

Roundtable summary: Unified Clinical Communications Technology in the NHS

Roundtable date: June 6, 2023, 15:30 – 17:00

Background

The COVID-19 pandemic has contributed to the rapid adoption of digital technology in the NHS and prompted significant changes in the delivery of services more widely. However, communication systems in secondary care have been reliant on older equipment such as pagers and have not seen the same level of digital improvement seen in other areas of the system.

With an increased focus on improving capacity and efficiency in the NHS, Baxter convened a roundtable that brought together digital adoption experts, NHS IT leaders and healthcare professionals. The roundtable discussed how information is currently communicated between healthcare workers, how unified clinical communications (UCC) technology can streamline hospital processes and opportunities for digital communications technology adoption in the NHS.

This briefing provides a thematic summary of the points raised by participants. UCC was discussed in the round as a group of technologies that enable clinical communications. Specific technologies were not the focus of discussions.

Discussion

The NHS Technological Innovation Landscape

The NHS technology policy landscape is evolving

The NHS is currently focused on convergence of functions and organisations both nationally and locally. This can be seen in the mergers of the various NHS organisations such as NHS England and Improvement, NHS X, NHS Digital and Health Education England. These developments have caused some organisational / system leadership uncertainty and reflect a cycle that occurs typically with key changes in Government.

There is further convergence with Integrated Care Systems (ICSs) and other parts of the health service. This brings with it a need to ensure all local systems have an appropriate level of digital maturity equivalent to a HIMSS Level 5 by 2025.ⁱ There is potential to achieve this through clinical decision support solutions, electronic ordering and ICS-wide electronic-patient records (EPRs) among other means.

This innovation drive is present in all four UK nations with slight nuances but overall alignment. For example, Wales have set a longer strategyⁱⁱ than England,ⁱⁱⁱ with a strategy that goes to 2035 with the core tenets being:

- To have better use of big data
- Rationalisation of systems – aligning with England
- Fully interoperable national data
- Link data beyond the health care record
- Facilitate data sharing.

There is sometimes a disconnect between national priorities being implemented at a local level

There are limitations to ensuring all trusts achieve a HIMSS Level 5 by 2025 given the varying levels of digital competency and infrastructure challenges. Furthermore, the target itself is a moving goal

with the dates having already been extended once and potentially set to move again,^{i,iv} in line with a potential change in priorities and the upcoming General Election.

These changing timelines can make NHS Trusts question why they should implement national priorities against a given timescale when the timeline has the potential to move.

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Challenges in Clinical Communications and Technology Implementation

It was agreed that one of the greatest challenges to introducing clinical communications technology is having the basic infrastructure in place to support implementation

Having the right infrastructure is essential to the implementation of UCC technology. Infrastructure/logistical barriers can lead to Trusts shying away from considering a certain technology as it may lead to failure during implementation or be too time consuming.

Infrastructure barriers include:

- Demands on limited resources. One attendee remarked that no matter how many computers are purchased, it never seems to be enough.
- Having strong Wi-Fi connectivity across the entire site. Picking up reception anywhere is important for all teams but is particularly a priority for crash calls and Medical Emergency Teams.

Attendees also discussed the challenges associated with improving connectivity and general infrastructure. It was noted this can be:

- Too expensive.
- Too difficult and time consuming and therefore unattractive to management.
- Not possible within means, either due to connectivity issues down to geography or due to the nature of the hospital site.

Ultimately, UCC Technology is only as good as its user and the workforce must be willing to accept a new way of working and embrace the technology

Staff being receptive to a new technology is key to implementation success for two main reasons:

1. The right individuals must be in place to support the implementation and maintenance of a technology beyond an initial pilot period. Attendees discussed that it can be difficult to recruit specialist staff that can move these projects forward and prevent that cut-off period at the end of a 6-month pilot.
2. If the intended audience is reluctant to adopt a new technology, the benefits won't be fully realised. Part of this challenge is cultural. For example,
 - a) Some clinicians believe that it is a bad thing to use a phone at work and so adapting to this change may be difficult.
 - b) Patients may also tolerate the use of phones less as it may give a sense that the staff are distracted.
 - c) This varies by role. In the case of one attendee's Trust, a survey found that 100% of nurse respondents stated that they would never use their own phone at work whereas 95% of doctors preferred to use their own phone rather than a work phone.

However, attendees also identified ways of overcoming these challenges

- It is important that the right individuals are involved from the outset of a project's implementation to guarantee that its lifespan can extend past the pilot's initial phase.
- Tackling the most challenging areas first can play a role in securing buy-in from across the organisation. One attendee noted that once they implemented a system with the teams where reliable communication was deemed most urgent (crash and medical emergency team calls), implementation became less challenging.

- Identifying areas where the lack of a system was leading to inefficiencies supported the drive to innovate. Using a survey of senior house officers (SHOs), one participant noted that they found them spending three hours per shift responding to pagers.

