Health and Social Care in a Digital Age

A special insight report from the IHM and Cerner

Cerner, for 40 years, working at the intersection of health care and information technology to connect people and systems, around the world.

The IHM, for over 70 years, the leading independent membership organisation for managers and leaders who organise, deliver and support health and care in the UK and across the world.





Introduction & Acknowledgements

he year 2020 has been remarkable and transformative on many levels.

Covid19 has brought bereavement, grief and sorrow across the whole of health and social care as we have lost patients and care receivers, as well as loved and valued colleagues. We must not and will not forget them.

It has also brought an immense acceleration and necessity-driven commitment to embrace new ways of working. Some of these new ways are entirely organisational in nature, but many more are driven by the adoption of health information technologies (HIT) and digital approaches to delivering health and social care.

This IHM Special Insight Report focuses on what has been achieved in HIT and digital technology and looks forward to addressing the key question of 'what happens next?'

Anecdotally, we have received feedback suggesting that following Covid phase 1, the NHS and social care has already developed its digital capability.

There is a sense, from some, that 'we've done it.'

We believe that this is a dangerous and, at the very least, unambitious mindset. Far from having 'done it' instead we should ask ourselves how to harness the energy of necessity that drove the first adoptions of HIT to drive on and improve the patient experience in any number of applications.

Aside from the IHM's own staff, this report could not have been conceived and created without the help of long term IHM commercial supporters, Cerner.

For over a decade, Cerner has provided solutions and services that allow for interoperability with disparate electronic health records and information exchanges from across traditional health and social care boundaries.

Additionally, the report has been partially written, referenced and reviewed by Wale Lawal, Physician Executive at Cerner and we are indebted to him personally for the efforts and insights which he has provided.

Shane Tickell, CEO and founder of Temple Black, has been the biggest single contributor, enabling interaction with a host of expert analysts and commentators including:

Leesa Ewing – Dr Foster

Dr Shaun O'Hanlon - EMIS

Andy Wilkins – Vision 4 Health

Prof Mike Bewick – University of Central Lancashire

Liz Ashall-Payne - Orcha

Richard Corbridge - Boots

Rob Blay - WellSky

Richard Sloggett - Policy Exchange

Malcolm Senior – NHS Digital

Andreas Haimboch-Tichy - IBM

Brian Donnelly - CECOPS

Dr Sam Shah – Faculty of Future Health

Hassan Choudray – Dept of International Trade (Digital Specialist)

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SITREP and EVOLUTION

o properly understand where to go next, it is best to briefly explore how we have arrived at our current position and reflect on the forces and energies which have driven change.

Covid19 itself wasn't the catalyst for the changes which we have seen and experienced over recent months. Instead, it provoked the necessity for immediate adoption of technologies that have begging to be used for years.

Many citizens of the UK are still bemused as to why it took a pandemic to change the minds and mindsets of clinicians, managers, patient groups, service user forums and boards.

Why exactly had there been such lethargy for, perhaps, as long as the last decade?

The answer to this question may lie in our lack of understanding the 'Why?' in making the case for change by way of poor definition or poor communication.

Having made the case for change, it is important to put the right motivators in place to effect those changes.

It has been said that, for change to happen and be sustained, 3 criteria have to be met:

- a. PRIZE If the change is carried, out what do the perpetrators receive in return? Is this a prize worth having? Is it sufficient to excite genuine effort and commitment to make the change?
- b. BELIEF assuming that the prize can be clear and attractive, are the perpetrators filled with an unshakeable belief that they will be supported, encouraged, resourced and helped to achieve it?

- Is this belief sufficient to ensure that they feel no impediment can prevent them from achieving the change?
- c. PRESSURE even with (a) and (b) secured, some kind of pressure needs to apply to force the perpetrators to start. If pressure is removed at any stage (and the type of pressure can change over time), then momentum is rapidly lost.

It can be seen, in retrospect, that, too often, all 3 of the above conditions of sustainable change were not met. From clinical mistrust of government and contracts (belief), to insufficient clarity and appeal of outcomes (prize), to absence of convincing advocates (pressure), we seemed locked into an environment of acceptance of the status quo.

