



**North Yorkshire Health and Wellbeing Board – Digital Theme – Proposed Strategy and approach to “Dragon’s Den” Event**

**23<sup>rd</sup> November 2018**

**Presented by: Robert Ling, Assistant Director, Technology and Change – Digital Lead on the Health and Wellbeing Board**

**Summary:**

The enclosed report provides

- An update on progress on the Digital Theme.
- A suggested Green Paper setting out a vision and a way forward, following the initial Workshop in March 2018 and updates that I provided to the Board in May and September 2018.
- A suggested approach to a Dragon’s Den type Event.
- Overview of Local Health and Care Record Exemplars activity.
- Funding opportunity for Population Health Management.
- Future activity.

**Which of the themes and/or enablers in the North Yorkshire Joint Health & Wellbeing Strategy are addressed in this paper?**

[Please tick as appropriate]

Themes	
Connected Communities	✓
Start Well	✓
Live Well	✓
Age Well	✓
Dying Well	✓
Enablers	
A new relationship with people using services	✓
Workforce	✓
Technology	✓
Economic Prosperity	✓

**How does this paper fit with other strategies and plans in place in North Yorkshire?**

- North Yorkshire 2020
  - Better Care Fund
  - CCG Local Digital Roadmaps
  - Assistive Technology Strategy
- 

**What do you want the Health & Wellbeing Board to do as a result of this paper?**

- a) note the progress made;
- b) approve the draft Green Paper for wider consultation;
- c) comment on the suggested approach to a Dragon's Den type Event; and
- d) note the funding for Population Health Management in Harrogate and Rural District CCG

## **NORTH YORKSHIRE HEALTH AND WELLBEING BOARD – 23 NOVEMBER 2018**

### **Report by the HWB Digital Lead – Robert Ling**

#### **North Yorkshire Health and Wellbeing Board – Digital Theme – Proposed Strategy and approach to “Dragon’s Den” Event**

#### **1. Purpose of Report**

##### **1.1 To provide:-**

- An update on progress on the Digital Theme;
- A suggested Green Paper setting out a vision and a way forward, following the initial Workshop in March 2018 and updates that I provided to the Board in May and September 2018;
- A suggested approach to a Dragon’s Den type Event.
- Overview of Local Health and Care Record Exemplars activity
- Funding opportunity for Population Health Management
- Future activity

#### **2. Digital Strategy**

2.1 In building on the broader approach to the North Yorkshire digital strategy, a Green Paper has been produced, *My Health, My Technology*, as a vision for the use of digital technology within health and social care across North Yorkshire. The draft paper is attached as Annex A.

2.2 The paper sets out a number of scenarios from both a North Yorkshire resident and an employee perspective, within a Health and Social Care organisation, building a vision of what accessing services or working in the county will be like in the next 5 to 10 years. The scenarios should be an accessible vision for all to understand, challenge, and build upon.

2.3 In order to develop and broaden the understanding of the scenarios a number of broader engagement events have been utilised to engage with front line staff to develop awareness and identify opportunities for future development and test the concepts behind the Green Paper. A number of sessions as part of the Harrogate Integrated Community Health and Social Care Programme have been utilised along with a broader Harrogate Borough Council event looking at Local Challenges, as well as a series of Digital Labs in North Yorkshire County Council. Common themes have been identified from all of the sessions which reinforced the approach and identified further actions to undertake.

