7 October 2020

Providers deliver: resilient and resourceful through COVID-19

Foreword

Welcome to *Providers deliver: Resilient and resourceful through COVID-19*. This is the third report in the publication series in which we celebrate and promote the work of NHS trusts and foundation trusts in improving care for patients and service users.

Our first *Providers deliver* report last autumn explored the way trusts have responded to feedback from Care Quality Commission, encouraging great ideas that have improved care. The next in the series, published earlier this year, looked at new roles for trusts in prevention.

This time we are focusing on the response to COVID-19. The impact of the virus means in many ways the context for this series has changed dramatically, but the concept behind it has never been more relevant.

As we seek to influence and shape the environment in which trusts operate, highlighting the many challenges they face, we also want to ensure the extraordinary work and achievements by trusts and their staff are acknowledged, and that the lessons learned are shared.

The case studies in this report are a timely reminder of the resilience and resourcefulness that has characterised the response of trusts and their staff to the challenges posed by the pandemic. We will continue to work with trusts to celebrate their achievements, share their learning, and show how – even in the most difficult circumstances – providers are delivering for patients, service users and their staff.

Saffron Cordery

Deputy chief executive, NHS Providers

Introduction

The NHS entered the COVID-19 pandemic with 100,000 vacancies, a growing waiting list for elective care (NHS England, 2020b), increasing demand for mental health, community and ambulance services, and a social care system in a fragile state. This makes the achievements trusts, and their local system partners, have delivered to transform care within the first weeks of the coronavirus outbreak all the more remarkable.

At the time of writing the number of global deaths attributed to COVID-19 has exceeded 1,000,000. In the UK deaths from the virus are now over 42,000 and once again on the rise. In response to the pandemic there were a number of changes to the national operation of the NHS. As a level four incident central direction increased, CQC suspended all routine inspections, and NHS England and NHS Improvement introduced a new financial regime. Large scale Nightingale hospitals were opened to deal with anticipated surge in demand. The spirit on the service frontline – from top to bottom - was to do what needed to be done to avoid the NHS being overwhelmed.

So now, in many ways the NHS with COVID-19 looks very different to the NHS before the virus first arrived on our shores in February. When the threat became apparent, trusts quickly had to make capacity available for COVID-19 patients while continuing other vital services, and maintain social distancing and effective infection control throughout. In a survey of trusts carried out in May, 99% said they had seen rapid innovation in response to COVID-19.

At a time when the NHS has had to refocus its efforts and resources in response to the pandemic, trusts have led the way in innovating so that they can continue to meet people's needs while meeting the demands placed on them by the virus, and do so safely and effectively. From using technology to roster staff and maintain critical services, to adopting new ways of working to ensure staff are supported and engaged during the pandemic, trusts are clear that to get through the first wave, they had to adapt. This series of case studies shows how they did so to meet the challenges of COVID-19.

Innovating under pressure

Trusts have seen the impact of COVID-19 in a number of ways, from increases in the numbers of COVID-19 patients, to the challenge of meeting the needs of others who may have needed care but not accessed it, often due to being concerned about the risks of visiting hospital during the pandemic.

It hasn't just been acute hospitals facing additional pressures. London Ambulance Service NHS Trust, for example, described how they saw demand for NHS 111 services grow to 300% of normal levels, with a peak of 11,500 999 calls at the end of March. In response, they worked quickly to secure additional vehicles and fit them out so they could match the increased demand for ambulances.

Mental health services have also seen the impact of COVID-19, and many have seen a rise in people reaching crisis point and needing to be admitted for inpatient treatment. Leicestershire Partnership NHS Trust identified a need at the beginning of the pandemic to provide a new type of support to mental health patients while A&E services were under pressure and outpatient services were interrupted. They created an urgent mental health hub that could support people in crisis.

Collaborating in systems

A common thread running through the stories is the importance of working together with local partners to achieve a common goal. Many trusts describe how any challenges related to system working have been put aside during the response to COVID-19, with system partners recognising the need to work together to meet the needs of people in the area and share resources effectively. Sustainability transformation partnerships and integrated care systems have helped coordinate action to facilitate faster discharge processes, and regulatory barriers to joint working were removed in the early stages of the pandemic to pave the way for a coordinated response to COVID-19.

The pandemic has created new and innovative partnerships; London Ambulance Service worked with the London Fire Brigade to train fire crews to work with paramedics on ambulances, and at Northumbria Healthcare NHS Foundation Trust, a shortage of personal protective equipment (PPE) led to a new partnership with the textiles industry to scale up PPE production, and provide mutual aid to other trusts in the region.

One trust that saw the benefits for patients of collaborative working is Royal Surrey NHS Foundation Trust, who shifted their end of life care provision to a local private hospital, where staff from both

hospitals worked together to make sure people at the end of their lives received safe and personalised care, minimising disruption from the pandemic.

COVID-19 has seen the sector embark on a rapid acceleration of system working, and in many cases trust leaders have pointed out that developments they have struggled to finalise for many years prior to the pandemic have been achieved in a matter of months. Part of this has been down to the unique circumstances, with COVID-19 getting everyone pointing in the same direction and removing competing priorities, but trusts are clear that they want to continue with newly strengthened relationships to keep the momentum going.

Supporting staff

NHS staff have borne the brunt of COVID-19. There is a need to support staff more than ever before, and trust leaders emphasise the importance of putting staff at the forefront of the innovations they have been putting in place as part of the response to COVID-19. From ensuring staff received the support they need to adapt to changes in their trust, to providing the right training for staff working in new areas of clinical practice, trust leaders we spoke to were unanimous that success is contingent on bringing staff with you and making sure they have the support they need.

At Bradford District Care NHS Foundation Trust, their improvement methodology, the 'Care Trust Way', helped keep their staff engaged and motivated during the hardest periods of the outbreak by ensuring they were empowered to drive change and take ownership of improvement where they work, which was all the more important during an incident like COVID-19.

The need to redeploy staff to new areas led Countess of Chester NHS Foundation Trust to develop a new trust wide staff roster, to help create an overview of staffing across the trust and ensure resources were being used in the best way. Part of this was engaging with staff to ensure they were clear on the benefits for patient safety, and the opportunities for staff to learn new skills. It also meant the trust could protect time off for staff so they had time away from the frontline.

