OUH COVID-19 Response

Innovation and technology retrospective (March – June 2020)

THE HILL

NHS
Oxford University Hospitals
NHS Foundation Trust

This report is dedicated with thanks to our colleagues working at Oxford University Hospitals for the care and support given to patients and their families since the outbreak of COVID-19 and the insights they have generously shared with us. We also recognise the silent testimony of those who lost their lives in the course of their duties and who are not forgotten by their colleagues and friends.

Foreword

David Walliker, Chief Digital and Partnerships Officer

Six months ago, none of us could have predicted the transformation we have all experienced as a result of COVID-19. The OUH community met the extraordinary challenges of the pandemic with inspiring commitment and energy.

In collaboration with our academic partners we led trials that are helping to shape the optimal treatment of the disease throughout the world; and through the Jenner Institute we have supported the development of a vaccine that might stop its future spread.

At a national level our teams led the way in the roll-out of new digital services. For example within weeks we moved from a pilot to being the 6th highest user of video-consultations across the NHS in England.

Locally we worked with primary care colleagues to protect and deliver for patients needing urgent care. Within our estate, teams moved wards and created new facilities over weekends.

We moved from trialling Attend Anywhere to rolling it out Trust-wide in a matter of weeks. Similarly, hundreds of our staff were redeployed into new roles, and thousands moved to working from home for some or all of the time.

All these changes occurred at an unprecedented pace and with little space for reflection and analysis. This report was commissioned in order to record this important, but transient, first phase of our pandemic response. It listened directly to frontline staff from across the organisation, and focused on capturing their personal stories.

Clear themes emerged from those individuals who participated. The short time frame and anecdotal methodology mean the report does not try to offer confident conclusions or definitive recommendations. Some elements of the report hold up a mirror to some of our processes and practices which might be uncomfortable. We must be honest about the areas we can do better and take the opportunity to improve.

Overwhelmingly the report describes an organisation filled with committed, caring individuals. In the face or a compelling need they were able to deliver powerful change. The organisation and its members innovated and we must retain that energy as we move into perhaps more challenging times ahead.

> “The ingrained culture [of the organisation] must change. COVID has driven change and we want that to carry on.”[1]

[1] Interview 44: Throughout this document, the numbers at the end of quotations denote the interviewee .

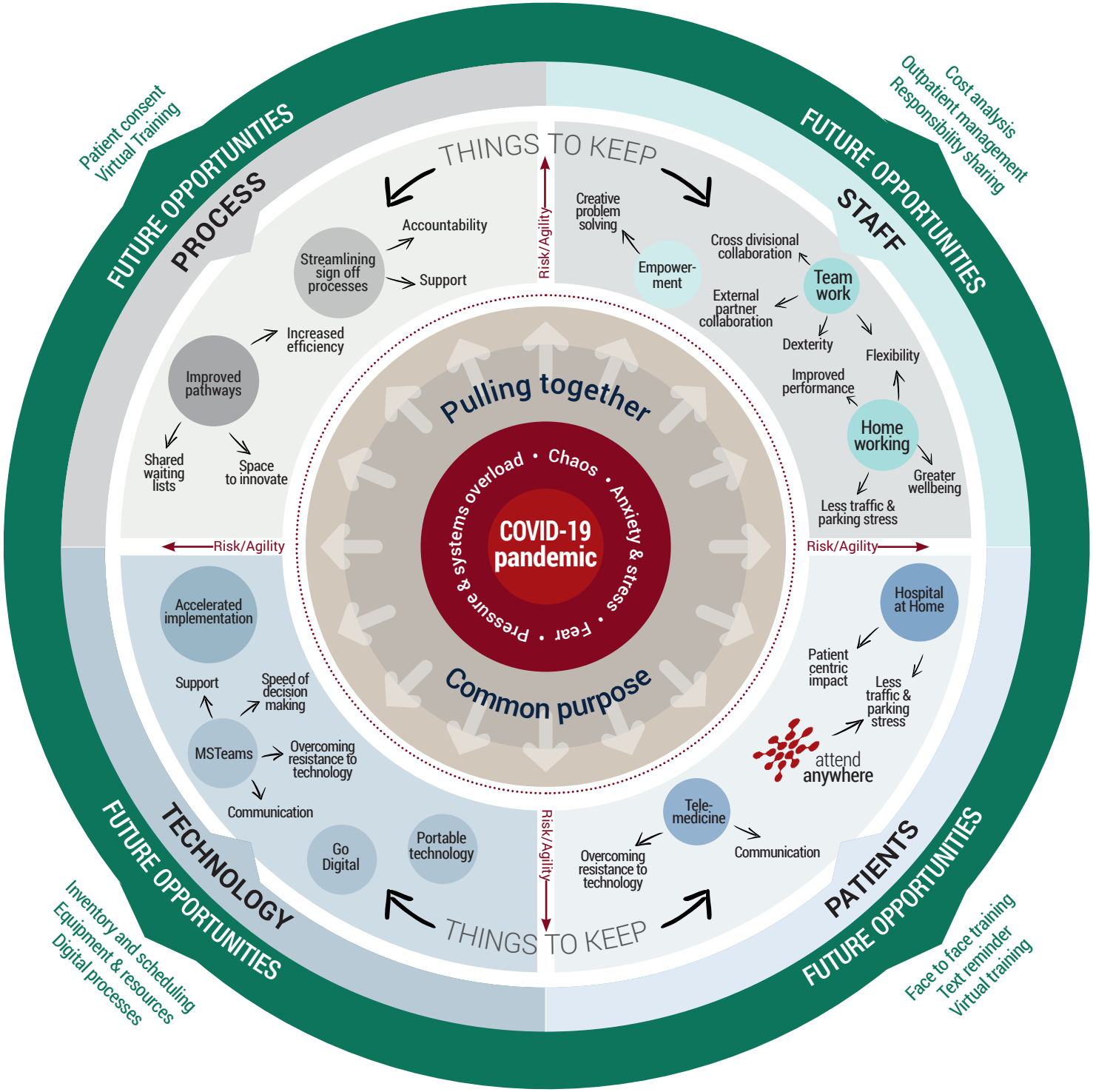
Contents

Introduction

This report was undertaken to rapidly capture what, how and why innovation took place within the OUH Trust during the initial three months of the COVID-19 pandemic in the UK. Faced with the pandemic, common reaction of very of human reactions quickly harnessed itself into the human bounds and the or organisational response quickly adapting and developing processes and working practices. There was a continual need to weigh risk factors and creative on the ball thinking.

The report is based on interviews with a diverse range of staff from across the organisation. Through the stories of these staff, it highlights opportunities and challenges for innovation within the Trust. It concludes by suggesting how these insights may form the basis of work in defining and reshaping the Trust's digital and innovation activities.

> Feelings of fear and anxiety at the time were relieved by a simultaneous feeling of hope and encouragement about what teams might be able to achieve when they shared a common goal.



