Digital lessons from COVID: Two perspectives on the journey so far

In the words of Lenin, "*There are decades where nothing happens; and there are weeks where decades happen.*" In the first of a two-part series, Dr Y Suthahar and Dr C Mitchell, Consultant Geriatricians and members of the BGS Telehealth SIG, share some of the digital challenges and successes they have experienced during the coronavirus pandemic.

As we approach the end of the tunnel (or a break in the tunnel) and begin to reflect, increasingly we may realise that our working landscape is dramatically different. The way we work in the hospital, community, boardrooms or university is almost unrecognisable to six months ago. The COVID pandemic has enabled (or forced) the NHS to rapidly embrace the digital and remote workplace revolutions. Experienced clinicians among us will recall the clunky implementation of past government-led IT ventures. However, this time round, the change has been implemented in a near 'Big Bang', with little time for studies, costings, NHS IT incubators or accelerators. This has enabled a heady mix of readily available money (government, charities and a myriad of public champions fundraising), decentralisation, and local IT innovation; but has been driven largely by demand-led, bottom-up change facilitating the rapid adoption of technology, social media and remote working into the NHS.

What follows is an attempt to take stock and record the digital changes we have ourselves experienced, in London and Essex. Our hospitals, although both in South East England, are at different levels of digital maturity and so we hope it reflects some of the wider reality - but your experience may well differ!

Infrastructure

Dr Suthahar (Mid Essex Hospital Trust)

If your hospital is situated on an old and sprawling site then it is likely to be similar to mine with poor Wi-Fi, broadband and mobile phone network coverage. This was the first challenge in being able to deliver remote working. How do you rapidly upscale and improve the local IT infrastructure? Issues include a lack of bandwidth, servers, desktops, videocams, smartcard readers, laptops, handheld devices, number of licenses for remote IT access - and the list goes on. There has been a lot of work behind the scenes, centrally and privately to help the NHS tackle these issues, from BT to Vodafone to local charities to innovative local NHS staff. Our hospital hired a portable music festival phone mast which instantly boosted the mobile Vodafone signal to enable good mobile and 4G coverage across the site. I found that I actually received mobile phone messages faster than internet messages. Extra laptops are arriving from the government as demand rises. Webcams and smartcard readers are scant. BT has increased the hospital broadband capacity, but still we are prone to days when the internet crashes. Even working from home has been challenge as the nation also attempts to use the internet at the same time. My 'super-fast 'home broadband struggled at all times in the day (even the twilight hours) to cope with the lockdown demand (for streaming, gaming, remote working). Again, broadband connection is a postcode lottery but having access to an actual optic fibre-cable connection is a game-changer.

Dr Mitchell (Imperial College Healthcare NHS Trust)

As a 'Global Digital Exemplar', my Trust is in the privileged position of being relatively further ahead digitally than most NHS hospitals, especially in terms of electronic records, where in most areas we are essentially paper-free. The need for access to Wi-Fi all over the hospital to allow for access to medical records means we generally already had an adequate infrastructure (though speed was far from blazing and with the inevitable blackspots). Our IT department widened access to the 'eduroam' network and removed some of the

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bandwidth limitations on the publicly accessible Wi-Fi. Interestingly, the part of our infrastructure that came under the highest load and failed most spectacularly was the teleconferencing! In the early days of lockdown, multiple meetings were scheduled using the legacy phone conferencing system we were all familiar with, rapidly outstripping the provision of simultaneous users and causing many meetings to be cancelled. This then drove a rapid move to videoconferencing.

Electronic patient records

Dr Suthahar (Mid Essex Hospital Trust)

We are midway through our digitalisation journey, which has unfortunately now stalled. We thought we had subscribed to the 'magic bullet' of electronic notes with the Lorenzo patient record system, but the role-out was paused as it became apparent that Lorenzo itself was a software in development/evolution and it had not reached its optimal final form. We are caught in a no-mans land, using paper notes, hand-written drug charts, paper ECGs, mental capacity forms and DNACPR orders, while at the same time paying for licenses in multiple electronic platforms to order/view bloods, X-rays and discharge summaries. Lorenzo itself is currently used for tracking the patients' hospital episodes and for writing a electronic discharge summary. However, Lorenzos' historical ward bed display feature proved to be really good at identifying patient zero from inpatient outbreaks, as it clearly displayed the names of patients in the bay at a specified point of time in their hospital admission. This has proved invaluable in contact/patient tracing.

Dr Mitchell (Imperial College Healthcare NHS Trust)

Our Trust is almost entirely using the Cerner electronic patient record for clinical documentation, prescribing and ordering, and we have a large number of patients accessing (parts of) their own records using our Care Information Exchange (based on the Patients Know Best platform). In late March we rapidly built and deployed a COVID-19 clerking document, including a guided care pathway and standard set of investigations and therapeutic guidelines within the record. The uptake of this documentation was high although not universal, and this helped us maintain standards and rapidly acquire consistent clinical information for real-time management decisions and post-hoc audit and research. Further, it caused staff still stuck using older, entirely free-text based methods of documentation (rather

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than a blend of text with categorised and auditable chunks of data in separate fields) to move to a more modern and useful method of clinical documentation generally, and we now aim to maintain this outside of COVID presentations.