Using technology

COVID-19 has led many trusts to use technology in new ways. The need for social distancing has accelerated a move to more care being delivered remotely, with video consultations and remote monitoring of patients, and trusts using technology to communicate with staff including 'virtual town halls' and video updates from leaders.

Trusts have also been using technology as part of their direct response to COVID-19. University Hospitals of North Midlands NHS Trust identified a need to reassure people that it was safe to come to hospital if they needed to, as people were avoiding coming in with potentially serious illnesses out of fear they may catch the virus in hospital. They installed thermal imaging cameras in high footfall areas to pick up anybody passing by who might have a temperature. After a learning period they could use the cameras to help manage the flow of people through the hospital and reduce the risk of spread of the virus.

Leeds Teaching Hospitals NHS Trust, a partnership between their medical physics team and Leeds University led to them adapting machines commonly used for sleep apnoea to be capable of ventilating coronavirus patients. For both these trusts, it has taken an iterative process and an open minded approach to learning, to make the initiatives work, and they are both clear that the more permissive national environment allowed them to move quickly and find innovative solutions.

Learning for the future

In many ways, despite the challenges, COVID-19 has provided an opportunity to engender a cultural shift in the NHS, with more support for staff, flexibility to innovate and work together with system partners, and make processes more efficient. Trusts are clear that there is no going back to the old ways of working.

The trusts leaders we spoke to emphasise the importance of letting the experts working in the trust to get on with what they do best, and empower people at the frontline to be part of the ingenuity in a crisis. For many trust leaders, it's about giving people permission to do something new and trusting their staff to deliver, and they are determined to take this cultural change into the future, through future waves of COVID-19 and beyond.

The view from Amanda Pritchard

Coronavirus is the gravest global health emergency for a century but the NHS, and its brilliant staff, have responded magnificently to the greatest challenge in its history. Staff – present, past and future – have had to come together as never before, supported by volunteers and the public. I have been immensely proud of the work done across the health and care system to meet the demands of the first peak of the pandemic while maintaining essential services.

On January 30, NHS England and NHS Improvement declared a level four incident in response to the coronavirus outbreak in China. Since then teams across the country have worked tirelessly to redesign services, transforming areas used for elective operations into ICUs, transferring a huge proportion of our face-to-face consultations to telephone or video and building seven Nightingale hospitals from scratch. It worked. While many people have, sadly, lost their lives, we did not see the scenes from Italy and elsewhere that so shocked us all of health systems being overwhelmed. It is now as great a challenge to restore and recover service delivery in a world with COVID-19.

One of the key elements of meeting the challenges of the pandemic was innovating at pace and working differently. Time and time again the NHS has demonstrated its ability to do this, from Leicestershire Partnership NHS Trust who set up a mental health urgent care hub for patients in crisis to the clinical staff to the engineers and physicists at Leeds Teaching Hospitals Trust who have begun to convert sleep apnoea machines into ventilators to treat COVID-19 patients. The NHS has shown creativity, commitment and determination in its approach.

We have also seen brilliant examples of collaborative working, without which we could not have met the challenges of the pandemic. Some of this was between NHS organisations, especially in ICSs and STPs. Much of it was also between NHS providers and local partners, such as local authorities and the voluntary sector.

Not all the change we have seen has been about technology, much of it has been about working more flexibly. As we see from the example at Countess of Chester Hospital NHS Foundation Trust this has required staff to retrain at pace to meet the scale of demand from COVID-19. This has often involved a blurring of traditional role boundaries and testing what different clinical professionals could contribute.

That didn't happen because it was centrally mandated. It happened because professionals in NHS organisations did the right thing to best meet the challenges of the national emergency.

Some of the innovation we have seen is a rapid acceleration of changes we had already intended as part of the long term plan. There have been plans to use telephone and video for remote consultations for more than twenty years. This year the NHS moved very quickly to using these technologies for appointments. Remote consultation will not be right in all circumstances, but we must retain the benefits we and patients have realised from it.

Meeting the challenges of COVID-19 has come at great cost to the country. Many, including NHS staff, have lost their lives. NHS staff have given their all, sometimes at a cost to them and their families. A small ray of light in this otherwise dark time has been the flourishing and sharing of new ways of working.

As this report illustrates, many of the examples we have seen of all these types of innovations have come from NHS providers. It is to the credit of trust leaders that they fostered an environment in which that could happen and supported their staff in making the changes quickly.

We need to find ways to not only keep the changes that have helped us to care for patients safely, but to keep the focus on doing the right thing that enabled the change to happen at scale and pace and to see collaboration within and across organisations in a way that would almost have been unimaginable before.

To have come so far in such a short space of time is something to be proud of – thank you to everyone who has played a part in making this possible.

Amanda Pritchard

Chief operating officer, NHS England and NHS Improvement

Bradford District Care NHS Foundation Trust

- The trust wanted to empower staff
- They set up a home visit team in three days
- They supported system partners

Background

Bradford District Care NHS Foundation Trust (BDCFT) is a medium sized provider of mental health, community and learning disability services, for people of all ages.
The Care Trust Way is BDCFT's approach to continuous improvement. It allowed them to make rapid changes to the way they worked in response to COVID-19, but this would not have been possible without supporting and empowering their staff.

The Care Trust Way

Chris Hunt, head of the kaizen promotion office (KPO), explains how the Care Trust Way works: "We bring together the best parts of quality improvement, coaching and strategy deployment to make sure we've got a holistic approach to quality in our organisation. At the centre of that is people. We're very aware that 20% of the quality improvement method we use is tools and 80% of it is people".
Dr Mahmood Khan, consultant psychiatrist and lead Care Trust Way coach, agrees and reflects on his 20 years working at the trust: "As a doctor, I've spent most of the time either being told what to do or telling people what to do. It's quick, it's easy and it works – but it doesn't necessarily result in learning or sustained improvement". He describes the Care Trust Way as a "game changer" because of the focus on "embedding purposeful conversations", which can be as simple as asking the right question to the right person at the right time.

Empowering staff to meet the needs of patients

When COVID-19 came along, BDCFT needed to make rapid changes to the way they worked. However, Chris says "we wanted to ensure that we still had a robust, people-centred, data-driven and focused approach to improvement".