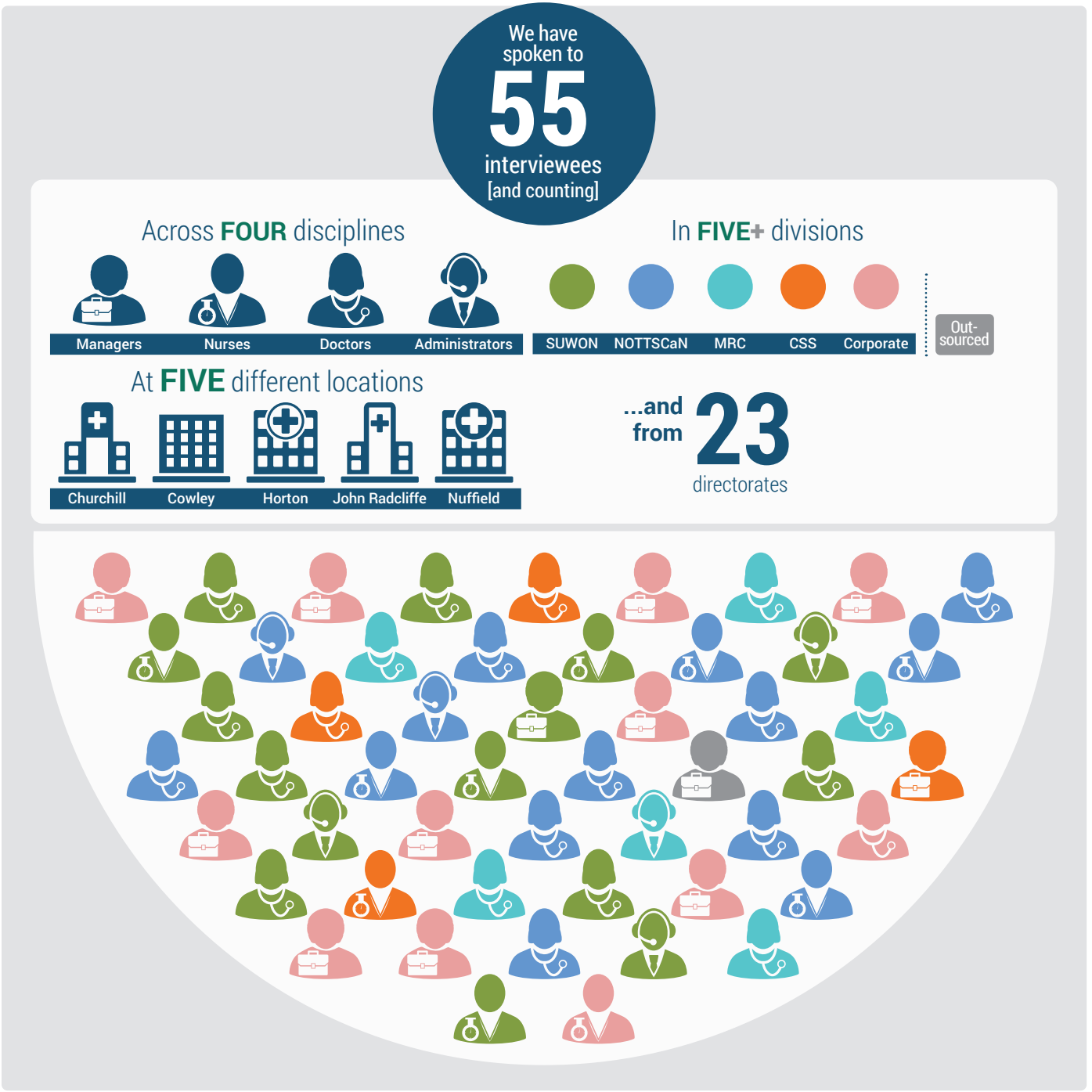
Research methodology

The report collates the insights and opinions of staff across the Trust using anonymised quotes throughout. Interviews were conducted during June 2020, with the objective of gaining input from all Divisions and staff groups. This is a preliminary review, with a limited time-frame for preparation, so the interviewees necessarily represent a snapshot of the organisation rather than a comprehensive survey. All Divisional Directors and Directors of Operations facilitated introductions across their teams, and under-represented groups were approached directly to ensure a breadth of viewpoints were heard.

An interview template ensured that each interviewee was asked:

- *How did your department or role change?*
- *How did that change happen?*
- *What made life better?*
- *What would you like to retain?*
- *What are your outstanding needs?*

Beyond this, conversations were unstructured, allowing interviewees to share insights that mattered to them. Later conversations tested comments and ideas from earlier interviews to iteratively gain insights into the value and visibility of different activities across the Trust. Transcripts of all interviews were coded by a team of people to identify themes.



Findings

'The OUH Vision is to be "at the heart of a sustainable and outstanding, innovative academic health science system, working in a partnership and through networks locally, nationally and internationally to deliver and develop excellence in patient care, teaching and research within a culture of compassion and integrity".'[2]

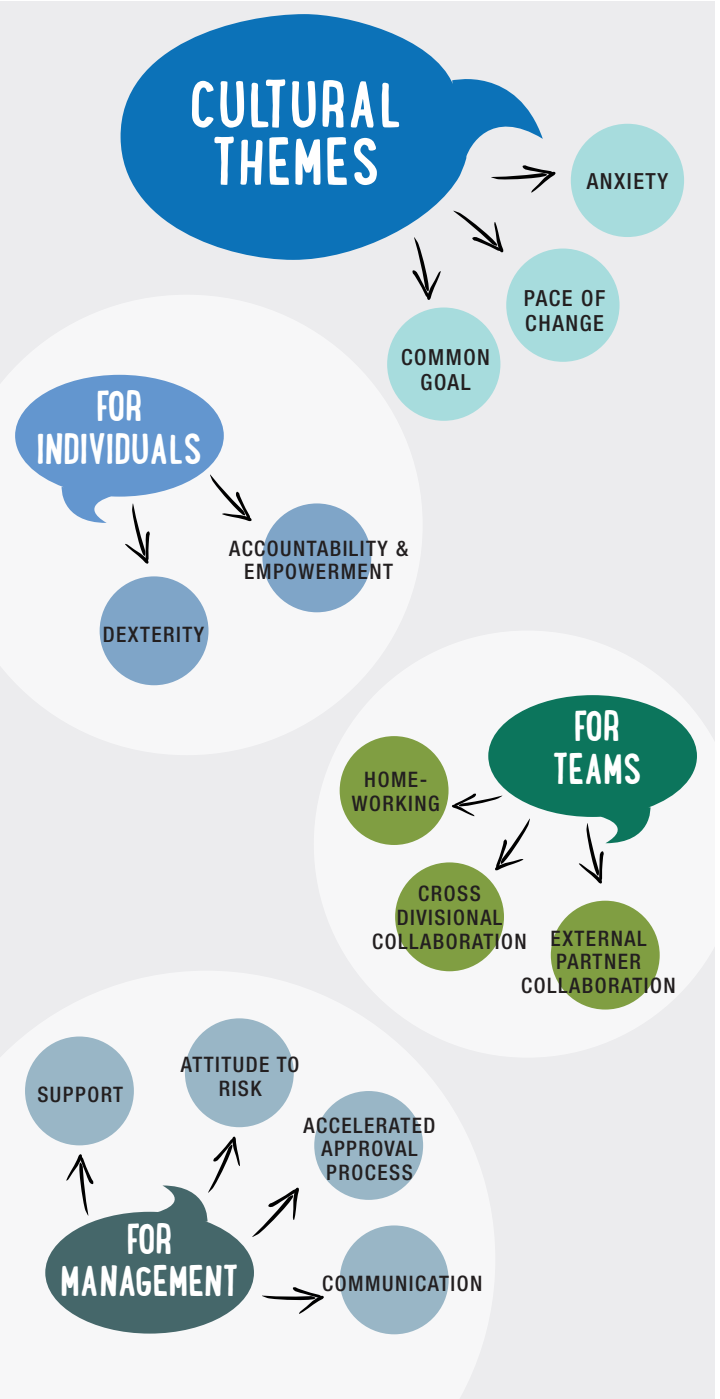
'Go Digital' has been a core element of the Trust's strategy, with progressive investment in IT systems and processes to improve the delivery of patient care. At the start of 2020 the Trust was on the verge of applying for accreditation as a HIMSS 6 organisation representing a comprehensive level of digitisation, including some areas that have become 'paper-free'. Cerner Millennium was in place as the Trust's comprehensive electronic patient record (EPR), and its functionality had been steadily expanded. Outside the EPR, pilots had been underway for some time to evaluate the value of telemedicine and team collaboration software, as well as multiple point solutions for different services across the organisation.

