arranging helicopters and ambulances. And no one knows that you know, she's an unsung hero.

The creation of additional capacity for ventilatory support on ward areas was often even more challenging than expanding ICUs. Before the pandemic, ventilation was either delivered solely in ICU, or in very small areas of two to four beds on the respiratory wards. Many hospitals had no experience with the use of high-flow nasal oxygen. Most hospitals expanded services within the footprint of the respiratory wards, although some were able to increase capacity on the acute medical unit. In all organisations, rapidly up-skilling staff and acquiring sufficient equipment was problematic. Services were subsequently overseen by a handful of respiratory consultants, who often ended up working every second day.

As outlined above, the expansion of ventilatory support on the respiratory wards meant that oxygen supply outstripped demand, with wards either moving or other extraordinary measures being taken to ensure sufficient flow.

The medical wards

While the majority of changes to EDs and ICUs were very similar across organisations, changes to the provision of care on the medical wards (both acute medical units and the downstream medical wards), varied substantially. This appears to be a product of a number of factors:

- Whether the hospital had sufficient beds for the local population prior to Covid
- The peak bed occupancy by Covid patients

- The number of side rooms
- Standalone buildings on-site that could be used for isolation or as 'cold' (planned care) sites, e.g. day surgery units, facilities for private patients
- Co-operation from other local services to provide alternatives to hospital care.

As with EDs, pathways through the hospital evolved over the course of the two waves and were shaped by the availability and speed of local Covid testing. Most organisations attempted to keep their admission pathways from the ED as close as possible to existing ones at the outset, meaning that the bulk of medical admissions were streamed to the acute medical unit. Where side rooms were available, these were used for patients presenting with a high suspicion of Covid. Otherwise, patients were cohorted into 'amber' and 'green' streams within the acute medical unit. In many organisations, however, the capacity of the acute medical unit to manage this was soon outstripped. The usual solution was to stop acute medical units from accepting direct referrals from GPs, funnel all patients through the ED and then use three streams (red, amber and green) to admit patients directly to appropriate inpatient wards, with the acute medical unit reserved for the sickest patients. Two organisations were able to set up two parallel acute medical units, with one each for amber and green, the amber patients being cohorted in single rooms until test results were available.

Interviewees expressed high levels of distress about the inability to reliably separate amber and green streams during the first wave – particularly the failure to recognise that older patients often presented without typical respiratory symptoms. Outbreaks of Covid-19 on the wards often created major logistical headaches, especially when the supply of single rooms was limited, and added to problems with overall bed capacity.

Coronavirus is so, so contagious, and it's passed on in a microscopic blink of an eye and the risk and the lack of knowledge about that meant that we did expose patients.

By the time of the second wave, the majority of issues with testing had been resolved and patients with Covid-19 could be reliably identified during their ED stay. However, at a number of hospitals, the peak of the second wave saw their usual bed capacity overwhelmed. The inevitable

solution was to put beds into non-ward areas, such as outpatients and interventional suites. In some organisations with relatively close neighbours, paediatric and maternity patients were diverted, with those ward spaces being repurposed. Clinical managers saw this as being a high-risk strategy, minimised by using these areas for patients who were seen as 'recovering', rather than new admissions.

We [put a bed] into every single nook and cranny.

All organisations had some form of monitoring and support for patients post-discharge. In some places, existing services such as ambulatory care were adapted for this purpose and were run remotely by shielding clinicians. In others, services were run by general practice. Regardless, this was seen as highly valuable, as it increased clinicians' confidence in discharging patients and created additional capacity.

Local Nightingales

Views of the utility of local Nightingale hospitals were mixed. There was acknowledgement that they seemed a logical solution at the start of the pandemic, although aspects of the logistics, such as staffing, were not necessarily well thought-out. One senior manager who had been directly involved in setting up a Nightingale was positive about the experience, but noted that the secrecy around their local service heightened the anxieties of hospital staff. Only one organisation regularly used their local Nightingale, with others instead relying on networked ICU services to transfer ventilated patients. There was a general sense that the resources put into Nightingales might have been better spent increasing provision in hospitals.

We didn't send large volumes there. But the people that did go there... reported back quite positively about it.

Nightingales...I never really quite understood them.