Patrick Scott, interim chief executive, says BDCFT were clear from the outset that they needed to empower staff to shape their response. Learning weeks were particularly valuable: "We had a couple of learning weeks where we bring together staff from all services, corporate and operations to help understand current experience, the things they're proud of, the things we need to build on and the things we need to let go of".

One of the trust's key successes was setting-up a COVID-19 home visiting team in just three days. The team reviewed patients confirmed or suspected of having COVID-19, which helped manage the spread of the virus while maintaining quality patient care. Dr Khan says "from a mental health point of

view, the team was key to making sure that our patients in the community were seen and managed quicky and kept out of hospital". Patrick acknowledges "it was a huge task…[COVID-19] has been challenging the organisation and the people like nothing else has".

Visible and committed leadership

Alongside staff empowerment, Chris is clear that you need visible and committed leadership to drive continuous improvement: "You've got to live and breathe it as an individual, so your behaviours are demonstrated to the organisation".

Patrick also sees absorbing people's anxiety as a key part of the senior leadership team's role. Staff have been asked to do "unprecedented work at a time of unprecedented pressure within their own lives and communities" and "to influence and drive change, they have to be well cared for".

One of the things they introduced during the pandemic – and plan to continue – is a live executive broadcast every Friday. Held via Microsoft Teams, it regularly attracts 200 people a week and generally consists of key updates followed by a Q&A. Patrick's message to staff is "this is your place, it's been another tough week, if there is anything we can do to make it easier for you to just switch off this weekend, let's have that conversation".

Patrick goes on to highlight the importance of daily management and action: "What we've learned from COVID is having those connections across directorates on a daily basis is something that really works".

System working

The Care Trust Way goes beyond Bradford. Patrick reflects that, during the peak of the pandemic, it would have been easy to withdraw and focus only on what BDCFT needed to do. Instead, they displayed their "willingness and ability to help other parts of the system" by sharing their experiences of continuous improvement.

For example, building on the success of the COVID-19 home visiting team, Patrick says "we've done some really strong stuff with the local authority to help develop an integrative children'S COVID-19 team". They created a "dynamic risk register" of 4,000 vulnerable young people, which allowed them to quickly target help to those most in need.

BDCFT has also welcomed opportunities to learn from the voluntary sector. Chris explains that they

had been reaching out to patients through the usual channels, for example surveys and interviews. It was speaking to voluntary sector partners that made them realise this might not be the most effective way to communicate with their most vulnerable patients. For example, deaf patients and service users couldn't always receive care virtually, meaning the trust had to adapt to support them: "It was just a really great example of coming together with all the different teams that are out there, and supporting each other to make sure that our service users and patients get the best possible experience".

Chris sums-up: "COVID has shown us what we can do if we put our heads together and work collaboratively...we always had the ambition, but COVID has accelerated that tenfold". Bradford are now supporting their local Primary Care Networks to set up a multidisciplinary team model with GPs, district nurses and nursing homes.

Putting people first

BDCFT has learnt a huge amount from their response to COVID-19 – but it all comes back to putting people first. The feedback has been incredibly positive, with staff "really feeling well connected and supported" according to Dr Khan. He adds that you need to "allow people a real stake in what is happening" for change to be sustainable.

As Chris says, "the tools and techniques are great, but they're only one part of the jigsaw. Change is inevitable, whether it be a pandemic or something else. Getting people engaged is the key to success here. So maybe, focus on your people and the rest will fall out of it".

Countess of Chester Hospital NHS Foundation Trust

- Development of a trust wide roster for medical staff
- Staff engagement – making the case for patient safety
- Cultural shift – shared understanding across staff groups

Background

Countess of Chester is a medium sized district general hospital, with a range of specialties including a tertiary centre for vascular surgery.

When the implications of the COVID-19 outbreak became clear, the trust realised that although they had a wealth of expertise in their emergency care services, and the acute medical units and respiratory wards, as well as intensive care, it still wouldn't be enough resource to meet the scale of demand from COVID-19.

Taking radical action

Darren Kilroy, the trust's executive medical director, tells of how the trust came to the conclusion that traditional specialties like orthopaedic teams and plastic surgery would have their work drastically scaled back as the national directives to pause elective activity came through. An opportunity arose from this, Darren explains. "We took a fairly swift decision between myself and the executive team and the medical workforce team to be a bit radical and maximise patient safety based on best available use of resources across the trust".

This involved looking at resourcing and projections of clinical demand from COVID-19: "We took stock of the entire junior and senior medical workforce that the organisation had at its disposal, and tasked the medical staffing team with looking at what it would take to produce a trust-wide roster for medical staff".

Under this arrangement, everyone would have ward-based responsibilities, with a commonality of tasks centred around frontline care, with consultant support from the very senior consultants in different specialties. Darren explains that this roster, was one where "everyone would be focused around one common goal", to help meet the needs of COVID-19 patients.

Getting buy in from staff

Darren explains that a key pillar of making the new roster work was to help people understand the benefits for patient safety. Part of this was keeping the BMA and unions involved, as well as engaging with staff: "[we wanted to] make sure the medical teams, the divisional medical directors and others were in the loop and to work with them so they could understand what the ask was".

Another benefit to the programme was that it would allow junior medical staff to gain extra skills and competencies that they may not be trained in if they had chosen a surgical specialties. Darren is positive about the impact of this: "that fed a need that every hospital has for core basic training on deteriorating patients and physical derangements and responding quickly". Once they got started, they could give staff the training they would need to manage COVID-19 patients.

He expands, saying the trust carried out "quite a few weeks of engagement, sharing with the juniors what the roster would look like, undertaking the comms that would inform how this would work, and

making sure it was attractive to those members of staff who were going to work on this roster who weren't used to dealing with patients of this kind".
A challenge came from Health Education England and the trainee schools, because the trust couldn't maintain the curriculum requirements. "I kept firm to the fact that we were prioritising patient safety, and engaged with the training schools on this".

Managing logistics

The roster itself was very simple, working on Microsoft Excel. The trust ensured it was compliant with working time regulations, and they sent daily updates to the medical staff with information about who was working that day, where there were gaps. Detailed communication with staff helped it run smoothly.