Alongside the positives, there were also challenges with the implementation of digital systems, including patchy adoption by staff, poor usability and a reluctance to remove paper records in some departments. There are a large volume of EPR change requests leading to an overloaded pipeline and very slow implementation, frustrating staff. The strategic focus on the core EPR also means that other technology projects are not able to be resourced.

'There is real difficulty in manoeuvring [oneself] through the digital space. It's all technology that exists, the issue is more about being smart about how you use it. The challenge is existing in a digital space where everyone else is. EPR is great and [presents] an opportunity but is also a problem.' (2)

'One big thing is that people have realised the value of EPR. Because a huge amount of work is being done remotely. This would have been much harder without an EPR. There were entire specialties in [one part of the hospital] who resisted not having paper notes brought to their clinics because it was bad for patient care. The number of paper notes being requested is very small now. People have understood value of having data in that manner. Running clinics from home would be almost impossible without it. Big shift in that.' (33)

'Crisis has redefined the need for real-time, coherent, unified data, covering everything from CO2 supplies, patient numbers with particular conditions, ITU capacity, staffing levels, theatre capacity...' (47)



[2] OUH Digital Strategy https://www.ouh.nhs.uk/about/building-the-digital-hospital.aspx

Cultural themes

Interviewees described how they felt and the extent to which their roles changed as the scale of the risk of COVID-19 became apparent. Common themes emerged in addition to changes that were specific to individuals, the operation of teams and the attitudes of management.

Anxiety

Anxiety levels were high and people really had no idea what to expect. The level of pressure that individuals were under, and the steps they took to deliver excellent care to patients despite their own anxiety, is evident throughout the interviews.

> *'There was a palpable fear in the first two weeks, [a] huge amount of frustration. [We were] scared, no idea what was going on.' (15)*

> *'I remember the ramp up to the situation so well. All of us were in such a state of anxiety and panic because we had a different view to the public. A lot of us knew people in Italy and were hearing horror stories about what was going on there. We were all feeling like this but on our own. None of us were sleeping, I was endlessly looking at data during the night. Then we talked to each other and discovered we were all feeling the same.' (34)*

> *'At one point it got to: if you don't provide PPE we won't move the patient. Unfortunately a couple of colleagues passed away. It got better after that. There was lots of fear, it was very difficult to manage. I've known them for 15 years. It was on the news. They're the first non-medical deaths (we're classified 'non medical' even if we're always with the patient). We got mental health on site, occupational health. They're brilliant. After that we got PPE, we got lots of Easter eggs. Everyone pulled together after that.' (39)*

Common goal

COVID-19 as a common goal for all staff was powerful in mobilising all relevant groups to make swift, essential decisions and take action. Three months on, that single driving force has diminished and levels of tolerance, appetite for compromise and the pace of change are returning to pre-COVID-19 levels. Whilst interviewees recognised that operating at that peak rate would be undesirable and unsustainable, they welcomed the common thread that pulled people together.

> *'Everyone was in a mindset that this is a crisis we need to work together. Diaries were opened. [We] moved at an incredibly fast pace. People were being productive and were looking for problems to solve.' (23)*

Pace of change

The speed at which the severity of COVID-19 became apparent necessitated a rate of change which the Trust had not experienced before. The feelings of fear and anxiety at the time were relieved by a simultaneous feeling of hope and encouragement about what teams might be able to achieve when they shared a common goal.

> *'We had to adapt. No outpatients could come in anymore. So we went to virtual clinics…. We moved more in 2 weeks than we had moved in 5 years.' (2)*

Individual

COVID-19 caused some to question the balance of tried and tested process versus individual accountability. The common purpose shared by staff across the Trust caused them to pull together and do whatever was necessary in support of their colleagues and patients.

Accountability & empowerment

In the light of the revised governance structure during COVID-19, there were numerous examples of individuals being empowered to make good decisions and performing at higher levels once freedom to operate was enhanced.

'NHS had to have policy for everything. COVID may have made this country realise [that] you can take a leap of faith. Sometimes bureaucracy exhausts people or services. COVID made teams run smoother. Bring accountability back to person taking the action.' (3)

'A great example of change was going paperless. [We'd] been trying to do it for five years. Arguing about it. Then 8 weeks ago the junior doctors just did it. All of a sudden enough momentum built up within days.' (8)

Everyone has a slightly different need for their clinics and patients/admin list etc…. if individuals are empowered to come up with creative solutions they will do it. People are stifled in creativity. [Allowing it] helps with staff wellbeing.' (38)

Adaptability

The flexibility that people instinctively demonstrated during COVID-19 was evidenced throughout our conversations, although some were concerned that the better service that this had facilitated would be temporary as 'normal' working practices began to resume.

'Working from home gives you flexibility, I'm able to help with everything that needs to be done even beyond work hours (in the office I'd need to leave at 4pm). When [I] needed to connect with surgeons to get PPE training done before going to theatre, the initial week [I] was working late into night because we needed to give them slots for PPE training, and make sure they'd do that before going into theatre.' (41)

'Everyone has worked together and been very flexible, especially surgeons. "I need your input, I'm free that day, let's do it then." That's not normally the case, normally people have their operation days and stick to them.' (32)

> Best was abandoning of nonsense processes… Decisions were made in real time…Things moved quickly and it worked. 38

Team

During the COVID-19 response, individual and departmental priorities fell away in support of an overriding goal to enable performance and protect patients, staff and the health service. Interviewees reported collaborations with parts of the Trust they had not spoken to before, and barriers and friction falling away, as colleagues worked together to ensure continuity of service.

Homeworking

Some elements of the new set-up enabled better collaboration across teams, and people noted greater attendance at all-team meetings and grand rounds, and an ability to more easily get together where teams are spread across multiple OUH sites. However some groups (e.g. ward nurses) are excluded from electronic meetings.

'Home working works – people like it and a lot of people are more focused. ...a lot of people do not need to be on site – reduction in parking/pollution or look at one day a week in the office. Already seeing move back to people working on site – "back to normal" – if over the last 3 months [we've] not been on site, why go back? Ensure [we] have the right equipment at home... [We] would be offering a vast number of non-clinical staff to be working from home with a focus around wellbeing.' (38)

'Allowing working from home where people can it's appropriate. Work life balance is better as there is no need for commuting, reduced pressure because you don't have to take public transport or find parking, and we're able to get more done from staff.' (30)

'We do 0845 meetings together, physically not virtually, and then we stay in touch via a WhatsApp group. This works well. Virtual equivalent nearly as well, provided people keep their cameras on.' (7)

'We haven't been able to get hold of laptops for love nor money.' (53)

Cross-divisional collaboration

Whilst expressing concerns that the cross-divisional collaboration might be short-lived, some interviewees reflected on the advantages of more diverse ideas and greater institutional learning, collaboratively sharing ideas and approaches across the divisions.

'As an institution there aren't formalised opportunities for diversity of thinking beyond natural networks - not enough opportunity. People are dealing with problems in their domain. We're conscious that encouraging cross domain and collaboration is valuable. Does it happen enough? No.' (6)

'We have so many divisions. Division by name, division by nature, I always say.' (7)

'The links that we [in our team] have built with [another similarly titled team] won't go away. I think that in future we will do things more as a coordinated unit.' (34)

'In COVID [we] had to go into the mindset of a common goal. I hope that it will last but time will tell.' (3)

Collaboration with external partners

This collaborative experience extended across the Trust between different hospitals, inspiring some interviewees to think enthusiastically about new opportunities arising from the shared practice.