Experiences of managing through the pandemic

All interviewees exhibited a degree of emotional distress during the interviews, with some becoming visibly upset. Many spoke of persisting feelings of exhaustion, demotivation and guilt and described other symptoms of burnout, such as insomnia. Two topics provoked the strongest reactions: decision-making around the use of limited resources, and occasions where the interviewee felt that they had been abandoned by others – by the government and NHS executive function, by the trust executive, by senior clinical managers, by peers and colleagues. Feelings of isolation and moments of self-doubt added to the burden of complex decision making. Very senior managers felt that they had no peers within organisations with whom they could freely share their concerns, while clinical managers often consciously sought to emotionally shield their colleagues. Both groups were wary of conversations which might alarm others or undermine morale. There was a strong sense that 'home' was not the refuge from work that it previously was. Staff either had a sense that 'work' in these circumstances was too distressing to take home or that there was no escape from the pandemic because of its intrusion into daily life and the relentless media coverage. A number of interviewees made the difficult decision to live apart from their families during the pandemic, adding to feelings of isolation and sacrifice.

Everybody else around me [was] looking to me going, Oh, actually, Dr. X, you know, we trust him. And that's what weighed on my shoulders is I had to get it right. And I had to do my best, because they believed I would keep them safe. And I would do the right things.

This is serious, people are looking to me for answers. Guidance, reassurance, you know, all of those words that go with it.

Beyond this, the majority were grateful for and buoyed by the willingness and support of other staff. A number spoke of the camaraderie that emerged from working under difficult conditions. Some framed the pandemic as a learning

experience, which taught them much about their own abilities, limitations and capacity to lead. Others viewed the ordeal of the pandemic as an expression of their vocation or evidence of a calling to a higher purpose.

It was the best time of my career in a perverse sort of way, because I was doing what I was trained to do, not write business plans, not got to listen to rubbish about, you know, when we've got to do to get the walls painted, but out there day in and day out with the staff, developing them, supporting them, innovating.

I always had those people around me that are part of the team I'm on and they're nice people. And they're capable people. And I love them.

Being a smaller hospital

All interviewees saw distinct advantages to being a smaller organisation during the pandemic. These included:

- Higher levels of trust and better relationships across all levels of the organisation, especially at the start of the pandemic
- Better collaboration across different staff groups
- Ease of communication
- Leaner and more effective management
- Less friction in enacting decisions
- Ability to be nimble and respond rapidly to evolving situations.

There's lots of advantages in a smaller thing. And it's easier to do things and to get things done and to work together.

The advantage of being a small hospital is that team working and feeling of family and of being looked after.

All organisations saw themselves as lacking in resource as a result of their size – poorer estates and fewer staff. The expectation from the government and NHS executive function to rapidly put in place procedures and protocols designed for larger hospitals to perform at a similar level was a source of frustration and discontent. Moreover, the stories in the press about how larger hospitals were faring, particularly those about PPE or donations to staff by external companies, left staff feeling that they were lower down in the national pecking order, or even forgotten.

We were watching TV and looking at the proper PPE at Barts and the London and UCH and we then we looked at our flimsy plastic aprons which just tear when you try to put them on...

Discussion

Success or failure

We have not used any measure to judge 'success' or 'failure' of how hospitals coped with the pandemic. By their own admission, all thought that they had come through the first wave quite well – some initial mistakes, but they had learnt about how to treat the disease and to manage patient journeys efficiently and safely. These views were mediated by the geographical spread of the pandemic over time – hospitals in areas hit first admitted to more mistakes, but also thought they had learnt faster. Hospitals which experienced case spikes later attributed their success to more time to prepare and the ability to learn from others.

We did a great job. Yeah, I'm proud of that, I'm really proud of it.

Views of success or otherwise during the second wave were much more nuanced. The level of Covid occupancy clearly influenced perceptions of

success – some organisations never saw occupancy over 50%. Organisations with very high levels of occupancy thought they had managed to avoid failure, but only through quite extraordinary measures, including the transfer of multiple ventilated patients out of the hospital on a daily basis. It was, as one interviewee put it, a 'very near run thing'.

I am not sure it should be really judged as 'success'...

Response as contextual

While the factors that might be expected to be critical in shaping a response to a crisis emerged in the interviews (strong leadership, good communications, team working and collaboration), it was clear that the ability of organisations to respond was grounded in their situation immediately before Covid. All organisations were constrained by the state of their infrastructure (especially the size and physical layouts of their ICUs and EDs), the architecture of their oxygen supply, and staff numbers. More importantly, despite organisations setting off to rationally construct patient pathways that theoretically met the needs of caring for patients with Covid, these considerations often ended up determining what the pathways actually looked like and where the patients went. Luck played an important role in the success of some hospitals, such as being in the middle of a merger and therefore having additional managerial staff, or nearing the end of a building project and effectively having more space available.