2.4 Action plans now need to be developed to address the common themes identified:

- Data sharing and consent
- Access to the right employee technology
- Employee digital skills and awareness
- Citizen digital skills and awareness
- Connectivity infrastructure and inclusion

### **3 Dragon's Den Event**

- 3.1 The working title of the Dragons Den idea is being developed along the same lines as the GovTech Catalyst. The GovTech Catalyst has a comprehensive approach to delivering innovation into the public sector. It supports public sector organisations to find innovative solutions to operational service and policy delivery challenges.
- 3.2 GovTech Catalyst competitions help the public sector identify and work with cutting edge technology firms. The GovTech Fund, awarded via competitions, provides support to define, develop, test and access creative solutions to complex public sector problems.
- 3.3 The proposal is to use the approach as a template to drive new innovative approaches to drive efficiency and productivity into the broader Health and Wellbeing agenda. A request is being made to utilise £50k of iBCF funding to fund the approach. Current thinking is on utilising the funding to run at least two competition streams to maximise the ideas across the sector. A focus on current Health and Wellbeing priority areas of Mental Health and Housing may be advantageous. The next Health and Wellbeing update will focus on this action.

### **4 Local Health & Care Record Exemplars (LHCRE)**

- 4.1 By March 2020, NHS England expect the Exemplars to have delivered all of the following objectives, and to have demonstrated significant progress towards them by March 2019:
- Health and care professionals involved in a person's care have safe and secure access in near real-time to a comprehensive care record and care plans that have been linked, de-duplicated and normalised to standard coding terminologies, comprising the pertinent individual level information they need to inform their care decisions, when and where they need it, fed from local systems and with links to the other LHCREs;
  - That solutions are based on open standards and create a common longitudinal record for an individual regardless of the source systems contributing to that record;
  - De-personalised information from the records are being used to support the delivery of population health management approaches;
  - Demonstrating the ways in which they have engaged and communicated to the public and evidence that those messages have been heard and understood and any feedback acted upon;
  - Citizens and carers are empowered to manage their own care through having access to their own health and care record.
- 4.2 To date, a number of regular groups have been established to which a number of representatives from partner organisations sit. They include the Monthly Delivery Board and the overarching Digital Care Board. A range of engagement groups have also being created to engage with broader stakeholders such as the Architecture Reference Group (28/9), IG Reference Group (21/11), Clinical and Care Professionals Workshop (27/11). North Yorkshire County Council and Harrogate District Trust have put themselves forward for early adopter status.

### **5 Population Health Management**

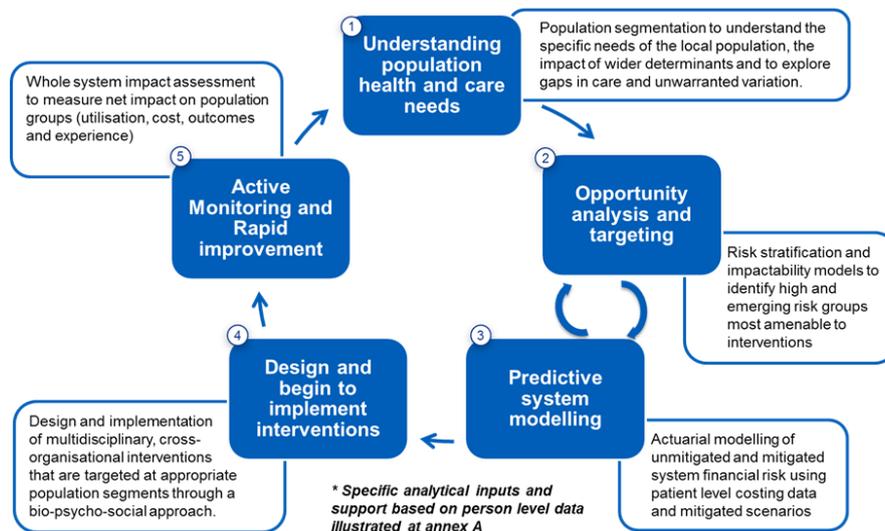
- 5.1 Population Health Management (PHM) seeks to improve population health by data driven planning and delivery of proactive care to achieve maximum impact. It includes segmentation, stratification and impactability modelling to identify local 'at risk' cohorts - and, in turn, designing and targeting interventions to prevent ill-health and to improve care

and support for people with ongoing health conditions and reducing unwarranted variations in outcomes.