'The Ramsay is now equipped with the OUH EPR (necessary to enable us to move over there to create a COVID-free environment) which they prefer to what they had so they're keeping it. Makes sense for NOC work. This means we could move back there in a jiffy if we needed to. Previously we had no dealings with the Ramsay. The CCG would pay them to do knee and hip replacements, and our surgeons would go over to do the work, and that would be it. Now we feel a part of each other.' (7)

'Because of Teams, within 10 minutes we were able to get [local clinician], the respiratory consultant and the other consultant together to form a strategy to talk to the family... The local clinician was really empowered by that interaction and it would not have happened otherwise.' (34)

> I worry about social impact, team cohesion, mental energy, intellectual energy, [it could] be very brittle; if we lose it [I'm] worried [we] lose the teamwork that was so vibrant before we started COVID. 45

Management

Management played a role in empowering staff to make decisions at all levels, supporting staff in their changed processes and communicating changes across the Trust. This was a learning experience for everyone concerned.

Attitude to risk

Attitudes to risk changed as the pandemic arose, with some concerns now assuming a relatively lower risk comparative to the risk posed by COVID-19 itself. People were more willing to try and potentially fail, because doing nothing guaranteed an unwanted outcome.

'I printed out the email telling me "it's your decision, not your fault" and being able to work like this meant we could achieve a lot very quickly.' (7)

'I still have some anxiety, having pushed so fast with some areas, about what adverse consequences that might bring which we haven't yet seen. Managing 95% of consultations remotely feels okay until we find some examples where things weren't picked up because we haven't followed our usual practiced processes.' (13)

'Took a robust accelerated deployment process. Understand and accept risks at the beginning which you wouldn't do it that way as part of a carefully managed plan.' (16)

'There were worries about safety issues – which we could see were there but were secondary. So we just bulldozed it through.' (34)

Approval process

During COVID-19, the processes followed for implementing new technology were standard but dramatically accelerated. New ways of working also emerged. Staff expressed concerns that the shift to dynamic processes will have only been temporary.

'Best was abandoning of nonsense processes… Decisions were made in real time. You empower people in the organisation to make decisions. [We should] take this further. Things moved quickly and it worked. Things changed daily and guidance changed to make decisions change. There was progress.' (38)

'In the digital leadership team there were a few individuals who were absolute stars. They became much more clear on what they needed to do because the baggage and red tape had been dropped.' (15)

'[We should] strip back unwieldy processes, give them space and let them run. 8 out of 10 times they will succeed. We transferred 1500 users into a new environment last night and it's all fine this morning.' (15)

Support

While interviewees reported feeling very supported in the shift to new arrangements, there were challenges posed by a lack of equipment, and subtleties of home-working became more apparent over the course of time.

'[We] may need stronger use case scenarios of home workers: what will they need at home to work effectively... not just the technology but also some of the skills you need… What are management practices within a team structure to ensure collaborative working? Not simply a case of turn on the technology and use it.' (16)

'We need to rethink how we manage staff from a clinical point of view. Visibility was challenging with clinical staff in part. [A] senior member of staff at home feels her team has forgotten her and was not supportive during the pandemic. That's why it's important to work from home one day a week [and] invest in team building.' (30)

'People are more willing (especially those on part-time or mothers) to do two clinics instead of one and this allows more flexibility. People are doing more from home. Clinic time is usually constrained but if I'm happy to phone the patient at 6 in the evening then I can do it with telemed from home.' (12)

> To promote rapid problem solving and execution under high-stress, chaotic conditions, leaders can organise a network of teams…. A network of teams consists of a highly adaptable assembly of groups, which are united by a common purpose and work together in much the same way that the individuals on a single team collaborate.[3]

[3] https://www.mckinsey.com/business-functions/organization/our-insights/leadership-in-a-crisis-responding-to-the-coronavirus-outbreak-and-future-challenges

Management

Communication

A separate study is underway to understand the impact of Trust-wide communications during this period of time, but commentary surfaced during a number of our conversations. Not all staff, especially those not directly employed by the Trust or with Trust email addresses, received the communications automatically in the first instance, although other ad hoc solutions were found. The sheer volume of critical updates that needed to be cascaded downwards was overwhelming, and became an overhead in themselves.

> I've noticed that as it has gone on, the urgency has come out of situation. Everyone has realised that stopping services is easier than starting things back up and I'm concerned about what we are going to do long term. There has been a point of reduced urgency where we've seen a slight tendency to revert to old processes; slowing up, committee sign-off, bureaucratic, cautious. There is a balance to be struck. Making knee jerk quick decisions speeds up processes but we want to be fully cognizant of the facts to make the best possible decisions. (38)

'Some of the communication has been haphazard. Number of emails coming out has been overwhelming, changes in policy. Lots of teams set up WhatsApp groups to update people about the changes that were happening. Would need to throw back out to the ward teams whether the WhatsApp groups should be kept.' (32)

'We revised the [PPE] training session seven times. At one point the [guidelines] were to remove gloves first after procedure but then in the afternoon it changed to apron first. Very reactive to information given by PHE and government. Learned that communication is not good and very conflicted and people on the ground were initially confused, felt anxiety and misinformation. People resorted to looking on internet/fake news.' (20)

'Had MS Teams, Email, WhatsApp, Bleeper. Just needed streamlined way of communicating. She said ignore and she consolidated into one email every couple of days.' (3)

'Look at how it's escalated. Anaesthetists got provided with a high level of PPE force ten masks but this visually sends a dramatic message to everybody else so it quickly escalated to everybody wearing that. To step back from that will be hard because the anaesthetic side is still high risk. But, so long as you have seen one group of senior people wearing this, to then say to a theatre scrub nurse "you will be fine" it just won't fly. So there needs to be a de-escalation across the board and that is difficult until we are certain about how good the testing is.' (33)

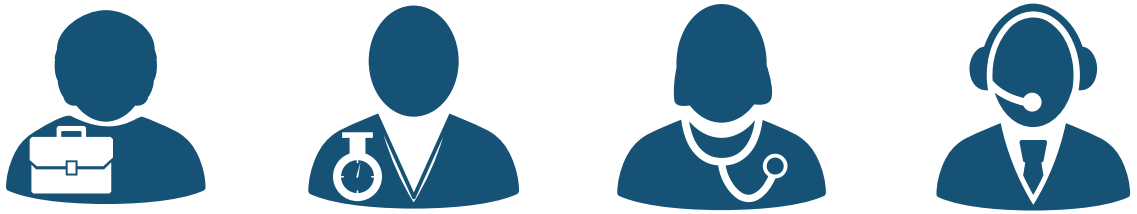
'People liked to be kept informed of numbers.' (32)

'About 5 days in he set up a daily call - wasn't sure what it was for but it was an indication you could put your hand up. It helped people get things done when old processes had fallen away.' (20)

STORIES

WHAT THE PEOPLE WE SPOKE TO SAID

> Technology is not for one person to lead forward. It is a collective thing. I want to see people thinking at all levels, life can be more simple. (36)



Microsoft Teams

Enabling effective collaboration

Microsoft Teams was chosen as the Trust's approved collaboration platform and rapidly deployed across the organisation.