One of the challenges of operating a large roster is managing all of the moving parts and ensuring the needs of all the wards are met. Darren describes how they identified a registrar who had experience of managing rosters to work on the roster full time, and that "he could troubleshoot and reallocate staff because he knew what the place looked like clinically".

Darren explains that the roster helped them maintain the overall running of the hospital through the height of the outbreak., "we came through all the COVID months and our A&E performance has remained at... 95% plus". He goes on to describe how rostering and working in a much more coordinated manner "undoubtedly helped us maintain operational flow through the most difficult times".

Supporting staff wellbeing

Darren is clear about the positive operational impacts of the roster, including allowing for a higher level of medical resource on each ward, and reducing incidents related to delays. But there was another important consideration for the trust around ensuring staff wellbeing was supported throughout the COVID-19 outbreak, and that staff were able to take time off. The roster allowed the trust to protect some annual leave in the roster, so people could take time out.

"I've always had a very personal interest in welfare and wellbeing, and this was a basic welfare issue of being able to give staff time away from the frontline".

Darren reflects on the impact of the roster on the trust's staff's experience: "people learned new skills,

and as it got going the junior staff enjoyed being part of it because they were dealing with something very real and making a difference. It became a really enjoyable roster to be involved in as everyone was really engaged".

There has also been a cultural shift: "there's been a much more cohesive sense of shared understanding across traditionally quite disparate groups of staff, and there's a much clearer understanding of how a hospital has to work together to get the job done".

Learning lessons for the future

The trust has stood down the whole hospital roster as they begin to restore other services and return to normal ways of working. But the learning hasn't stopped here. Darren is clear that the trust will take forward some key lessons for the future about how the trust works as a whole: "we've taken some learning from the whole hospital experience in terms of operational deployment, we've learnt something in relation to cultural change, we've learnt something around the empowerment of staff to get on and do something radical and make it work and see how people can enjoy that, and maintain training".

Reflecting on the initiative, chief executive Dr Susan Gilby says, "enabling the provision of safe and effective care through COVID has been our key challenge as a trust. Central to that has been the way in which our clinical leadership team, supported by our managers and administrative staff, crafted and delivered a comprehensive whole-hospital medical staffing model. The learning from our experiences in delivering that will help inform many aspects of how we'll deliver care from now on".

Leeds Teaching Hospitals NHS Trust

- Trust responded to concerns about ventilator capacity
- Worked with university to develop a solution
- Support for "ingenuity in a crisis"

Background

Leeds Teaching Hospitals NHS Trust is one of the largest and busiest hospital trusts in the UK, providing healthcare and specialist services for people from Leeds, the Yorkshire and Humber region and beyond. The trust, which has around 1.6m service users a year, plays an important role in the training and education of medical, nursing and dental students and is a centre for world-class research and pioneering new treatments.

In February and early March the trust was gearing up for a surge in coronavirus patients coming through its doors. There was uncertainty about what type of care those patients might need – how many might be admitted to intensive care, and how many would require ventilators.
The trust had plans to use anaesthetic machines in theatres for ventilators to support critical care but identified that there could still be a shortfall of ventilators.

Increasing capacity

With the potential for a gap in ventilator capacity, the team knew they needed to find an alternative. Dr Stuart Murdoch, consultant in anaesthesia and intensive care medicine, describes how colleague, Professor David Brettle, then head of the medical physics team at the trust, suggested adapting a respiratory support system used in sleep apnoea, called the NIPPY 3+ to treat COVID-19 patients.

"We were phasing out the NIPPY 3+ machines so we had a lot available to us just sitting on a shelf," said Professor Brettle. Given the difficulty of ordering new equipment early in the pandemic, he explains that the real value here was "having something rather than nothing."

The trust had an open offer of help from the mechanical engineering department at the University of Leeds when COVID-19 emerged as a threat and capitalised on this when they saw there was an

opportunity to adapt the machines. Professor Brettle says the university's support was invaluable. "We got in touch with the University of Leeds to ask how best we could use these machines and optimise how they work. It's amazing how quickly they were able to take the machine apart, understand it and adapt it."

Keeping it simple

During the early response to the pandemic it was clear that any modifications to devices for respiratory support would need to meet regulatory requirements. Professor Brettle describes how they worked out a way to use the machines without fundamentally modifying the technology through collaboration with the university, the clinical teams at the trust, and the medical physics clinical engineering team.

"With a few simple tweaks to provide oxygen support, that didn't require regulatory approval, we had something immediately available," he said. "After we validated the conversion we could use it the next day."

The trust went on to use the NIPPY 3+ ventilator to care for over 20 patients during the pandemic, both in and outside of intensive care units.

There was more than one benefit to the simplicity of the device, however. As Dr Murdoch explains: "These machines are used for sleep apnoea, so we can teach staff really quickly how to use them, and people found it intuitive and easy to use," he says.

The trust also put together a teaching package with instructions on the use of the machine, and ensured staff coming from other specialities to support critical care during the COVID-19 pandemic had the support they needed to work in unfamiliar areas.

While the team's endeavour started with the NIPPY 3+ machines, it hasn't stopped there. Professor Brettle explains: "The university continued its work and has developed its own, even simpler system." He says the team has learned from their work with the NIPPY 3+ that keeping things simple is key.

Reaching out locally

During the peak of the first wave of the virus, Leeds was quick to share what they had learned with other trusts. Professor Brettle describes how they disseminated their approach to trusts adopting a similar strategy for caring for COVID-19 patients. "We were also sharing our equipment, literally putting it in taxis and sending it over to neighbouring hospitals who had immediate problems," he said.

The university also put together a rapid publication which was posted on an academic repository. A joint press release was also picked up by the local and national media which helped promote this work.

Going global

While the initial goal for adapting the NIPPY 3+ ventilators was to alleviate pressure on the trust during COVID-19, the team saw an opportunity to spread the benefit of the work more widely. The University of Leeds has taken the concept of the NIPPY 3+ machine and produced a system that can be manufactured at a fraction of the cost, which, when combined with an oxygen concentrator that can produce high levels of oxygen just from the air, can be used as a basic oxygen therapy system.

Professor Brettle is clear about the benefits of taking the research further: "Low and middle-income countries (LMIC) may not have access to the resources we have, and this new device is cheap and quick to manufacture. Although initially developed just for LMIC the exciting thing is that if needed, and subject to the necessary regulatory approvals, this device could be utilised back in the UK."