5.2 NHS England have defined three core capabilities for Population Health Management:

- Infrastructure - basic building blocks that must be in place
- Intelligence - Opportunities to improve care quality, efficiency and equity
- Interventions - Care models focusing on proactive interventions to prevent illness, reduce the risk of hospitalisation and address inequalities

5.3 Funding has been made available (working assumption £37k) for the Harrogate and Rural District area to be spent this financial year through the West Yorkshire and Harrogate Health and Care Partnership. In order to develop population health management (PHM) capability and capacity, NHS England would like systems to make demonstrable progress by the end March 2019, in applying the PHM development cycle (see Figure below) in order to design care around specific cohorts, including at least one clinical priority (with evidence of how this aligns to local need). Work is now underway to deliver to this timescale. Similar discussions are underway within the Cumbria and North East ICS, including HRW partner organisations.



## 6 Future activity

- 6.1 Work continues to define the approach to removing the use of faxes within the broader Health and Social Care Sector. This work is building momentum with a national campaign to "Axe the Fax" and the continued focus on reduction in transfers of care.
- 6.2 A meeting had been arranged for Will Smart the CIO of NHS England to visit North Yorkshire County Council in December and hear about the broader work being undertaken around the Digital Strategy and LHCRE. Unfortunately this has now been delayed until February 2019.

## 7 Recommendations

The Board is asked to:-

- a) note the progress made;
- b) approve the draft Green Paper for wider consultation;
- c) comment on the suggested approach to a Dragon's Den type Event; and

- d) note the funding for Population Health Management in Harrogate and Rural District CCG

Robert Ling  
Assistant Director, Technology and Change

# My Health, My Technology

**A vision for the use of digital technology within health & social care across North Yorkshire**

**North Yorkshire Health & Wellbeing Board Digital Strategy**

## Introduction

Digital technology is about how most of us now live our lives. It is all about people. And how we use technology to live well; to make choices; and to get support and treatment when we need it. And it is about us, as individuals and communities being in control: hence *My Digital*.

This digital health and social care strategy for North Yorkshire has been commissioned by the North Yorkshire Health and Wellbeing Board to set out a vision for the use of digital technology across the county in the future, looking five to ten years ahead.

North Yorkshire is England's largest county. It has two large towns (Harrogate and Scarborough) and a number of smaller market towns and large villages, but outside these the county is generally very sparsely populated and is extremely rural in places. These characteristics present particular challenges in delivering health, social care and wellbeing services across the area, particularly relating to the considerable distances to be travelled by people who use services and those who provide them.

How services are commissioned and provided is also complicated - the five Clinical Commissioning Groups (CCGs) and six main NHS Trusts covering the county work together with the County Council, seven district councils, two national parks, more than 70 GP surgeries, in excess of 500 care providers and thousands of voluntary and community organisations, to deliver health and social care services across North Yorkshire. The county is also covered by the footprint of three Sustainability and Transformation Plan (STP) / Integrated Care System (ICS) areas which develop 'place-based plans' for the future of health and care services in their area. These are Cumbria and the North East, Humber, Coast & Vale and West Yorkshire and Harrogate, each of which also cover areas outside North Yorkshire.

Equally, Local Government has an ambitious agenda for digital, at county and district levels. Roll-out of Superfast broadband is a key economic and social priority and, increasingly, Councils are moving into the use of robotics and other digital technology as a core service offer.

Within this context, this document sets out the aims of the North Yorkshire Health and Wellbeing Board for digital technology to become a core element of service delivery. It focuses on the five key objectives of the overarching North Yorkshire Digital Strategy – Thinking and Working Smarter; Digital and Smart Communities; Skills for a Digital Age; Connected North Yorkshire; and Smart Businesses and Growth, which aim to ensure that North Yorkshire becomes “a smart County that uses technology in our operations and service delivery to improve the outcomes and the lives of the people we serve”.