'One of the really good things that happened was that people whom you would never imagine using technology are using it. Some staff groups never traditionally used Microsoft Teams for meetings. Before we had to be mobile free. Now they've changed the rules, digital literacy is very important for any job role.' (36)

'Consultant meetings are fully attended now. Now we are making full group decisions. I cannot see us going back because it is so much better than the previous face to face meetings where you had to travel into the hospital especially for it. Now we are all there every meeting. We can share our screens, type minutes up etc.' (34)

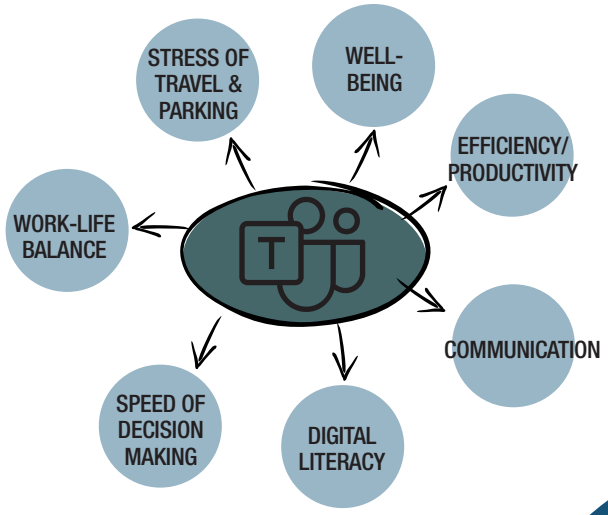
'I work with lots of other specialties in the West Wing. There's a huge team of us which work on these operations. Involves all of us meeting in a room, going through scans etc. in great detail. This was very difficult to do in pandemic and even before. There was [sic] so many people before, timetables would clash, not everyone on same site. Teams has been incredibly helpful for these team discussions.' (33)

'Isolation [is an issue]. For example one member of staff was off for 14 months between maternity leave, and some other time off. Then COVID-19 hit and she really struggled to return back to work because the team changed and she had to redefine her own identity within team. I value people coming now one day a week. If we keep remote working we need to invest in team building. People can become siloed: does another individual understand what other colleagues are doing/working on enough to be able to support?' (30)

'How do you do the informal jogging of the memory – how could you incorporate that into the structure? When you bump into someone by the coffee machine – "oh yes I'll send you that" – how do you replicate that interaction?' (23)

'Trying to obtain the right equipment to do the job [is a challenge]. Teams – cameras on rule? No, as a lot of PCs do not have cameras. But in docking stations no camera and can't hear. Difficult if in a meeting to look at papers without printing [or] Teams on phone which isn't great. A lot of the laptops don't have cameras. The team has one laptop for teaching/meetings etc. They have iPads, but they are not the same for working on as a laptop.' (37)

'Some of my teams, even though they are very clinically based, don't always have Teams. They all have iPads and have been using Teams for a while but haven't set things up. Ward nurses are at a disadvantage because machines have no microphones or videos. Trying to get that sorted as we speak. For example on Friday there is a grand round on colorectal surgery and lots of nurses would like to join but can't.' (32)



INSIGHTS

Internally Microsoft Teams has had an incredibly positive impact on staff efficiency and dramatically improved communications with better attendance at meetings. Time not being lost travelling between meetings has freed up availability to perform other tasks and interviewees report feeling focussed and productive.

The key downside to the technology has been lack of suitable equipment, technical difficulties (bandwidth, sound), the loss of ad hoc networking and opportunities for human connection. Not having time to reflect between virtual meetings is also a challenge. There can also be risks of eye-strain in focusing on a screen for long periods and active-listening can be draining.

Telemedicine and Attend Anywhere

Providing virtual patient care

For the purposes of this report, Telemedicine is defined as telephone, text and video communications with patients. Attend Anywhere had been at a departmental pilot stage in the run up to COVID-19 but when outpatients was closed in mid March it was rolled out at speed to support the new needs of the Trust.

'I have lost count of how many years the NHS has been talking about telemed… suddenly we had to do it and nothing terrible happened and it works.' (3)

'Clinicians have got used to the new way of working. We have a much calmer environment in the hospital and we don't want to go back to the old way of working. Also, thinking time/transport/stress/cost to all concerned to get patients through a clinic that they can just as easily do online in the comfort of their own home.' (7)

'Then there's telephone and virtual appointments – Attend Anywhere allows screen sharing to show scans etc. For tertiary services, like neurology, where people come from far and wide, they like it because they can have almost as good a consultation.' (33)

'We added more steps in the process – we call patient when we change appointment to telemed, then send a text reminder to patient, then we call patient 24-48hrs before appointment to check if they had any COVID symptoms. Our attendance rate has increased. We'd like to carry on with text messages and calls. Patient feedback re text is really good.' (46)

'How do you unpick it if you suspect the patient is trying to withhold something? What are the probing questions that you need to use? Why does this matter to you? Or why is this important to you? Ask that three times to actually get to the crux of it...' (11)

'It's much easier to lie to your doctor when you are on the phone! If you don't want to admit something to yourself or your doctor it's easier to withhold that from them – so have to think more about body language etc. Also the role of the spouse – 70% face-to-face they are there with their other half who often chips in on their behalf.' (11)

INSIGHTS

Future considerations include how to select which part of the patient pathway could be delivered as a remote appointment and which would benefit from face-to-face.

Clinicians will need to develop a different set of skills to conduct effective virtual consultation, learning how to build trust and rapport with patients and communicate difficult messages.

Some parts of the Trust do not have sufficient hardware to support use of Attend Anywhere at this stage and for some patient cohorts the technological or psychological leap to a video consultation is too great or not possible which is potentially increasing inequalities and digital exclusion.

Time is a factor in a number of ways: same or greater time needed for admin preparation for staff, does the patient have enough time to prepare for a phone call, would a delayed appointment cause frustration in a waiting room would not. How to share information (such as blood test results, scans) with the patient, and communicate with them, requires more thought.

Electronic patient record
Deriving insight from data

The existing use of Electronic Patient Record (EPR) was a critical factor for elements of the Trust's crisis response. The Trust has made a strategic choice to use Cerner's Millennium EPR. Many people reflected on the opportunities and challenges that are presented by the platform and it was clearly a core part of the successes and frustrations of the last three months.

'We didn't do any of this before COVID-19. We were not fully on EPR and were still working with paper, a lot. We had to fast-track getting onto EPR in order to enable clinics to work remotely. We relied on younger members of staff to help us get everybody working with the technology. IT wasn't there for us. Now we are trying to retain as much as possible of the new ways of working.' (7)

The Cerner platform is extremely powerful, especially so if you take it within its entirety.' (17)

As COVID-19 results were coming in, the only way the infectious diseases lab was finding out about the cases was via an email that they didn't get for 12 hours. We wrote a rule within Cerner called EKM, to send a message to the team inbox called 'COVID positive patients' and anyone within the infectious diseases team could log in and see it.' (17)

'Just getting EPR fully functional and paperless would be biggest change I'd like to see.' (12)

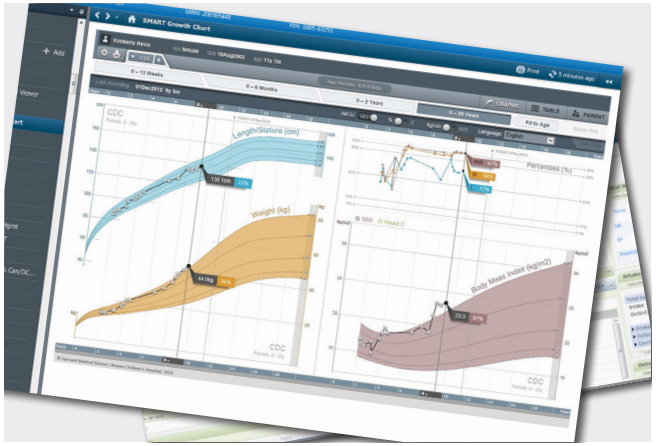
> EPR is better for all staff. It's not better for one individual. Doing what is best for one [inherently] compromises what is best for all. (4)

'Our consent form for operations is paper. But we went paperless in clinic so we do a consent form and put it in a plastic envelope. When we go back to the secretary half the time it's not there anymore. Our department is now 75% paperless and 25% paper which makes it more difficult to keep track of paper and link with patient.' (12)

'We are stuck between two pressures, there is an established EPR provider who the Trust fundamentally bound to as a result the limitations of what Cerner can provide limits what is able to provide [sic] at the bedside. We are duty bound by providing the best care by providing the right info to right people in the right way and doesn't feel that Millennium is able to do this. (43)

'Strategically you would want to innovate within the EPR but that is a nightmare. People want to do sensible strategic – you try – then work outside of EPR instead. But then you need to get the information back into EPR… Getting data out is better than getting data in. It is hard to get data in.' (14)

There is a natural tension, which needs to be managed, between enthusiasm for change and established organisational practice. False starts and slow rollouts of new technologies can result in cynicism from some, while others can brush off the difficulties in rolling-out a wide-spread digital system.