Supporting innovation

Julian Hartley, chief executive, says the work done on this project reflects well on the trust's staff being innovative. "Creating an environment that encourages everyone, particularly those on the frontline, to be part of the ingenuity in a crisis, shines a light on the reserves of commitment, partnership and

collaboration that we've got across the organisation."

He praises the creativity of the teams managing the biggest crisis the NHS has ever faced. His advice to leaders of other trusts is to give people space to innovate. "You don't micromanage or try to second guess everything. If you have the necessary cultural ecosystem, the set of relationships feeding off one another, and technology and innovation in one branch of medicine, it can cross-fertilise very quickly into another."

Northumbria Healthcare NHS Foundation Trust

- The trust responded to severe PPE shortages,
- Worked with manufacturers to produce gowns
- Built on relationship with local community and businesses

Background

At the height of the first wave of COVID-19, personal protective equipment (PPE) for NHS staff was in short supply. At Northumbria Healthcare NHS Foundation Trust, stocks dropped to around thirty gowns. The trust was using around 500 gowns a day, so looked for local solutions to bolster the supply of gowns at the trust.

In a collaboration with industry experts and major textiles manufacturers – including Barbour – the trust has produced around 1.2 million gowns and has no plans to stop there. They are now looking at how they can invest long-term in the UK's ability to produce PPE locally and supply to other trusts across the area.

Setting up a network

Northumbria Healthcare found themselves in "dire straits" in terms of supply of isolation gowns, explains Paul Dunn, the trust's director of finance, so when Sarah Rose, a consultant on manufacturing PPE offered to help, they jumped at the opportunity.

Sarah explains the role she played in the initiative: "I was familiar with [PPE] in terms of the raw materials that are needed, and I could reach out to suppliers and factories that I know around the world and within the UK to come on board and help us with this quite quickly".

It soon became clear how many gowns would be needed, so Sarah helped set up the network of factories and within three weeks the group had opened a factory and begun training staff to make the gowns. Paul explains that they had staff who had previously worked as machinists who

volunteered to help, and other local people who were furloughed or had recently lost their jobs stepped in too. Eventually, they had a network of 20 factories working to produce gowns, with a total of around 400 machinists working around the area.

Sarah explained that "the UK has lost a large amount of textile manufacturing, but [this initiative] shows they've been able to turn that back on very quickly and support the NHS."

Innovating in a crisis

Paul describes how "all the trusts got an email at one point saying there was such short supply. that you could basically use a plastic apron, and we felt that was a step too far".

The Health and Safety Executive (HSE) have been involved throughout, as the trust has gone through the process of developing a COVID-19 specific 'isolation' gown. Paul explains: "that's been an evolving specification. We finally got sign off from the HSE in August, and that's been difficult at times because we've gone around a few iterations around the testing requirements of the gown". The expertise of

clinical colleagues at the trust has been essential, as well as the infection control team, who have been happy with the gowns.

One objective of the trust's work is to increase the sustainability of supply for PPE, but Paul explains "part of this initiative going forward is just greater control over quality standards". Now, he adds, "if you said that we can't use [the gowns] any longer there'd have been an uproar because they perceive them to be a far greater quality than what we've historically been receiving".

Expanding the initiative

Paul explains that they involved the NHS England and Improvement regional team and secured funding to expand their initiative: "we've covered the north east and Yorkshire, about 40 trusts I would say". Sarah adds, "Almost every day that goes by we're asked if we can help in other areas".

As things have started to return to normal, some of the volunteer machinists have returned to work, and some factories have returned to their normal production lines, dropping out of the network.

Sarah describes how they filled the gaps this created by bringing more factories into the network and increasing capacity in their own factory to keep it running now: "we've probably created about 40 jobs [as people have gone back to work]...and we increased the numbers in the north-east in our own factory to make sure we've still got the same capacity".

The partnership will shortly be moving into a new factory, with capacity for sterilising gowns for use in operating theatres. This will allow them to create more jobs and produce more PPE. Sarah explains "what we've got to do is work with local councils and whoever it may be to create some apprenticeships to get some younger blood into the industry".

But it isn't just about the PPE, Paul says, "The whole story of COVID for me is the support from the local community and businesses and I think it's our way of paying it back. So whilst we have our own factory we'll have a network which will support wider opportunity across the region".

University Hospitals of North Midlands NHS Trust

- Deployed thermal imaging cameras to identify people with high temperature
- Developed effective guidance for staff
- Boosted public confidence in safety of hospital

Background

University Hospitals of North Midlands NHS Trust operates in Staffordshire and the city of Stoke-on-Trent, providing services to approximately 900,000 people.

In line with the national ask, elective and planned work ceased when the COVID pandemic hit, this not only affected patients who were booked in for planned work and elective surgery, but also those in need of emergency care as attendances at A&E dropped considerably.

Like most organisations, the trust looked at innovative ways to address the risks of COVID and manage patients differently. Much of that new approach relied on technology such as dealing with patients virtually without the need for face-to-face contact. However, one of the other priorities for the trust was to reduce the risk of patients with COVID coming into hospital, and improve people's confidence that it would be safe to come to hospital if they needed to.

Tracking temperatures

One of the ideas the trust considered was using thermal imaging cameras in high footfall areas to identify people who may have a high temperature. They discussed the use of cameras with their key partners and technology supplier.

They then piloted the initiative. "We actually trialled it in the admin corridor, which was positive in terms of learning," says trust chief executive, Tracy Bullock, "We worked out that some things got in the way of readings, such as walking in with a cup of tea or wearing a hat. Overall, what we learned was that it would work."

The cameras were deployed across the trust and in the independent sector hospital that the trust utilised for oncology patients. They were positioned by the doors, in areas with the greatest footfall.

"We covered all areas as much as we could, including outpatients, inpatients and diagnostic clinics."

Once the cameras were set up, guidance for the operational staff was essential. The trust had to consider the appropriate infrastructure and operational needs to make sure that the system was monitored correctly. "There was regular contact with the clinical team in each of the areas" explains Heidi Poole, deputy director of IT.

"The other thing that we needed to do was develop the standard operating procedure" Tracy adds, "So if someone walked through the door with a temperature above a certain level, what did staff need to do?"