<b>Thinking and Working Smarter</b>	<b>Digital and Smart Communities</b>	<b>Skills for a Digital Age</b>	<b>Connected North Yorkshire</b>	<b>Smart Businesses and Growth</b>
Accelerating digital transformation in the public sector	Invest in our communities to develop sustainable neighbourhoods	Collaborate with partners to grow digital skills and talent to harness the opportunities offered by the digital world	Enabling the county to be better connected	North Yorkshire is digitally enabled to be the catalyst for economic growth

## Change is here

In October 2018 the Department of Health & Social Care published a policy paper - '[The future of healthcare: our vision for digital, data and technology in health and care](#)'. It highlighted the difficulties faced by the NHS and the social care sector, caused by the use of outdated technology systems which do not talk to each other and do not allow potential efficiency savings to be achieved. It set out a future where data-driven technologies will support preventative, predictive and personalised care.

Recent developments in technology have created a range of improved data sharing systems, with enhanced interoperability, together with affordable commercial devices which could have the potential to deliver innovative solutions to existing issues within the health and care sector.

By harnessing these resources to tackle the challenges presented across the county, and to meet the needs of users, the North Yorkshire Health and Wellbeing board will deliver *My Health, My Technology* - an innovative data and technology focused service.

This strategy is about:

- Building on what we are already doing
- Crucially, using the technology that many of us are already using in our own lives and adopting this technology to improve prevention, self-care, assessment, diagnostics, treatment, care and support
- Being ambitious as to how technology could address the challenges that North Yorkshire faces
- Improving how we use data, intelligence and analysis
- Using technology to co-produce advice, information, self-help, services and support with people who use services and colleagues who work with them

The scenarios below show how the future will look, focusing on examples of *My Health, My Digital* innovations from the perspective of a North Yorkshire resident, a Health & Social Care worker and a Health & Social Care Manager working in North Yorkshire five to ten years from now.

### My Life, My Technology – A North Yorkshire Resident

As someone contacting or using health and social care services, in the future I will have a range of healthtech options available to me. These will enable me to meet my health objectives and allow me to track and monitor my health status. If I have a long term health issue, then better control will allow me to maintain my independence to a greater extent and for a longer period, without the need for a residential placement.

I will use devices such as digital scales and Fitbits, linked to apps on my smart phone and tablet, to provide real-time information on my physical activity levels and my progress towards reaching my health goals. If I am not able to get outside I will be able to use Virtual Reality devices to encourage me to exercise by generating a virtual outdoor environment. Such devices will bring an element of 'gamification' to encourage me to achieve my targets and to be more active, either by competing against my peers or aiming to beat my personal best. My personal targets will be tailored to take into account my multiple morbidity conditions.

If I have a condition such as diabetes, it will be controlled more accurately, through devices which monitor my blood sugar levels more frequently than is currently possible, such as the FreeStyle Libre flash monitoring device which will be made available to qualifying Type 1 diabetics through the NHS from April 2019. Such devices will improve my quality of life by removing the need for frequent daily blood tests and in the future will provide me with reminders when I need to take medication and also send alerts to my health and social care workers or to a family member if I have missed the medication that I need.

Online ordering of my prescriptions will be enhanced with automated routine prescribing and tailored dosing changes. These will be driven by the output of my smart monitoring devices, which will also check that I am adhering to guidance on the safe use of my medication.

Following a hospital stay, my virtually assisted home will use technology to help me to regain my independence. To achieve this, I will use skills developed during my stay in a step up step down bed. This rehabilitation period will have provided the opportunity for me to become familiar with the technology, decide what works best for me and to learn how to use it. This will have been an integral part of my reablement care package and will help me to remain fit and well.

If my home needs an adaptation, the occupational therapist will use app technology to re-design the rooms and to involve me in decisions about these designs. Connected devices such as fall detection mats and acoustic monitoring systems will provide alerts to a warden, or to the emergency services, if I have a fall or shout for assistance. Smart sockets and smart domestic controls will be incorporated. These will check that I have made regular drinks, taken food out of my smart fridge and that my home is being heated to an adequate temperature. Where this is not the case an alert will be sent to my health and social care workers or to a member of my family.