In trying to understand the 'Why?' it is clear that few genuinely looked at the patient experience and declared it 'in need of improvement'. Public transport, car parking, DNAs, work inconvenience, childcare inconvenience, assisted living problems, carer availability, etc, etc – all contributed (and still contribute to too many cases) to NHS and social care interaction with care givers that is rarely marked as genuinely excellent. But who cares?

And, what's more, the care receivers rarely complain or whinge, because they worry that either they don't want to be a burden or fear consequence.

Skype was launched in August 2003 and Facetime's official launch by Apple was June 7th, 2010. Since then, most elderly relatives have enjoyed having video calls with family when distance and other circumstance have denied them a physical meeting.

The idea that a grandparent is incapable of mastering an iPhone or iPad to hold such interactions is manifestly nonsense.

So, citizens wondered, why could they not interact on a similar basis with their GP or outpatient clinic or community social worker? Straightforwardly and uncomfortably, it was because, collectively, we (the health providers) couldn't be bothered to make the change.

Until Covid19...

What were the forces and energies which catalysed change?

Science

The scientists advising government on how to respond to the pandemic quickly determined that the virus multiplied when infected people were in close proximity to non-infected people.

So, the guidance was quickly issued advising that any human interactions involving close proximity engagement were to be avoided.

It was immediately clear that the guidance would have profound implications for healthcare environments. It was impossible to undertake 'business as normal' in any healthcare setting but the general public not infected with C-19 needed the services to be provided. This led to urgent activity to design pathways and adopt technologies by which patients could be engaged and served.

Fear

Just because the clinical communities could design pathways and adopt technologies was no guarantee that patients would be prepared to embrace them.

The fact was that fear of contagion was doing a brilliant job in convincing patients and healthcare providers that they had no option other than to use the new means of consultation — even if they felt that the means were inferior.

It can be seen that the same fear provoked a public unwillingness to engage, even via the new pathways and technologies.

Common sense

Arguably, one of the most important interjections made by health leadership was by NHSX in decreeing that arguments about data confidentiality and GDPR must be secondary to providing people with a service by which their health could be preserved.

This cutting away of data bureaucracy provided immediate fuel by which the roll out of digital consultation technologies, in particular, could be accelerated.

Politics

The daily media briefings and press conferences about C-19 masked the political unease behind the scenes about the long-term damage to the nation's health which would occur if regular services became unavailable. To this end, the various agencies, consultants, suppliers and IT professionals to the NHS and social care knew that they had the political support to go ahead urgently with digital solutions.

Readiness

Whilst there was some technical development to be undertaken, the fact was that much of the immediately required technology was absolutely ready to be integrated and used.

For example, the Outpatients reconfiguration team at Morecambe Bay Hospitals NHS Trust had a suite of digital software for patient consultations ready for immediate use.

The stroke rehabilitation team at St Helens & Knowsley NHS Trust had been pioneering remote domiciliary consultations with recovering patients for months before the pandemic via Cinos. Numerous GP surgeries, via their CCGs, already had the means to engage with patients remotely if desired.

Imperative

Perhaps the most uplifting by-product of the C-19 pandemic has been watching ivory towers and departmental fiefdoms fall, as leader's realised that the imperative for action over-ruled any petty notion of power.

Teamwork across previously impossible chasms become the daily norm in many localities and regions.

The imperative to act forced the pace of change as never before and it was impossible to deflect or resist.

2. WHAT NEXT?

The first rule in preparing ourselves for the next phase, we believe, is to emphasise that everything starts from the patient / care receiver and that we should work back from them.

Andy Wilkins from Vision4Health, creators of the 'Health Beyond The Fog, report', talks about 'wrapping technology around the patient'. We agree, providing that the patient enthusiastically consents!

In addressing this, we have identified a number of factors to consider:

- a. How should we **evaluate** new technologies across health and social care to ensure that they are genuinely fit for purpose and safe for patients / care receivers?
- b. How should we ensure that any new technology properly connects into the systems of the NHS and social care such that they are genuinely **interoperable**?
- c. How do we resolve the issue of **payments** for clinical interaction and patient experience, for example NHS tariff, social care budgets and GP contracts?
- d. How should we best **procure** and deliver digital technology solutions across the NHS and social care?
- e. How do we ensure that the **patient experience** is consistently enhanced by digital health technology adoption?