The trust decided that should a patient or visitor present with a temperature, they would be escorted to a secure area for a discussion about any other symptoms.

The team needed to get staff on board and ensure they were comfortable with the operating procedure: "Making sure you've got the right engagement with the staff and making sure you've got their buy in and they understand the standard operating procedure that runs alongside it is essential" Tracy concludes, "but essentially it's your basic change management process, and it's getting your comms right."

The clinical teams were quickly able to benefit from the increased control over the flow of people into

the hospital.

Getting the word out

Aside from regular communication with staff, keeping the public informed about the project was essential to its success.

"One of the main positives of this innovation has been around increasing public confidence. We know that the public were staying away from hospitals due to the concern around catching COVID and we wanted them to feel safe if they needed to come to hospital and the introduction of thermal imaging was one of the ways we did that."

Tracy explains the importance of this, "we knew the level of strokes and heart attacks couldn't have dropped to the levels we were now seeing, so we were concerned people were staying at home with these serious problems. We also knew that without early treatment of these conditions the outcomes would be far worse. It was therefore vital that we increased public confidence and started to get

people back to hospital, certainly those critical patients."

"It was something that we promoted quite a bit with the local media", Tracy explains, "we worked with our local radio and TV stations and did a number of interviews." The local MPs also got involved with raising awareness and encouraging the public to feel secure in going into the hospital if they needed care.

Local funding for innovation

The trust was able to fund the project with the assistance of a grant from the Denise Coates Foundation. The £10m sum was gifted to the trust at the outbreak of the COVID-19 pandemic, with the intention of supporting innovation. Part of this local funding covered the cost of the initiative.

"During the pandemic a number of financial barriers were removed", says Tracy, "we played with a straight bat and where we could use charitable monies we did. But the removal of the usual financial constraints was liberating. And the fact that we had discussions with our board and altered our governance and decision-making arrangements during the COVID period allowed us to work at pace. It meant we just got on with it."

A growing confidence in technology

Heidi reflects on the success of the initiative, "We're often very reluctant to be first with any kind of new technology because you want to make sure that you've got the infrastructure, technical systems and security. But its really given our clinical teams a process they can rely on to manage patient flow coming into the trust. Reassurance and confidence is really the main benefit" adding "another benefit is that we can assess many people very quickly using this technology, where conventional methods can cause queues and expose staff to more risk."

Tracy agrees, "It also provided confidence to the staff, that we were monitoring our patients and that we had a better idea of who was coming through the doors and it provided patients themselves with the confidence to come back and visit hospitals."

"We were definitely a bit nervous at first, because we knew no one else in the NHS had done this before. But there was something about just biting the bullet. It's intuitive, if it goes right and you think it's going to help, you have to just go with it. That was the key bit of learning for me."

Leicestershire Partnership NHS Trust

- Set up urgent mental health care hub in 11 days
- Worked closely with system partners
- Helped more patients stay in the community

Background

Leicestershire Partnership NHS Trust is a mental health and community services integrated trust, which covers the whole of Leicestershire and Rutland, employing around 6,800 staff.

At the start of the coronavirus pandemic, mental health trusts across the country received a letter from Claire Murdoch, NHS England and Improvement national director for mental health, asking if they could divert as many patients as possible from A&E in order to increase capacity.

"We sort of took that and made it our own really", says Saskya Falope, mental health urgent care hub team manager. The trust set up an urgent mental health care hub in around 11 days in the hope that they could divert patients from A&E, but it soon became much more than that.

Setting up the hub

Staffing the project was the first hurdle the trust faced, but they were able to put together a multidisciplinary team of staff to support the service. "We borrowed and begged staff from our crisis teams, liaison teams that were already working in mental health, staff from our acute inpatient wards and junior doctors from other services," explains Saskya, "it was really a mixed model."

The new team hadn't worked together before, so they took some time to consider their shared objective for the hub. They wanted to not only divert patients from A&E, but also to see if they could care for patients who would ordinarily have needed treatment from A&E staff, such as those who might have self-harmed or taken minor overdoses.

"We wanted to care for those patients in a sort of bespoke environment. We started collecting patient feedback and ideas from very early on", Saskya says, "we asked patients what do you like or not like

about A&E? How can we do it differently?" The hub was based on the trust's acute mental health hospital site, where the space was freed up as a result of virtual outpatient appointments. Many patients made comments about the bright A&E lighting which some in mental health crisis can find distressing, and the trust was able to make changes to the hub environment in order to ensure it was as safe and comfortable as possible for its patients.

A system-working approach

The team worked closely with partners in the ambulance service, A&E, and at the acute trust to set up an idea of what they wanted it to look like. It's an all-age hub, so they worked closely with Child and Adolescent Mental Health Services (CAHMS) colleagues too. They then went about creating a standard operating procedure around how it would work.

"It's just blossomed really into something that I don't think we would have envisioned at the start. The team have really taken on a can-do approach and little hurdles that we come across we haven't let them set us back, we've pushed forward." Saskya explains. Most of the referrals to the hub come from the ambulance service, so it's no longer just a diversion service as patients aren't having to go to A&E

first. This has greatly increased capacity and the A&E department has been able to make structural changes to the space as a result to meet infection control requirements during COVID-19.

The urgent care hub gave the trust the opportunity to take a more holistic approach, keeping patients somewhere safe while they spoke to the social care services and arranged temporary accommodation, things that A&E colleagues did not have the time or resources to sort.

"It has allowed us to think differently about how we use our resources and has allowed partnerships to really come together, using everybody's expertise rather than working in silos." says Saskya. "Working with colleagues in social care, housing and acute trusts, gets patients the right care that they need rather than the fallback always being A&E in an acute hospital."

Better outcomes for people

The pandemic has seen an increased number of people seeking support for their mental health, many for the first time. Angela explains that many people seeking help are very acutely unwell: "in early intervention psychosis services we have seen a doubling of need." Saskya adds that more people than expected have been admitted under the Mental Health Act. This has underscored the need for a person-centred approach to meeting people's needs.