Robotic devices will help with my care, for example, by assisting me to lift myself into and out of bed or a bath. This will provide me with greater independence and will reduce the requirement for double-handed care.

If I have a mental health issue, I will be able to access peer to peer support, as and when it is needed, using communications technology such as Skype and Facetime. This technology will also allow me to communicate more easily with health and care workers, without the need to attend traditional face-to-face appointments. I will also be able to use accredited therapy services online.

Within the overall, North Yorkshire Digital Strategy, the Delivering My Independence workstream will help to meet the Digital and Smart Communities, Skills for a Digital Age and the Thinking and Working Smarter objectives of the North Yorkshire Digital Strategy.

### **My Story, My Technology – A North Yorkshire Resident**

As someone who makes contact with, or uses social care services, in the future I will have an integrated health and social care record. This will be a single customer record, which is tradable and usable anywhere in the North Yorkshire health and social care system. It will provide me with an improved customer experience and an enhanced level of service by presenting my health and social care workers with an accurate 'single version of the truth'.

If I have capacity and can consent, I will have control over my record and be empowered to share my information as I choose, with the professionals who I decide to allow access to it.

Provided that I have capacity and am able to consent, I will be able to co-create my regular care plan, to build 'My Story' by contributing video diaries and blogs, authoring them on the platform of my choice. This may include recording information about my working life and my family, following a diagnosis of dementia. This will be shared with health and social care workers at a

time when I am not able to communicate my memories effectively, to provide insight into my background and my personality.

To deliver this, enhanced open data and information sharing initiatives will be developed which will allow for cross-platform interoperability. Information systems will be able to share, read and write to Local Health and Care Records (LHCR) across the full range of health and social care organisations, using common data standards.

The ability to create my story will build on the Thinking and Working Smarter objective of the North Yorkshire Digital Strategy.

### **My Services, My Technology – A North Yorkshire Resident**

As someone making contact with, or using services, much of my interaction with the health and social care system in the future will be carried out online. From booking an outpatient appointment or arranging a time for a social care assessment, I will be able to make the arrangements via a web site.

Secure online systems will allow me to carry out my own online financial assessments, so that the administration of social care may be achieved more efficiently. This will free-up the resources of the social care team to focus on the reduced frequency of occasions when I do need a face-to-face meeting.

Many of my consultations and outpatient appointments will be carried out remotely, using technologies such as Skype and Facetime. This will allow me to access expertise from specialists outside my home area and have appointments without the need to physically travel large distances across the county to attend them. This will be of particular benefit if I have found it difficult, for example, to get to a morning appointment due to the set time of my home care services – and potentially, it will, in time, allow me to book my home care services at a time that suits me and the service provider. This type of telemedicine service is already available to patients in some rural areas, such as that served by Airedale NHS Foundation Trust, via a system which provides patients and health and social care workers in care homes with ‘always on’ access to health professionals at Airedale General Hospital via one-to-one audio-visual communications to support healthcare and social care in the community.

Innovations of this type will mean that, not only do I not have to travel to hospital, I will also be able to access these services from home or from my local GP surgery. Robotic diagnosis may be offered to me if I have a highly complex condition, allowing me to receive care remotely from specialists in my condition anywhere in the world. When I need surgery, doctors may use robotics to help treat me.

If I require support during an assessment or consultation, a friend or member of my family who would not otherwise be able to attend a meeting will be able take part in the appointment remotely, joining in the conversation using existing communication software.

My Services will form part of the Thinking and Working Smarter, Digital and Smart Communities, Skills for a Digital Age and the Connected North Yorkshire objectives of the North Yorkshire Digital Strategy.