INSIGHTS

The dominance of paper-based records informed resistance to change and lack of familiarity with the capabilities of EPR. As EPR becomes more standardised is there a danger that emerging technologies have the same battle to be recognised in a EPR dominant culture?

A mismatch between demand (number of change requests) and supply (availability of skilled resource) has historically meant wait times for projects deemed non-urgent can reach two years or more, and so a culture of work-arounds and under-the-radar activity has developed.

When is the EPR the solution because it's the strategy and if we can do it in EPR, even at 80% then will be better for all… and when is it that the EPR does not achieve what people need it to achieve and a separate piece of software would be very much better.

Waiting lists
Getting back to business

Three months since the beginning of the pandemic in the UK, many services are turning their attention to the backlog of patient appointments. Waiting lists are a familiar issue, magnified by the decision to halt all non-essential activities across the health system during this time. For some specialties virtual clinics and remote working played a significant part in alleviating pressure due to the efficiencies they generated, but this was not universal. At the same time some of the interim working practices caused overheads of their own.

'[Our service] has a massive problem, lots of people on a very long waiting list. 1700 patients waiting more than 18 weeks. [We're] looking at getting an external company in to clear the backlog before we go back to normal.' (18)

'Change came to pass painfully. The private hospitals were offering their facilities so we transferred work to Manor and Foscote hospitals. Logistically completely painful to try and set these things up, and particularly from IT perspective it's incredibly painful as they do not have access to EPR for a variety of reasons so lots of to-ing and froing generally via NHS net email, phone and consultants taking Trust laptops with them so that they can access what they need to access'. (40)

'We lost quite a few nurses that are shielding or have been deployed elsewhere. The demand has gone down as our capacity has gone down. Slowly increasing again. Trying to match the two as we go forward.' (50)

'Clinical lead for [our service] got all [our] patients on one waiting list and we review it. Every consultant had to operate on any day of the week depending on when needed. Most of the unit showed flexibility because elective clinics have stopped therefore they have time. The big question is how do we retain the benefit of this system once everyone gets back to having their usual outpatient clinics? We shouldn't do theatre allocation by historical allocation but by thinking what the service needs at the moment.' (12)

'We worked on theatre allocation and theatre prioritisation, creating a sense of shared ownership patient/list, if colleague is away. We created shared waiting list for the service and not specific to the consultant.' (12)

> Have called lots of patients and even when they are getting significant symptoms from their condition, they don't want to come in for surgery in case they get COVID-19…Putting together a patient information leaflet and a video to help patients feel more comfortable with coming in [would be useful]. (32)

INSIGHTS

Regular meetings with clinical attendants (consultant/ surgeon) for prioritisation and theatre allocation created a shared sense of ownership across the service in order to prioritise patients.

Strong leadership within the service/directorate, provided transparency of results (e.g. utilisation by consultant) which can increase accountability.

How much of the flexibility that was possible during a crisis situation is it desirable to retain under business-as-usual?

Some services have continued at a reduced level during the pandemic, some have been operating a full service, some stopped altogether and some worked on a different mix of patients than normal. Combined with the varying applicability of telemedicine to different pathways and various logistical issues, this makes each service's journey back to full utilisation very different.

Many patients have been – and still are – fearful of attending hospital and so the ramp up of services is being delayed in some areas.

Moving wards and moving people
Reconfiguring to prepare for COVID-19

As wards were cleared to make way for an expected intake of COVID-19 patients, staff outlined experiences of moving the location of wards around in very short time frames.

'We moved two wards over from the JR in an afternoon. Happened efficiently and effectively. Everyone pulls together. Would normally take weeks in the planning. Usually lots of documentation involved. There were very specific groups to oversee the pandemic. Before there would be lots of other people involved. People would question why at all levels. From an audit point of view it might be difficult to track what actually happened and whether the right processes were followed.' (32)

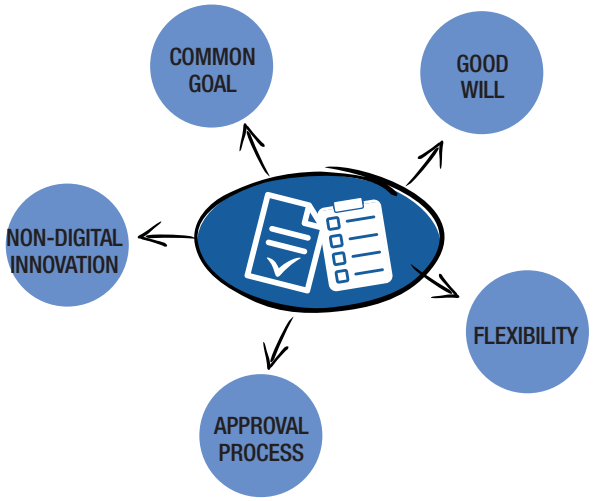
'In space of five days we went from moving the whole of children's intensive care over to the children's hospital… Had most un-technological change process – a piece of paper which was numbered... Number 1: move first, number 4: don't move until everything else in place.' (3)

'At the start of March we moved the paediatric intensive care service which is dependent on the children's hospital. Lot of equipment and patients had to go. It was very challenging because it had to be done quickly. 6-7 porters [were on] the project. It started at 8am and finished 8pm. It went smoothly, lots of work but the guys were brilliant!' (39)

'When [our] unit moved into [a new] ward it took a week. All hands on deck approach. From the digital perspective [it was] more complex though. They hadn't thought about bed locations and how they sit on EPR.' (27)

'Had to do a lot of work with nurses because half of them were being moved to go across to intensive care. Did a lot of work about where they were going, empowering them because the nurses were absolutely terrified. They are all saying they felt really empowered because they got through it." (3)

'We had to move ward, we had to donate some of our team to looking after medicine. None of that has been unpicked yet.' (13)



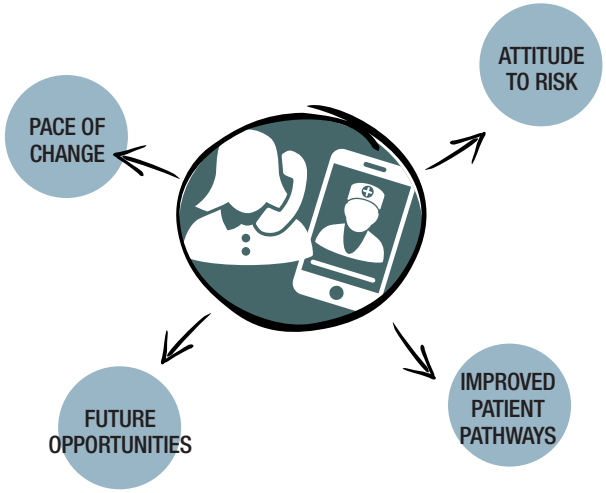
INSIGHTS

People were pleased with their accomplishments in moving quickly and ensuring the safety of patients and staff. Determination and teamwork helped them forge ahead to make the necessary decisions. Interestingly without the common goal described earlier in the report, differing divisional priorities meant that the ward move back to its original location is more challenging to organise.