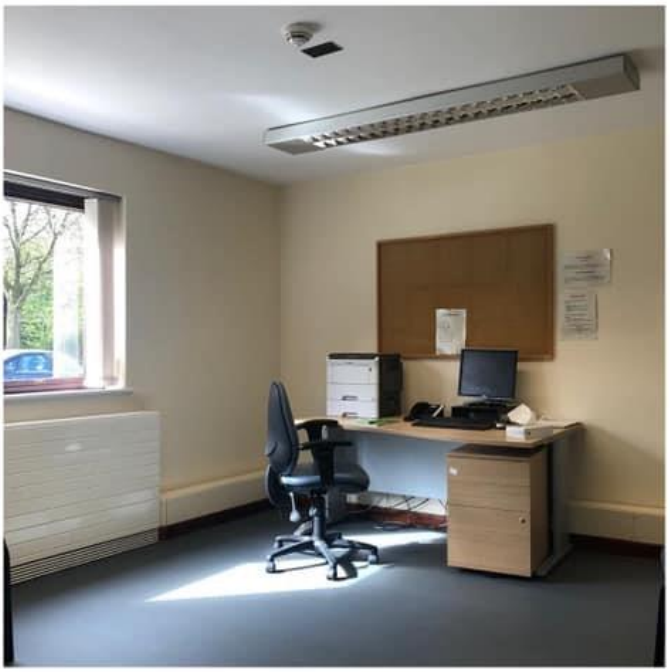
Chief executive Angela Hillery offers her reflection on the opportunity they have had to take a new approach, "The COVID experience has given us the acceleration around local systems because in the past we would have waited to be commissioned to provide it, whereas this has actually provided us with the power to act. It's not just that it's a response to COVID, it's actually about improving opportunities to signpost and get patients to the right place."

This new approach has helped more patients stay in the community. Saskya explains: "If you look nationally, people who present in acute crises to A&E, 20% of those will need acute mental health beds. Ours is at about 2%. The hospital environment is a last resort. Some people need that little bit of time and someone to talk to, so that they feel supported and there's a plan for them."

The approach has also helped them reduce their out of area placements to zero, and that helps ensure more money can be spent on investing in local services.

And certainly, the response to the hub speaks volumes for its future. "The patient feedback for me has

been the biggest win. We ask around 85% of our patients to give feedback, and they've all been positive about their experience, not just in comparison to A&E, but just in general." says Saskya.



The future of the hub

As the NHS faces the winter months, Angela is keen for the hub to continue its work. "We want to support our acute colleagues, to be able to manage winter as well," she explains, "This hub represents a huge opportunity not only for winter but also for future mental health models." The economic

climate also means they are expecting an increase in the level of need: "we know that the recession in 2008 increased the suicide rate. So we're expecting an increase and we will do some work around capacity. Mental health is not easy to predict".

But strong leadership has helped them take a new approach, and plan to develop the service further. Saskya reflects on the importance of senior support for the work: "the biggest thing [that helps] is to listen to your frontline clinicians and patients". Angela agrees, saying "absolutely, empower young leaders. But also be ambitious, for your patients and your population".

London Ambulance Service NHS Trust

- Responded to unprecedented demand
- Worked creatively with wide range of partners
- New relationship with fire service

Background

London Ambulance Service NHS Trust (LAS) serves the whole of London, which it splits into five operational areas: North West, North Central, North East, South West and South East.

It employs around 8,000 staff and volunteers based at its 70 ambulance stations and support offices across the capital.

A surge in demand

The LAS response had to be different to that of other ambulance trusts as the pandemic hit London first, and ambulances – ahead of other services - were first in line to face the pressures.

"We went from running a relatively 'normal' ambulance service at the beginning of March," says chief executive Garrett Emerson, "and by the end of the month we were facing a tsunami of demand."

The trust saw demand grow rapidly until demand for the 111 service reached 300% of normal levels. As infections started to increase and patients became sicker that pressure transferred to 999 calls too. On a busy day, LAS would usually see around 5,500 to 6,000 'line' and online calls. On 23 March this year, the trust peaked at nearly 11,500 calls to 999, a completely unprecedented level of demand.

To respond quickly enough to this immense increase in calls, the Trust set up a dedicated 999 COVID call handling hub, staffed with specially trained student paramedics from its partner universities. In 111 it worked with Virgin Airlines and British Airways to redeploy furloughed cabin crew and ground staff into call handling roles.

Sourcing vehicles

Typically, the trust's maximum vehicle requirement is around 350 to 375 ambulances on a really busy day. All the projections for the pandemic suggested that they could end up needing double that.

"We had to develop a plan very quickly to get around 650 vehicles on the road with the conditions to support them," explains Garrett, "This was partly about utilising the vehicles we have much more effectively, and partly about rapidly sourcing additional new and second hand vehicles."

The trust contacted the AA, who agreed to help. LAS was able to access 170 AA mechanics who worked alongside their technicians at the ambulance stations and allowed them to run all of their systems around the clock which kept vehicles on the road, but it also enabled them to fast track the delivery of 60 additional new vehicles already on order and recommission a further 50 second hand vehicles rapidly sourced from all over the country.

They also refitted some non-emergency transport vehicles, and ultimately got to an availability of 646 vehicles.

Working with the London Fire Brigade (LFB)

Once the vehicles were secured, the challenge became how to crew them. The predictions had shown that 20 to 25% of staff would be off sick whilst demand projection was doubling.

The trust changed its operating model to focus a lot more of its resources on double-crewed ambulances. The trust simplified its operating scope too in terms of stations, working from a smaller number of larger stations, which helped ensure they could provide adequate crew briefings and the effective distribution of personal protective equipment (PPE). Face to face briefings were particularly important because, in the early days of COVID, understanding of the virus was evolving rapidly and the clinical guidance was being updated every day. Crews needed to be briefed every time they were on shift.

At the height of the initial surge they drew on support from other neighbouring ambulance services but that was never going to be a long-term solution because they were only three or four weeks behind London in terms of demand. Retired staff returned and third year paramedics were deployed to work alongside qualified paramedics, but this still wasn't enough.

"I then had a conversation with the commissioner of fire services about using firefighters to work alongside our clinicians and increase the numbers of ambulances we could deploy in London. We just agreed to get on with it and make it happen," says Garrett.

"Firefighters were an effective solution for a number of reasons. They know the city and have C1 licences so they can drive ambulances. They're also blue-light trained, and clinically trained (by the LAS itself) in emergency care response and basic life support to deal with rescue situations. They were also available because demand in the fire service was falling because of people gradually withdrawing from public life."