Difficulties in procurement can further impede uptake

Procurement was identified as a limiting factor in the adoption and implementation of new UCC technology by all attendees.

Often the challenge rests in setting out the business case for the procurement of a technology. Attendees discussed the various challenges faced during the often complicated and lengthy procurement procedures.

It was also noted that lessons learned from the procurement of technologies need to be taken into account during future procurement processes.

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Benefits and limitations of UCC Technologies

Notably, the applicability of UCC technology is incredibly wide-ranging

As part of a case study (see page 5) Dr Carla Teasdale specifically noted the following examples of impactful functions:

- Early sepsis warnings.
- MEWS / PEWS (Modified Early Warning System / Paediatric Early Warning System).
- Stroke Team initiation.
- Decreasing Door to Doc times in the cases of cardiac events.

The data analytics functions of UCC technologies can allow for greater efficiencies by cutting down time-consuming administrative activities

UCC systems collect a vast amount of data allowing for administrative requirements to be fulfilled much faster. Previously staff would spend time conducting audits, compiling data and preparing reports. With UCC systems, this can be done within minutes, saving time and releasing capacity.

Data analytics functions also support improved task management

Having a range of data supports task management as key information is readily available, for example: who is logged on or available; whether a message has been received and by whom, and which tasks are outstanding. None of these tasks were easy and some were not possible with the pager system.

In a rapidly changing environment, systems must be able to respond to new events. Having an easy access view of who is available and which roles have or have not responded to a task enables efficiencies throughout the care team. This improves responsiveness to new cases or emergencies and supports easy handovers where necessary.

It was noted by one attendee that the improvement in data also led to a reduction in perceptions of error in clinical care and task management and an improvement in staff perceptions of communications.

UCC technology supports with improving patient flow, a major target of digital innovation

Outside of UCC systems, Health Care Professionals will often operate based off a task list with no context on how urgent or routine a situation may be. For example, there may be a task to 'prescribe more fluids' and this could either be a routine task or an emergency depending on the patient's condition.

Having a system that links tasks to a patient's physiological state and contains all relevant information in a unified way is hugely beneficial to improving patient flow.

Similarly, having oversight of outstanding tasks and digitising the handover saved a significant amount of time which would otherwise be spent on trying to make sense of task lists.

Data and analytics further support flow by allowing users to estimate waiting times and lengths of stay, enabling Trusts to plan more effectively around bed management.

While the technology is there – further development is required.

Attendees agreed that while current UK UCC technologies bring multiple benefits and there are a range of technologies available in the market, none meet all their needs, largely because they do not include the complexities of care processes and steps that need to be taken for each action. Another consideration is integration and how compatible they are with different systems, i.e., electronic patient records.

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What factors have spurred or can spur on adoption and implementation of digital technologies?

UCC technology was found to be convenient to use during COVID-19 when there were new demands on the system and new ways of working

The COVID-19 pandemic supported implementation as systems were found to be:

- Convenient for use under personal protective equipment (PPE).
- Provides greater value compared to traditional pager systems.
- Helpful in creating new units. For example, setting up new COVID-19 testing teams with ease by simply connecting the teams to a UCC system rather than going through the effort of setting up a phone line.

National policies such as the phasing out of pagers have also been key to the successful implementation of UCC systems

The ban on pagers by the Secretary of State for Health and Social Care at the time,^v gave an incentive to spur on the adoption of UCC. In the case of one attendee's trust, an imminently expiring pager contract alongside the UCC service implementation being cheaper provided the ideal opportunity to change systems.

Funding is a significant enabler of implementation. While front-line digitalisation is the largest pot of money available to NHS trusts, funding to support patient flow is likely to be a key focus for the current Secretary of State for Health and Social Care.

There will therefore likely be future opportunities to access funding support to implement UCC technologies which would additionally help the business case for UCC procurement.

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Key considerations for system implementation

Integration

Attendees discussed the importance of integration. It was noted that having a platform that can provide integration between EPRs, Medical Device insights and clinical communications, and has those communication abilities is incredibly important.

Once a UCC system is in place, it is important that any new digital technologies acknowledge the existing system, making sure that it integrates properly with the system already in place.

Vendor Customer Relationships

It is important that vendors communicate with the customer and adapt to feedback to improve over time. UCC systems have the capacity to adapt at scale and, notably, clinicians and staff will find themselves using the system in ways that have not previously been envisioned by either suppliers or other health systems.

It is essential that constant improvement is taking place— especially given Dr Carla Teasdale's comments (see p.5) around how every organisation will have different needs based on micro and meso-level nuances.

Varied analytics functions

Clinical communications technologies must be able to launch key data insights from various sources, especially allowing for sight of medical device data. This is important in patient monitoring and management as it allows for holistic patient monitoring and management by providing easy access to the latest information relating to a patient's condition.

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Case study presentation by Dr Carla Teasdale (Digital Health Manager, Baxter) on the evolution of unified clinical care communications in the US

Dr Carla Teasdale gave an overview of her experiences of implementing UCC technologies in the US.