Interestingly, the extent of the changes to services required by Covid meant that pre-existing structures of care and patient pathways were probably less important in shaping the Covid response, especially during the second wave. Instead, the ability to reimagine and rapidly reconfigure services, coupled with staff willingness, were probably more important as contextual factors.

Being smaller during a pandemic

Themes that emerged from these interviews were highly similar, if not identical in some aspects, to those found in the 'medical generalism' study. The positive aspects of being a smaller hospital during the pandemic were assessed as being properties of the organisation itself (e.g. strong leadership, nimbleness, staff cohesion). The negative aspects (e.g. lack of resources, poor

guidance from the government and NHS executive function, expectation to perform in the same way as a larger organisation) were attributed to external factors over which the organisation had little control. It could be argued that using many of the same interviewees might account for this. However, there was a sense that the pandemic amplified both the positives and the negatives of working in a smaller organisation. Interviewees, for example, frequently attributed the extremely close bonds with colleagues as the factor which allowed them to 'survive' the pandemic, while the limitations of lack of staff and inadequate infrastructure were more keenly felt.

Universal problems?

The logical question that arises from this snapshot is whether things were markedly different in larger, urban teaching hospitals. While there will undoubtedly be differences, a number of the issues highlighted during this investigation are likely to have been problematic elsewhere.

Many larger hospitals, for example, also suffer from ageing and inadequate estates. Consecutive estates return information collection (ERIC) reports have recorded an increasing backlog of maintenance issues, on which half are for issues that represent a high or significant risk to patients and staff.[10,11] Facilities and equipment being so outdated that they no longer comply with statutory safety standards are common issues across the NHS.[12] Problems with oxygen supply in larger organisations, including in one unnamed London teaching hospital, made the headlines during both the first and second waves.[12,13] As such, it is difficult to imagine that other organisations were not constrained in constructing safe and stable pathways for patients as their smaller counterparts.

Perverse behaviours were described by virtually all interviewees, exhibited by both managerial and staff groups. Some of the perverse behaviours of clinicians can be considered as exaggerated versions of the types of behaviours we described in the medical generalism study – 'fortressing' (where work boundaries are rigidly defended against additional requests) and 'flight' (complete withdrawal from certain types of work). Both of these behaviours are defensive responses to demands for more work in already stretched systems. Given that the demand for more work was generated by the pandemic itself, it is difficult to imagine that such behaviours, which were found to be deeply destabilising and demoralising, existed only in smaller organisations and were not a universal problem across the NHS.

The importance of attitude

Any investigation into structures of management presupposes some kind of relationship with outcome. We also set off with the expectation that managerial teams previously thought to be the strongest would perform best during the pandemic. Instead, we found that a number of previously strong leadership teams were viewed as being remiss in their duties or even 'absent' during the pandemic. We also found that while management structures during the pandemic were nearly identical, the perceptions of effectiveness varied markedly.

Some of these differences can be attributed to timeliness, with there being a substantial gap between organisations that took steps to prepare early on and those that were left scrambling to catch up once a state of emergency was actually declared, with certain errors leaving indelible marks on relationships with staff. Differences may also be a function of the fact that the skillset for managing successfully on a day-to-day basis is manifestly not the same as that required to deal with a prolonged crisis. We are also aware of the turnover of senior staff in some teams, which may have affected perceptions of effectiveness. Most importantly, perhaps, is the fact that this study was not set up to rigorously explore the factors which might have impacted on the performance of individual teams.

Beyond this, there was a strong sense from the interviews that the attitude of management towards staff and patients was often more important than the actual decisions made. The harshest criticisms were reserved for executive teams who failed to listen and respond to clinical concerns. While there was often abundant praise for effective senior management, clinical managers were far more appreciative of the executive being dependable, supportive and responsive, both as individuals and as a team. The response to leaders demonstrating kindness and humanity was devotion, loyalty and even love.

We... set out with the view that we'd have to forgive ourselves if we made mistakes. And we hope that everyone else would forgive us too. And that was true of us forgiving everyone else, you know, so if people were scared, or they were frightened, or you know, it's fair enough, isn't it?

List of recommendations

Given that this work aimed to take a snapshot of what happened in smaller hospitals during the pandemic rather than a detailed investigation, a long list of specific recommendations is not really appropriate. However, our work locates a number of issues that require more attention, reflection and, in some cases, quite robust research.

1 **Disaster planning** – No hospital had disaster plans for a prolonged, non-influenza pandemic and all failed to imagine and plan for a second wave that might be worse than the first. The development of templates for local responses to major disasters, developed by experts, would relieve smaller organisations of tasks for which they do not have the appropriate staff, skills or experience.