A. Evaluation

Liz Ashall-Payne, CEO at Orcha, the leading medical app evaluation platform, feels that we are already at a time where the market for medical / healthcare apps is flooded with products which either do not fulfil basic quality standards or are products looking for a solution to fulfil.

In Liz's experience, only around 15% of the apps which Orcha reviews on behalf of health and social care actually meet the required standards of accuracy, security and efficacy which would enable her organisation to recommend them for widespread adoption.

Even if the apps work, there is then the thorny issue of who pays transactionally for the use of the digital products. This is something that we will explore under 'payments'.

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Other contributors have expressed frustration with the fact that there is no clear and cohesive digital strategy, understood by providers, patients and suppliers which helps to frame the solutions which NHS and social care needs.

As a result, there is a patchwork approach and no central, easy to access facility for commissioning such solutions.

Richard Sloggett, senior lead (health and social care) at the Policy Exchange think-tank, suggests that, before we evaluate digital products, we should ask what we (the specifiers) are trying to achieve nationally and locally with the products to be evaluated. How should we prioritise our aims?

He observes; the NHS appears to be good at commissioning pilot studies, but poor at extending to scale.

Manifestly we don't want to scale everything to a national procurement approach, so how do we determine what should be?

NHS Digital has recently launched its much-heralded DTAC evaluation programme for digital technologies and we support it. It focuses on the 5 key evaluation topics of:

- Clinical safety
- Data protection
- Technical assurance
- Interoperability
- Use-ability & accessibility

To our minds, this is an important step forward in providing a consistent approach to evaluation of digital technologies of all types.

One could also suggest that the DTAC evaluation can be addressed via 3 questions which we have compiled:

- i. Does it properly, thoroughly and reliably provide a desirable solution for the user & patient?
- ii. Does it provide good value for money for the payer and how is this value determined?
- iii. Can it be effectively procured and deployed at the required scale?

Our recommendations for Evaluation:

- 1. That the DTAC process and IHM questions be addressed before any tendering or roll out of digital technology is considered.
- 2. Positive responses to the DTAC and IHM questions should be qualifying steps for a product to fulfil before it can be considered for procurement at local or national level.
- 3. Orcha's methodology for rapidly and thoroughly appraising apps at scale through a defined process should be a mandated route for apps to follow.

B. Interoperability

Much is spoken of the need for digital health solutions to be interoperable which, to us, means that they must be able to interact with existing systems and data dashboards so that use and results can be appropriately logged and used.

Most health and social care organisations across the UK will have their own examples of products and services bought following a compelling sales presentation. Once bought and installed, the truth emerges that they are stand-alone products, their useless functionality bearing testament to a wasted opportunity.

A lot has been made about the importance of standards in helping to achieve seamless interoperability between digital information systems.

However, we find ourselves having to grapple with a plethora of information modelling, coding and data exchange standards - ICD-10, SNOMED CT, OPCS4, various flavours of specialist data subsets, locally defined code sets, HL7 v2, FHIR, CDA, openEHR...

The alphabet soup goes on and on...

Whilst the advent of these standards is in itself well intended, the implementation has been somewhat misguided to the point that there is a distinct lack of standardisation across all of these standards.

It is therefore unfortunate that in many cases, frontline healthcare professionals, responsible for maintaining the integrity of health records, are subjected to user experiences that are less than optimal, in order to fulfil the requirements for the multiple standards at play.

To address these challenges, it is important that a couple of things happen:

There needs to be clear strategy, roadmap and direction from the centre to rationalise the number of standards required for the key use cases.

We need to take advantage of existing technology platforms that are not only capable of handling information from systems based on multiple standards, but is also capable of transforming that data in a way that the aggregated data can be used to provides meaningful insights on patient outcomes.

And, support the various operational and clinical decision making processes important for the care of the health and wellbeing of citizens.

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Dr Shaun O'Hanlon, Chief Medical and Strategy Officer of EMIS, makes the point that for interoperability to stand a chance, we first need to act to upgrade the myriad legacy systems across health and social care which obstruct, through their obsolescence, the ability of newer products and systems to properly interact.