Technology was not a driving force factor. Hard copy lists and manual labour were the main tools employed. Thinking about audits and the technological implications came later.

Hospital at Home
Collaborating with out-of-hospital services

Hospital at home is the delivery of hospital level care outside of the hospital environment. It is not a new initiative but COVID-19 pivoted the initiative from optional to essential. Suddenly it was imperative that older people, in particular, were cared for outside of the hospital environment for their own safety.



'This is hospital-level care therefore hospital-owned in a way that matches the needs of the patient. GPs won't [accept the risk]. Senior person owns the risk. [We] keep them here [at home or in their care home], do what we can here, support nursing home staff, and the family.' (8)

'We are stuck in old fashioned ways – written letters, we make patients come in, which is a model that was developed a long time ago, so people could train students. There are a lot of elderly patients – all on Facebook and email, so there are a lot of ways that communications could be done better. Video consultations need to stay.' (38)

'With the COVID it's been a real struggle with the nursing home. GPs won't go in. Everyone is very worried. Acute hospital-at-home nurses go out to the patient. A consultant will go out to see the patient [for] point of care diagnostics/blood testing. Nurses will give IV fluids etc… they would almost always have been moved to the emergency environment previously.' (8)

'Coronavirus was the tool which allowed us to move on with the change... sustainability needs to be reflected in the tariffing. If moved to hospital they would have had a tariff of several thousand pounds. The hospital is currently taking it as loss leader now and will then negotiate a funding mechanism in future. The desire now is to live the new world of healthcare delivery.' (8)

INSIGHTS

Remote consultations with a clinician in the hospital, whilst the ambulance crew or nurse are doing a blood test in person, can condense a 12-hour round trip for the patient into 45 minutes at the bedside. A patient deemed to be stable overnight can have a CT scan the next morning, when there is more availability and it can be done quicker.

During the pandemic many care home staff were reported in the mainstream media and by their clinical colleagues as feeling frightened and vulnerable. Are there ways in which they could be more closely linked to the hospital-at-home provision and the support networks?

Keeping track of patients in the community presents another set of problems. Deciding whether or not to come into hospital presented patients with considerable anxiety. The decision was typically taken by paramedics alone in the patient's home, could the standard practice expand to loop in the GP or hospital at this point? Point-of-care tests such as blood tests and portable ultrasound would seem to be of particular value in this setting where a senior clinician needs as much information as possible to manage the patient remotely.

Could stronger connections between primary and secondary care be beneficial to the patients? For example, virtual appointments with a child in a GP surgery rather than admitting the child to hospital.

Virtual training
Who trains the trainer?

All training efforts were diverted to COVID-19 related activity, conducting training face-to-face and via the creation of asynchronous materials. Space constraints of social distancing, a more geographically dispersed workforce due to remote working, who are also time poor and navigating work-arounds in their speciality areas or preparing to relaunch stopped services, mean that previously standard training approaches are not yet possible. The widespread adoption of digital technologies such as Attend Anywhere have also presented new training requirements as clinicians equip themselves with new tools to perform their roles effectively.

'A number of training courses were booked for this period: the training room was cancelled because it was needed to accomodate a patient. We thought: what can be done remotely? We tried to make it as interactive as possible, ran two of them in MS Teams but that does lead to more lecture style. We asked people to keep cameras on; but trying to ask people to respond and getting eye contact when trying to do group work, we found did not work so well. Interestingly we got good attendance because [when you are] in hospital people get pulled off [for] frontline stuff.' (9)

'I'd like to be able to skill them up for a different way of being a doctor. There is a set of skills with being able to do [telemedicine] well. How do you unpick it if you suspect the patient is trying to withhold something? What probing questions that you need to use?' (11)

'[I am] Involved in a new finance and procurement system – [we] spend a disproportionate amount of time on training. Providing it is an intuitive user interface, how much training do you need? There is a cultural issue around the process.' (22)

'The way of training [that's] most effective is one on one. A video would help a little. There are diverse learners in the clinical areas which is why we have floor walkers when we roll out, for example, electronic care plan for assessment'. (20)

'At the beginning of COVID-19 I employed extra staff to cover any potential sickness that may be due to isolation needs. [To get the new staff up to speed] they had to work with another member of staff: I put 5 inexperienced employees with 5 experienced ones. In this way, we could still continue our operations. It was a good eye opener for the new ones. They're still with me now and are doing really well.' (39)

'Increased collaboration with other ICUs will mean lots more opportunities for training, lots more options for registrars and trainees.' (34)

'People are fighting with an IT system. It is hard to tailor the training to what the staff need – each clinic has a different expectation for what their training needs.' (55)

INSIGHTS

Diverse learning needs and situations necessitate various training delivery methods. New skills are now required of our clinical teams to operate effectively virtually as well as in-person.

When in-person training was not possible due to a lack of resources, trainers switched to a virtual experience and by necessity learned how to teach virtually through doing it. Could training the trainers in this area be more formalised in future?

As people were required to learn how to do things in new ways and impart that information to others, a rapid teaching and learning culture evolved. There is a difference between a training process that relies upon an expert providing their knowledge and one in which colleagues are learning dynamically as part of an iterative process and disseminating that learning. Are there ways of retaining this information [and] sharing culture?

Virtual learning supports current needs but needs to be structured differently in order to engage learners.

Infection control
Evolving processes for best practice

Changes were rapidly made to the management of infection control during the peak of the pandemic, de-prioritising all other infection control training and implementing new processes to keep staff safe at the time. Auditing and addressing the effects of training that was missed or postponed as a result of the pandemic is a piece of work still to be done.

'We've changed process to check for risk of infection. During any patient move there can be risk of infection, in which case you should wear glasses and an apron. In the past it happened that our porter walked the patient alone back to the ward. They've not been informed there was an infection. And then they saw the sign at the ward. "Why haven't we been told about this?" It's not the patient's fault. Now our helpdesk added a set of questions to check for every single patient case if there is a risk of infection.' (39)

'All other work had to take a back seat – proactive teaching surveillance of other things and daily job has gone out the window. Teaching sessions on intravenous line care and regular teaching sessions have gone… When COVID decreases there will be a struggle with getting back to good standard infection control practice.' (37)

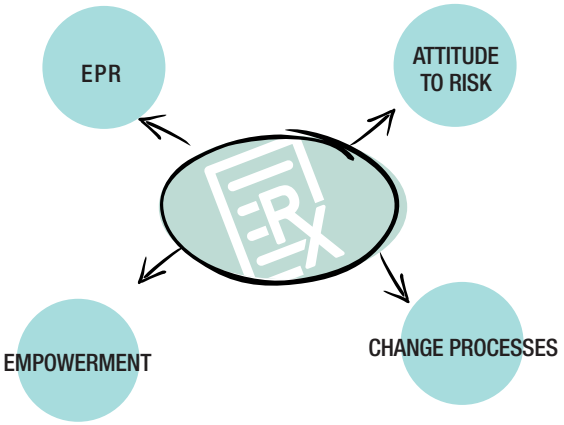
'There are no systems in place for recording who has been trained in PPE. How is that information stored and who uploads, how is it accessed? FFP3 masks – how many people need to be trained and how is access stored? If someone is rostering, do they have an easy way of checking this?' (37)

'The Infection Control team urgently needs enhanced functionality on EPR to track where people have been and trace who they have come into contact with when an infection is identified. Currently, doing the equivalent of this manually rather than electronically is very slow manual work that becomes more and more irrelevant the longer it takes to undertake.' (37)

'Spent 3 of 4 months setting up PPE store with a manual tracker on a spreadsheet, an enormous challenge around stock control. Big learning absolutely reinforced the need for tech, data and information to hand.' (22)

'Communication when in PPE...having to shout all day long just to be heard. Throat hurting, tired of shouting, got a headache. Now communicating outside of room [we] hold up whiteboards [saying] please get me medicine, held up to door.' (3)

> Going forward there will be a problem with going 'back to basics' infection control. When Covid decreases there will be a struggle with getting back to good standard infection control practice. (37)



INSIGHTS

Systems evolved rapidly during the crisis, for example to create a confidential booking system for PPE training. Staff are already looking ahead to larger digital solutions for monitoring PPE usage and tracking and tracing infections.