Electronic records are, in my opinion, of huge benefit in geriatric medicine. They are of course, not perfect and in some ways inferior to paper, but overall none of my colleagues or the trainees who rotate through ours and other hospitals want to go back to paper. But geriatrics in particular can benefit from a well-designed, well-used electronic record. The cornerstone of comprehensive geriatric assessment is multi-professional assessment and sharing of information. We can't make good clinical decisions unless we have a breadth of relevant information from multiple clinicians. Electronic records can make this quicker, easier and more accurate – if information is kept up-to-date and stored in sensible places, it can be found, combined, summarised and interpreted in a fraction of the time it would take to dig it all out of multiple pieces of writing on multiple pieces of paper – if you ever could find all of it!

The other major benefit of using electronic documentation has been the affordance of remote clinical working. Although our acute wards had daily consultant input during the height of the COVID crisis, the ability to remotely review/document has been invaluable for visiting specialists, remote MDT working and out-of-hours discussions, and has allowed shielding colleagues to maintain some of their clinical work (e.g. phone clinics and virtual MDTs).

Tablet devices

Dr Suthahar (Mid Essex Hospital Trust)

These hand-held devices became an invaluable channel of communication (via Facetime or Skype) between patients and their relatives. Most, if not all were secured through generous donations by staff, general public or third sector charities. They had to be re-configured by our IT department but once deployed they became an extremely powerful tool of visual communication. As visiting was halted, these devices provided the only means of visual communication between patients, the ward staff and their loved ones.

On COVID wards, families and next-of-kin were faced with impossible moral dilemma of risking a visit to a COVID area to be at the bedside of a loved one in their last moments while at the same time exposing themselves or other members of the household to a risk of infection. These hand-held devices offered an alternative way to say goodbye. The video calls were emotionally charged and draining for all involved as a ward staff member had to be a 'part of the call' in terms of operating the device.

The devices also aided in recovery, rehabilitation and discharge

planning. On older people's wards, we know what crucial roles families play in cajoling, encouraging patients to eat, drink or persevere with a rehabilitation regime. Being able to see friends and family after weeks of lockdown helped lift patients' moods and improved nutrition. We were able to have bedside best interest meetings or discharge discussions with a multi-disciplinary team, patient and families. On reflection, it is incredible to think that our wards did not have this option of communication in this age of social media. These changes look like they are here to stay, but will need some planning around information governance and how they are best utilised or implemented.

Dr Mitchell (Imperial College Healthcare NHS Trust)

Our experience was similar, although we used Samsung devices, largely supplied by the trust's charity and partners. Many older family members struggled to use their own devices however, particularly without younger or more technologically-able relatives to assist them. The devices also allowed for normal phone calls, and even without video the ability to hear a familiar voice was clearly extremely valuable for patients and relatives. As our visiting policy remains quite restrictive, we are still using the devices regularly.

Teaching

Dr Suthahar (Mid Essex Hospital Trust)

Delivering teaching has been a challenge in the COVID environment. A lot of conferences have been cancelled or replaced by virtual podcasts or webinars. The hospital departmental meeting and grand rounds had to take a pause. Medical student teaching, particularly bedside teaching, continues to be a problem with heath and safety and the 'two metre' rule. There has been plenty of innovation around the use of Virtual Reality (VR) to deliver teaching, such as immersive surgery. There has been increased use of simulation teaching through the use of high-tech dummies. Medical schools have designed virtual tutorials, or virtual patient case histories, with the consultant as an observer. Going forward there is going to be plenty of innovation and ideas of how to restart aspects of postgraduate and undergraduate teaching. Currently a lot of the exams like the PLAB and MRCP remain post-phoned. Clinical skills examinations that involve real patients like PACES or OSCEs will also be challenging, but certain stations could be done virtually through VR or video. The pace of change in the NHS over the last few months has been unprecedented. Geriatricians have again been at the forefront of this.

Dr Mitchell (Imperial College Healthcare NHS Trust)

Agreed, although by virtue of the rapid and widespread use of Teams and the good efforts of clinical staff from frontline to shielding, we have managed to maintain or quickly restart most of our regular postgraduate training online. This has had the benefit of allowing cross-site education and the use of visiting speakers more easily. The return of medical students to the wards will present an interesting challenge, but the rapid integration and upskilling of the excellent interim FY1 doctors who joined us in May and June has been of great encouragement to all of us. The future is bright, or at least there are some silver linings around the storm clouds.

Dr Y Suthahar and Dr C Mitchell
BGS Telehealth SIG

Next issue, the second part of this series will examine the apps and software which have been successful in these examples of digital transformation.