Rob Blay CEO at WellSky International echoes Shaun's point and also talks of the need to subject health and social care organisations to digital maturity assessments – an independent audit of the systems, competencies and hardware currently available so that decisions around new developments can be made based on practicality.

For Rob, the idea of national roll out of new digital technologies is mired in difficulty caused by the inconsistency of systems from organisation to organisation.

The capacity and capability of the health system to procure and deploy anything at national scale is fatally compromised until the situation is properly understood.

All of which suggests that new digital technology procurement and deployment can only take place at a local level – and is therefore subject to the interoperability issues between localities and regions which we are so desperate to end.

Leesa Ewing Commercial Director of Dr Foster points out that most hospital PAS (patient administration systems) have a lifespan of around 15 years which, in the context of developmental speed of new digital technologies, almost binds in legacy issues for the last few years of the PAS 'life'.

Moreover, because of the way in which the NHS, in particular, is organised, most trusts (certainly those of an FT disposition) are free to make their own, local decisions around procurement and deployment of technology. The question is, do they have the leadership skills and aptitudes around IT to do so effectively, particularly given the need for interoperability?

Our recommendations for addressing the issue of interoperability are:

- i. Assign a centralised budget to oversee, via NHSX, a standardised audit of systems, competencies and hardware, by trust or region (in order to include social care) to properly quantify the scale of legacy issues built into the current environment.
- ii. Create a cohesive digital strategy, shared with all organisations and the general public, in order to help the healthcare community to embrace interoperability.
- iii. Again, overseen by NHSX, but with contribution from the supplier sector, there should be a rationalization of the standards applied to technology procurement and specification. We encourage NHSX to complete this within a 12month timeframe from now.

C. Payments

A recurring issue from commentators to whom we spoke in the context of this report is the question of 'who pays?'.

That the technology is useful and effective may not be in doubt, but the extent to which it will disrupt existing payment processes is very significant.

Certainly, within acute and mental health trusts, the issue of payment in respect of adopting new digital technologies is bound by the centrally controlled and determined NHS Tariff.

Every conceivable interaction with a patient is subject to an element of the tariff, which determines the amount of money to be paid to the hospital from NHSEI.

The annual budget process for each Trust makes estimates of the number and scale of patient interactions, by tariff code, based on the number and scale experienced the previous year.

In outpatients, as an example of the problem, the tariff sets national prices for consultant led outpatient attendances based on clinic type, categorised according to something called the treatment function code.

First patient attendance at a consultant-led trauma and orthopaedics clinic yields a payment of £162 to the Trust. Each follow up attendance is costed at £64.

For diabetic medicine, the figures are £116 and £91.

For respiratory physiology, £155 and £77 respectively.

The whole system is predicated on these outpatient appointments taking place on the hospital estate and is a significant revenue stream for Trusts.

If they are now to conduct many of such interactions via digital video technology, then it is clear that the tariff will need to be changed (downwards) given that the hospital overhead cost will be much reduced.

In primary care, there is much comment about the extent to which digital technology has revolutionised consultations and triage and, for many but not all patients, this is absolutely for the better. But the GP contract is absolutely not based on the use of digital video technology to interact with patients.

And the length of time required to negotiate new contracts with Doctor's unions and other representative bodies is substantial...

In mental health, there are some terrific <u>examples of digital technology</u> being used effectively to both keep patients safe from C-19 and look after their needs.

Sussex partnership FT has developed the capacity to hold 15,000 virtual consultations every 3 months with their patients.

Basingstoke CYPMH team has developed digital provision of therapy across the region for their young patients.

All great stuff – but miles away from the basis on which payment for mental health services via the tariff has been designed.

In local government, the costs for care and the budgets thereof were designed for a very different environment, so the use of digital technology is just as disruptive to such payments as in the NHS.

Our recommendations for addressing payment functionality for digital health technology are :

- Firstly, recognise that care providers across the space rely on the efficient and full payment for their services based on tariffs and contracts designed for another age.
- ii. In the acute setting (including mental health) a new and proper tariff must be urgently drawn up which encourages trusts to move to the use of digital technology and recognises that the overhead cost is considerably reduced.
- iii. Conduct local space utilisation audits (via Estates departments) to positively consider alternative use for spaces such as outpatient departments. Day case surgery, for example (which is subject to full tariff).
- iv. Engage with medical schools, royal colleges and Health Education England to advance technical solutions (via digital technology) for a range of consultations, diagnostics and treatments. Work these into the new tariff.