LAS set up a facility at Wembley Stadium, to give over 300 firefighters three days of further training, which was mainly in vehicle and system familiarisation. And then they were deployed. Ultimately, the trust was able to bring a total of around 900 additional staff and volunteers into the service.

"It was slightly controversial at the start," explains Garrett, "but very quickly staff at all levels in our organisation and from the LFB found it a really positive experience. The front line loved having the

firefighters come in and the LFB staff had a chance to practise basic clinical skills, which is something that they don't generally get to practise."

A future for blue-light collaboration

"This has transformed the closeness of our relationship with the fire service, working in collaboration strategically, and at all levels" Garrett explains, "I think it's going to enable us to start sharing resources more and more effectively."

The trust hopes to keep a small number of firefighters on a rotational basis continually within the service, keeping their skills up with the ability to stretch to larger numbers in the event of pressures. It's likely that they'll use that capacity to surge, as we go into the autumn and winter months. Garrett reflects on this, "We have that surge capacity built into the system now and the challenge is to flex that up and down in line with demand."

Royal Surrey NHS Foundation Trust

- The trust wanted to avoid moving patients requiring end of life care
- It worked with a private hospital, providing specialist support
- Staff given autonomy to make it work

Background

Royal Surrey NHS Foundation Trust provides emergency and general hospital services to a population of more than 330,000 across south west Surrey.

"There was an awareness that there was going to be pressure on beds throughout," says Jo Thompson, clinical nurse manager for enhanced supportive care and palliative care, "we were conscious of a need to consider our capacity."

The trust was offered 12 beds by the private hospital Mount Alvernia in Guildford to provide care to a group of patients. "We were at a stage where things were just rapidly changing within the main trust hospital and patients were having to be moved from area to area, understandably, as maybe they were found to be COVID positive or negative."

For patients at the end of life, this constant movement was far from ideal and the trust decided to use the 12 beds at the private hospital for this group of patients. They could be transferred to Mount Alvernia knowing that they wouldn't have to be transferred anywhere else, or sent back to the acute sector. Each patient was reviewed by one of three palliative medicine consultants and the goals of care were very clear: providing appropriate end of life care to patients and supporting their families.

Providing end of life care

The Royal Surrey has just been awarded outstanding for end of life care by CQC, "one of the things this report highlighted that we take very seriously, is the environment", says Jo.

"Mount Alvernia was the ideal environment because it was quiet and peaceful. It was all single rooms which was great as it meant that we didn't have to disadvantage COVID positive or negative patients. We had a mix of both and because they were cared for in single rooms it meant that could be done safely."

Because of the individual rooms, patients could nominate one family member who was able to come and visit. Although it was difficult having to tell patients they couldn't have multiple visitors, it was really important to the trust that they were allowed to have at least one person.

The trust also provided daily telephone updates to other family members. These updates were generally provided by the registrar or one of the specialist palliative care nurses, so the families were able to receive a specialist update on their loved one's condition.

Collaborative working with the private sector

The specialist team from the main hospital worked alongside staff from Mount Alvernia. The main care delivery was delivered by the Mount Alvernia staff, who were given additional training so as not to exhaust the nursing staff needed at the Royal Surrey to treat COVID patients. A Royal Surrey palliative medicine registrar worked on the unit 9-5 each day so there was always specialist input in the care.

Jo explains that the staff at Mount Alvernia were used to looking after surgical patients rather than those at the end of life. "Our role was very much in supporting them to deliver really good care, but also to support them emotionally because it was a very different kind of care," she adds.

Considering the successes of this strategy, Jo notes, "I think what it showed us is that our model works. At the Royal Surrey obviously patients who are at the end of life can be cared for on any ward, and we have a specialist team go to the wards and support staff to care for these patients. End of life care is really embedded in the trust, and we were able to take this model out to another hospital. So, it reiterated that the model we've got is a pretty good one."

On the practical side of things, adapting was essential. "Patients very rarely die at Mount Alvernia as it's an elective hospital," says chief executive Louise Stead, "We had to move quickly to adapt the environment and get practical things in place. They didn't have any shrouds, so we had to take those down to the hospital in the back of somebody's car."

"Knowing that we're able to transfer those patients really quickly, and that they were going to get something which they absolutely could not have got in a COVID site was really, really important to us," Louise adds.

A positive experience for patients

"One of the great things was that we had 29 patients in all, and three of those patients improved to the point that we were able to discharge them, which was just lovely," says Jo. Two returned to care homes and one to her own home, she celebrated her 93rd birthday a couple of weeks later.

In another case, the brother of a patient who had died wrote to the trust thanking them for the lovely end of life care his brother had received. "It seemed like a strange thing to say," says Jo, "but I think it was because the end of his life was spent in such a peaceful environment."

Reflecting on the initiative, Louise commends the work of the team, "Once the decision was made to go ahead with this, it was great that the whole team came together and made it happen. And I think that's one of the things, as you try and run a scenario that you've never been in before you have to allow people complete autonomy as experts in their field to go off and do that. It's about trust in your people. You absolutely can't micromanage these things."

Conclusion

In such a challenging time in the NHS it is important to reflect on what has been accomplished over the past six months as we navigate the second wave of the pandemic. These case studies reflect just a small proportion of the ingenuity and innovation we have seen across the health service over the past six months, and they also demonstrate the huge potential that exists to transform and improve services.

"Locking in" the learning of the pandemic is now a well-worn phrase and a much repeated aspiration, and it is no less important for that. However as important is a shared understanding of the factors that enabled local leaders, services and their staff make such great strides in such a short period of time.

During the first wave of the COVID-19 pandemic the usual financial and bureaucratic obstacles to innovation were moved to one side. Previous financial constraints were temporarily lifted, meaning that investment could be made speedily and that partnerships could be more easily cemented without having to consider 'who was paying for what'. National and local regulatory controls were appropriately loosened and governance arrangements were pared down which helped to speed up decision-making. While the level four incident status of a pandemic means greater central prescription in many ways, there was also local freedom to act to get the job done without central interference.

Alongside this, and not to be downplayed, is the sense of mission and commitment that permeated all parts and levels of the NHS. It is this that we need to bottle for the challenging winter ahead and beyond.