2 **Estates –** The problem of ageing and often inadequate infrastructure was a dominant theme. Problems with estates actually drove, and constrained, the pandemic response. A national stocktake of the shortcomings of hospital estates needs to be urgently undertaken, in preparation for any future pandemics. The Health Infrastructure Plan needs to be reviewed in light of the pandemic, with a view to ensuring robust supplies of oxygen and adequate ventilation and appropriate infection control measures in all hospitals, rather just in the planned new builds. Further research being conducted by the Nuffield Trust and by Archus for the New Hospitals programme should be incorporated into Health Building Notes and Technical Memoranda to inform future estates development. This should include lessons for areas not covered by Health Building Notes, such as staff facilities.

3 **Capacity** – Concerns over capacity are tightly linked to the above issues with estates and buildings. Most organisations struggled with bed capacity in all clinical areas (ED, ICU and the downstream wards) even prior to the pandemic. Those that were able to readily expand capacity were those that, by chance, had unused spaces that could be rapidly repurposed. This points to the urgent need for the capacity of smaller hospitals to meet their current need, particularly with regard to intensive care provision, as well as giving consideration to how surge capacity can be embedded within organisations. The latter might include upgrading non-clinical spaces so that they can be used to safely bed patients during an emergency,

through provision of large enough spaces for beds in cubicled areas (e.g. outpatients), oxygen in non-clinical spaces and sufficient toileting and bathing facilities). Similarly, thought should be given as to how operating theatre, recovery and other similar spaces can be kitted out to be 'shadow' ICUs.

4 **Management –** No organisation felt that all aspects of their management and communications were entirely right, and the interviews highlighted a number of problems with approaches taken by different organisations. The most pervasive issue was a failure to recognise that different stages of the pandemic would require different approaches. The transition out of the 'emergency' phase of the pandemic proved to be particularly problematic almost regardless of the approach taken. The other major issue was the extent to which organisations were able to put in place managerial structures which were robust and responsive, capable of both making short-term/tactical and long-term/strategic decisions. Few organisations actively built 'learning loops' into their pandemic response. These findings suggest that improving the 'situational awareness' of executive teams about what types of management ought to be used when, and how to switch modes, would be highly beneficial. The appreciation of streamlined processes and speedier decision-making suggests that thought ought to be given to how aspects of this can be retained, while still ensuring quality controls and good governance.

5 **Dealing with difficult behaviour –** Even in organisations where operational issues could be considered to have been well managed, perverse behaviours were able to disrupt aspects of the pandemic response. Questions over who is responsible for the management of staff and to what extent staff can be compelled need to be explored at national and local levels, and the question of what the appropriate response is to such difficult behaviour needs to be answered.

6 **Mental health and wellbeing** – All organisations took mental health and wellbeing seriously, putting in place programmes of support for staff. We had not expected the levels of distress that were shown from our cohort of interviewees, which strongly suggests the resources in place to support the emotional health and mental wellbeing of senior managers is inadequate and this needs to be addressed urgently at local and national level.

The Nuffield Trust is continuing to study specific issues around infection control and hospital estates. The results of this will be available shortly.

Conclusion – a testament to the importance of local hospitals

It is telling that the primary response from central government in the earliest part of the pandemic was to rapidly build new locations for the centralisation of patient care (in the form of Nightingale hospitals) rather than bolstering services within local hospitals. While concerns that services may be rapidly overwhelmed were legitimate, and the erection of Covid-specific hospitals in China looked like a viable solution, nonetheless, the instinct to centralise must be linked to the long-standing beliefs that 'bigger is better' when it comes to NHS services.

In reality, smaller hospitals were an essential component of the national Covid response. Many expanded, doubled or even tripled their capacity for ICU and ventilatory support and provided high-quality care for their patients. All organisations viewed their efforts in response to Covid as a testament to what can be achieved when the constraints of red tape and financial considerations are removed and when staff are highly motivated and willing. And while many hospitals did struggle during Covid, the worst fears about smaller hospitals being completely overwhelmed were never realised, though there was a substantial human cost attached to this. The pivotal role that smaller hospitals played during the pandemic is a testimony to the dedication, hard work and ingenuity of their staff. A suitable reward would be to fund and resource them to the levels required by their local communities, for both the good times and the bad.

It just shows you that if you've got a clarity of purpose, and a vision of what we're all here to try and do, the greatness of how people and the NHS can respond.

It was our finest hour.

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We hope this piece does that trust justice.

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