D. Procurement

As a consequence of C-19, patients have HAD to go digital, a point well made by Shaun O'Hanlon. It was an imperative over which patients had little or no choice if they wanted to access health and social care services.

The question is, therefore, whether it is a bone fide improvement? Truth told, data on the effectiveness of the digital transformation from a patient outcome perspective is not yet available.

Shaun talks about C-19 being healthcare's online banking moment. Very rapidly (actually within the space of weeks), patients used the new services and for many, at least anecdotally, the experience is sufficiently positive that they would not want to go back.

Health and social care providers are now obliged by public demand to develop these services further.

Another question, therefore, is whether we have the procurement leadership, skills, knowledge and understanding, consistently across the country, to do justice to patient demand.

In short, are we good enough at specifying what we want from technology and smart enough to appraise solutions properly?

The jury is out.

Richard Corbridge, CIO at Boots UK addresses the issue by asking 'how do health managers give industry / suppliers confidence that they are safe and interaction won't be on media front pages'?

Back to Rob Blay of WellSky asking whether the skill mix of health and social care managers responsible for specifying and contracting for IT services is appropriate.

What is clear is that, when conditions and skill sets are aligned, the results can be impressive.

St Helens & Knowsley rolled out e-prescribing at the outset of C-19 within 72 hours of realising that a digital solution was required – and the system is working terrifically.

Via the NHS Attend Anywhere initiative, Taunton Hospitals NHS Trust immediately launched a new outpatients service when Covid first struck and are now running their estimated 200,000 outpatient appointments through that mechanism.

Perhaps it is sensible to ask what those conditions of alignment are?

We think, 'conditions are right' means that

- (a) there is demand / necessity for a digital solution
- (b) there is a genuine capability to provide and manage it and...
- (c) there is collective will to make it happen.

Back, therefore, to our fundamental rule at the beginning of this section:

START FROM THE PATIENT & WORK BACKWARDS

We all want our NHS and social care sector, fundamentally to serve the patient / service receiver, so this has to be central when considering new technology solutions.

There is no question that digital solutions and the technology therein are seductive and very much 'of the moment' in health and social care.

But procurement needs to be difficult to seduce.

Just because solutions are available does not mean that they are better for patients.

It is critical to understand the problem that needs solving or the opportunity to be addressed.

Perhaps procurement needs to be the ultimate barrier to our all getting carried away with the excitement at the full dawning of a digitally enabled health service.

Therefore we need to ensure that procurement involves rigorous interrogation of the tender documents and background rationale to make certain that the patient experience is always top of the list.

Additionally, and referenced by Malcolm Senior at NHS Digital, the availability of accurate, reliable and timely data needs to be a certainty for procurement teams planning their projects.

Right now, this is not always the case with data held in a number of disparate locations.

Our recommendations for procurement are:

- i. If new digital health 'solutions' cannot demonstrate a clear interoperability functionality then they should be treated with the utmost caution.
- ii. There should be an absolute determination to 'leave no one behind' during the acceleration in adoption of digital healthcare. There must be designed mechanisms for enabling use across the health and social care landscape irrespective of individual technical skill / capability.
- iii. NHSX and HEE should consider how to boost the skills of procurement personnel and extended project teams in respect of digital technology understanding and confidence. How to create and publish a comprehensive and effective contract tender should be at the top of the syllabus.
- iv. There should be a dedicated central repository of data which procurement project teams can access to assess demand and claims for digital services. An amalgamation of information and guidance from PHE, NHS Digital, SAGE, Local Government and elsewhere as appropriate, including from within the digital technology sector itself.

E. Patient Experience

Andreas Haimboech-Tichy, IBM's Director of Health, Social Care & Life Sciences, makes the point that our real achievement to date in accelerating the adoption of digital technology is to move from paper to digital. His question is how we move forward to change the nature of consultation and use technology to enhance the experience?

Right now, there are emerging technological advances in elements such as speech recognition, tone evaluation and facial expression indicators, all of which can contribute to addressing Andreas' question.