The US electronic health system's market has evolved since the early 2000's following a push by the Government. In the US, technologies that support organisations to get data from multiple systems and use this effectively dominate the market and demand. It is important that when implementing a system the following points are considered:

- The source of the data.
- How clean that data is.
- How it is being used.

There are similar barriers within the US as identified in the UK

Barriers in the US to the adoption of new technologies largely resemble those in the UK. Implementation of the basic infrastructure can be costly, and the immediate benefits are rarely visible.

Some of the more remote US hospitals still struggle to adopt UCC because of these barriers although comparatively US hospitals still have a greater maturity in UCC adoption than the UK. Some of the barriers around implementation were overcome through an understanding of processes on the site, standardisation of diagnostic codes within the system as well as narrowing down the focus of the implementation to be on safety and usability rather than everything all at once.

There are a multitude of factors that prompted communications development in the US

Among the drivers of change are:

- Delayed communications and instances of phone tag.
- The need to have a secure communication system to share information.
- Excessive searching for the right clinician.
- Lengthy nurse call times.
- Decreased satisfaction with the existing process.

Importantly however, Dr Teasdale's organisation did not try to fix every problem all at once. Instead, they took the approach of focusing on safety and usability as no matter how great the system is, if it is not used, or not used correctly, a positive and permanent impact will not materialise.

A macro, meso and micro level analysis is needed for the successful implementation of UCC technology

To successfully implement a technology, there is a need to understand the macro, meso and micro level of an organisation and its environment. Perhaps most importantly, it is the macro cultural level that binds everything together.

Macro: The container that holds meso and microsystems reflecting the overall organisation, culture, and policies.

Meso: Links microsystems together to allow them to move from separate units to those that support patients along their continuum of care.

Micro: The individual departments and clinics that make up a healthcare organisation

Dr Teasdale stressed that implementing a system involves creating a new process. If that process forgets or misses someone then the whole system comes to a halt. It is for this reason that the micro-level is especially important. All stakeholders must be identified by looking at performance patterns and the characteristics of units.

By looking at the micro, meso and macro level, organisations are able to review their existing processes and then what they could look like in the future. It is important that systems do not try to take a current paper-state process and transition it into a digital process as it will not translate well.

Implementation must be role-based, taking into consideration the varying responsibilities and competencies of staff

When considering the value of data, it is important that data goes to the right role to be the most effective, rather than being sent to anyone. During the implementation process, it is important to model the process on roles rather than individuals, allowing for quicker handover by directing the relevant information to a certain group rather than individual.

One attendee found that by getting the technology to work correctly with crash and MET calls, its implementation with other staff groups effectively fell into place with ease.

Seeing results also takes time. It is important to allow time for training and education and give time to build confidence with the system as staff learn to use it.

Be cautious of platforms that try to do everything

It is important to look at Trust-specific needs, within the macro, meso and micro level and then assess that against what each system does well. It may well be that a system does everything, but it is unlikely that it will do everything well and therefore requires identification of best in class solutions to fulfil any gaps identified.

Attendees

Baxter would like to extend thanks to all participants for their time and contributions:

- Neil Perry (Chair) – Associate Digital Health Partner, SmartCo
- Dr Carla Teasdale (speaker) – Digital Health Manager, Baxter Global Medical Affairs
- Johanna Kelly – Chief Nurse Information Officer, Maidstone and Tunbridge Wells NHS Trust
- Matthew Phillips – Chief Nurse Information Officer, Royal National Orthopaedic Hospital NHS Trust
- Delyth James – Programme Lead, Life Sciences Hub Wales
- Louise Baker – Project Lead, Life Sciences Hub Wales

If you have any further questions or would like to discuss this roundtable further, please do not hesitate to contact David Humpleby, Connected Care Manager at Baxter Healthcare Ltd, at

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ⁱ HIMSS welcomes plans for EMRAM Stage 5 to become NHS baseline, available at: [HIMSS welcomes plans for EMRAM Stage 5 to become NHS baseline | Healthcare IT News](#) Accessed June 2023

ⁱⁱ Public Health Wales (2023) Our Long-Term Strategy, available at: <https://phw.nhs.wales/news/public-health-wales-vision-for-a-healthier-future-for-wales/working-together-for-a-healthier-wales/> Accessed June 2023

ⁱⁱⁱ DHSC (2022) A plan for digital health and social care, available at: <https://www.gov.uk/government/publications/a-plan-for-digital-health-and-social-care/a-plan-for-digital-health-and-social-care> Accessed June 2023

^{iv} NHS (2023) Our strategy to digitise, connect and transform. Available at: <https://transform.england.nhs.uk/digitise-connect-transform/our-strategy-to-digitise-connect-and-transform/> Accessed June 2023

^v DHSC (2019) Health and Social Care Secretary bans pagers from the NHS, available at: <https://www.gov.uk/government/news/health-and-social-care-secretary-bans-pagers-from-the-nhs> Accessed June 2023