Training for infection control is key to improve staff confidence and patient safety. Recording training needs and current qualification proved challenging for all staff.

Creating a safeguarding procedure to assess the risk of infection before handling patients helped reassure colleagues, reducing anxiety and clarifying the procedure for staff.

PPE inventory management solution to monitor and provide access to stock in real time can make a real difference when there is such a shortage.

Lessons learned

Drawing together the interviews as a whole, there are some elements of the experience of COVID-19 that might be useful in planning next steps and developing best practice.

People and culture

Flexibility	Empowerment	Adoption	Collaboration
Staff demonstrated extraordinary flexibility in scheduling, both hours and activities, which ultimately benefited the efficiency and effectiveness of the service. How can this benefit be harnessed without putting undue pressure on our people?	People felt empowered to do a great job, assisted by a feeling that the organisation was supportive of their objectives, shown via a simplified and accelerated sign-off procedure and an overriding immediate need. What can be kept after the pandemic?	A clear common goal and purpose helped to get the best out of everyone and drove massive and widespread adoption of technologies that had previously not been used widely. An urgent need caused staff to reach for these technological tools. How can we encourage widespread adoption of digital objectives as part of business-as-usual?	There was widespread collaboration across teams, Trust-wide and with external parties. How do we support and incentivise this to be stronger together? Doing so requires a shift in incentives and structures to maintain the positive changes in practice.

Process change/management practice

Governance	Change management	Communication
A simplified, clear, rapid sign-off procedure, a relaxation of some restrictions and a reassessment of risk was evident during the COVID-19 crisis. Can elements of this be retained for more effective introduction of innovations in the Trust?	The speed with which some changes took place was impressive: including the movement of wards, building of walls, redeployment of staff and move to homeworking. Whilst that speed is not always desirable, are there ways to retain the confidence and ability to change at pace where appropriate?	Staff communication was generally felt to be good and the level of information was appreciated, although the volume became difficult to manage at times. Staff were proactive in communicating with colleagues in addition to top-down communications. Effective communication is clearly an important part of change and management, and the current communications survey should help to understand in more detail how best to achieve this.

Changes that are here to stay

Home working & remote collaboration

Many staff are able and willing to work from home more frequently, reducing pressure on car parking and transportation. The use of Microsoft Teams for meetings across sites reduces travel and increases efficiency and attendance levels, resulting in better and more quorate decisions. There are clear benefits to more widespread use of home working. It is important in realising these efficiencies, that we also consider the human element of in-person formal and informal conversations and the practicalities for individuals.

Further work is needed to understand the full ramifications of remote working, including considering:

- Equipment needed
- Home working set-up, and risk assessment
- Equity between staff groups and individuals
- Training and processes for effective work
- Types of work best suited to remote
- Benefits and disadvantages and how to balance these

Telemedicine

Having been forced to adopt or consider remote consultations, many staff see benefits for themselves and their patients. Working out which elements of the service are best suited to which solutions, and ensuring the appropriate support services are in place (e.g. ability to get and share bloods, scans etc.) will be essential to making the most of this change. Further work is needed to understand and address key challenges, including:

- Infrastructure capabilities
- Equipment needed
- Approaches for different types of appointment
- Training/learning for staff
- Capabilities of software and additional needs
- Patent feedback on experience
- Cost implications

Future opportunities

Patient communication and consent is an area that staff would like to see improved. This ranges from better patient information, to ways to capture digital consent, to improved appointment letters and ways to stay in touch, to ways of allowing patients to update their own health record. Will the Patient Portal cover all these needs, and in what timescale? How can staff be trained to communicate differently with patients?

Management of patients outside the hospital, and connection with other services is essential to keeping more patients at home, in conjunction with enabling telemedicine. The opportunities here lie in enabling remote clinics and tests, monitoring patients at home, and developing ways of sharing responsibilities and activities with other services (SCAS, GPs, OH, care homes etc.)

Inventory and scheduling: there are efficiency gains to be made by improving management and visibility of resources, theatre utilisation, staff schedules and patient flow. The crisis exposed challenges in this area but also required new approaches. Some were already being trialled and some were invented organically by the services that needed them.

There was an existing acknowledgement that **moving to a fully paperless record of all steps of the patient journey would be a game-changer**. Big steps forward were taken in the adoption of the EPR during the crisis and in building enthusiasm for the system's potential capabilities. How can we continue this, ensure that process owners encourage engagement and that the system meets user needs? What is the best way of handling an overflowing and growing list of change requests?

In order to make the change to remote consultations and home-based care economic for the Trust, a **thorough evaluation of the costs and commissioning process is necessary**, as increases in efficiency vary, even though the experience for the patients is improved.

Learning new technologies and ways of working is essential to make the most of all new innovations. In some cases formal training in a variety of settings will be effective, however the volume required is immense. Many people learn best from peers in a coaching environment. Setting up communities of practice and peer learning across the organisation is an opportunity to reduce the burden on trainers and IT support whilst also fostering a culture of innovation, positivity and adaptability.

Conclusions

This snapshot of insights from front line Trust staff demonstrates the impressive human capital that exists in the organisation. They showcase the collective capability and capacity to achieve remarkable change. Given the chance to express it, most staff show thoughtful insight into the challenges and opportunities that exist for the Trust, especially as it moves into the next phase of response to the COVID-19 pandemic and beyond.

Most of our interviews could be distilled to be conversations about 'innovation': What it means, to what extent it is feasible and to what extent the Trust's organisational structures and cultures are able to capitalise on the creativity that drives it. We also heard clearly that with increased individual empowerment and accountability, rather than a highly prescriptive way of working, the Trust was able to deliver paradigm shifts in process safely and successfully.

These conversations will provide a useful record of an important and difficult historical event. They also highlight areas of opportunity where processes and ways of working could be improved. Some new approaches could be kept, some needs have surfaced that have yet to be addressed, and in some cases new challenges have emerged because of the situation we find ourselves in. It is important that the 'launch window' for positive change is seized before it closes.

NEXT STEPS

The work leading to this report was not structured to provide a comprehensive analysis of the optimal strategy for the Trust's recovery plan. It is therefore not our intention to make an extensive list of recommendations. Instead we suggest four actions that would build on the work that has begun.

Summarise	Showcase best practice	Co-design improvements	Identify & capture
Summarise findings to executives and heads of division and work with them to identify immediate actions and opportunities	Identify and showcase best practice in key areas both within the Trust and across other NHS Trusts, to help our staff quickly get up to speed and learn from one another	Co-design improvements to the process of sifting and evaluating innovative ideas, to take pressure off the current overloaded system	Further work to capture and communicate ideas: feeding staff perspectives into the Trust's efforts to retain new innovations and reshape services for the future

TheHill team has been asked by the CDPO to take these actions forward over the next six weeks. An updated report, incorporating the initial outputs if this work will be brought to the Trust Board in September. This will make recommendations for further work to begin implementation before the end of 2020.

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