It all leads, perhaps, to the larger question of how we empower people to take care of their own care.

A good example of this in action recently has been that of Cwm Taff Health Board in Wales which has launched <u>CERi</u>, a Welsh and English-speaking AI enabled virtual assistant which can help answer information requests relating to Covid-19.

Subject content includes advice on how to isolate effectively, prepare food, protect family members, manage symptoms and dealing with anxiety, all enabled through CERi's ability to convey empathy and understanding.

Another example we are pleased to reference is Wessex Healthcare's Kidney Centre and the My Renal Care digital solution which is available to the estimated 1,500 patients referred to the centre in Portsmouth. Enabling patients to monitor their own dialysis sessions, prescriptions, target weight, symptoms and general wellness, the app-based approach is proving popular with patients and helpful to clinicians, providing a real time record of patient experience.

Finally, from the social care sector, the National Care Forum references work which they have undertaken through their <u>Hubble</u> digital pathfinder project in respect of 3 care home settings where digital technology has been adopted to improve the experience of residents and staff and boost safety.

All of the above is taking patient / service user experience seriously and working in partnership with individuals and patient groups to wrap the design of the digital service around patient need.

Our recommendations for addressing patient experience are:

- Create patient feedback methodology for all new digital technology roll outs, such that patient issues can be quickly and reliably addressed. The feedback mechanism should be embedded in the digital technology user interface.
- ii. Recognise that many patients / service users will struggle with using new technology due to a range of issues including poor wifi connectivity / broadband strength, anxiety about technology and lack of hardware capable of support. Answer the question of 'how do such patients receive support which the digital solution enables?'.
- iii. Freely publish data about patient / service user interface quality with the digital technology. Make the user issues transparent and open such that solutions can be sought / discussed.
- iv. Understand that provision of digital kit and tools is not the same as providing a digital solution. Service design comes first, with the digital technology then being used to meet the ambition of that service design.

3. WHERE TO FIND EXCELLENCE & INSPIRATION

The following case studies have emerged during our preparation of this report and we use them as reference points for IHM members, keen to learn more about potential solutions across a range of topics.

i. Patient health records

Milton Keynes hospitals is one of the first in the UK to enable patients to view their consolidated health records directly, via an app on their smart phone or tablet

More here

ii. Interoperable care records across a region

We cannot recommend anything better than the fantastic Great North Care system which has now been up and running for a couple of years and connects 400+ GPs, 11 Health Trusts, 13 local authorities, 8 clinical commissioning groups, and 3 out of hours providers so that patient / service user records are instantly available to all.

More here

iii. Remote monitoring in care

The London Borough of Bexley in partnership with digital technology provider Docobo has done a first-class job of implementing a service user monitoring programme which has dramatically reduced GP visits and 999 A&E attendance.

More here

iv. Online mental health support

2 examples to reference here. Cumbria, Northumberland, Tyne & Wear NHS Trust have a terrific 'First Step' online system for helping patients to self-manage / appraise.

More here

Mid Essex Clinical Commissioning Group has partnered with Silvercloud to provide a similar service.

More here

v. Full System Integration across a health landscape

In our opinion, our IHM Regional Hub member for the West Midlands, the Royal Wolverhampton Hospital Trust, is a leading exemplar of full system integration. Using tele-tracking and patient level data to anticipate care needs, via their partnership with Babylon, the system is already rolled out and working.

More here

vi. Virtual Visiting

Providing opportunities for patient and service user families and friends to visit during the current pandemic is a huge and thorny issue, pitching pandemic safety against wider wellbeing. We acknowledge the work that Kettering General Hospital has done in this regard to enable virtual visiting without having patients rely on their own devices and variable patient wifi.

More here

vii. E-Red Bag

The transfer of frail, older people from care homes to health provider organisations has, for many years, been eased by a patient red bag, containing the patient's personal belongings as well as key information about medication and condition. Sutton Council has recently been evaluating an e-Red bag whereby the information is digitised.

More here

viii. Digital Medicines Support in Domiciliary Care

Supporting people receiving care in their own homes would be enormously improved with a digital solution for medicines management. Digital Social Care has generated a specification which is well worth a read.

More here

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