### **My Job, My Technology - A North Yorkshire Health & Social Care Worker**

As a worker in health or social care, I will be able to work from a variety of locations, benefiting from investments in Superfast fibre broadband and mobile connectivity across the county and developments such as GovRoam which will allow my laptop to connect seamlessly to Wi-Fi as I

move between council offices, hospitals and GP surgeries. This will allow me to access information on my cases and clients wherever I am working.

I will contribute to virtual 'huddles', as part of a multi-disciplinary team of professionals, alongside colleagues from GP practices, community health and social care. We will hold discussions via video links, without the need to travel long distances in order to be co-located for decision-making meetings. Inter-operability between our IT systems will allow us to share information between our respective organisations. We will be able to access and contribute to the patient's Local Health Care Record (LHCR). This will ensure that information is available across multiple care settings and specialities, with professionals involved in a person's care to have immediate access to a comprehensive care record to inform their care decisions, when and where they need it.

Artificial Intelligence (AI) technology will be used to screen and triage the social care requirements of the people on my caseload. Initial assessments and the diagnosis of health conditions will be carried out more quickly and more accurately than using human judgement. This improved service will build on existing technologies such as those currently used by Moorfield's Eye Hospital, through which AI is able to identify more than 50 eye diseases with 94% accuracy.

A range of NHS apps will be developed to diagnose common conditions. For example, if a patient is concerned about a mole, a skin check app will be available. This will allow patients to upload a photo of the mole and to provide responses to a questionnaire. These will be automatically analysed and the patient will be provided with immediate reassurance or be able to arrange an appointment for a video consultation at a convenient time. The photo and questionnaire responses will be added to the patient's LHCR, to provide a holistic view of their history to the GP surgery and the hospital consultant.

Technology will allow for innovative training techniques. For example, as an occupational therapist I will use virtual reality to learn to assess a virtual home for hazards, developing new skills more effectively, which I can then apply in the real world.

Working as a digital practitioner will become a core part of my job. The new systems will be intuitive and usable by frontline workers and I will work with colleagues from teams across health & social care to ensure the successful adoption of new technology. Part of this will involve joint training sessions to learn digital skills together, and to develop a better appreciation of how each part of the health and social care sector uses aspects of the technology. This will allow me to have a broader understanding of the system and how colleagues use the information that I provide.

Health and Social Care workers and people who use services will train and learn together to develop knowledge of new technology.

### **My Job, My Technology – A North Yorkshire Health & Social Care Manager**

In my management role in health or social care, I will be able to meet the requirements of patients and people who use services, as well as the preferences of my colleagues, most effectively through the use of electronic management information systems, including e-Rostering of teams where appropriate. AI technology will allow me to balance the demands of workload against details of annual leave, sickness absence, available staff skills and the preferred shift patterns of my team members. It will allow me to quickly build rotas to meet demand most efficiently. Members of my team will be able to access the system from mobile devices to check their rotas and make personal requests.

This type of digital technology is currently being utilised by the clinical pharmacy team at East Kent Hospitals University NHS Foundation Trust, which has introduced full job planning and

e-Rostering across three of their sites. This has optimised staff deployment and increased management accountability for forward planning.

I will use AI to identify emerging trends in health and care needs. This will allow for early interventions where necessary. For people using services, an analytics system will provide an alert to identify patients who have missed a number of outpatient appointments and are therefore at risk of health complications arising from a poorly managed condition. These will be passed to health and social care workers to action as appropriate.

Advanced analytics will allow me to monitor caseload information closely, enabling me to make manage my team efficiently. In the case of collective care, monitoring for multiple safeguarding issues in a particular location will ensure a higher level of vigilance and improved care for vulnerable service users.

Data generated in the process of care will be extracted automatically from all care settings and made available to me in de-personalised formats. This will allow make more evidence based planning decisions and improve monitoring of developments in the health and care system.

Digital discharge information from hospitals will be provided to my team in a common system, shared across all health and social care teams regardless of geographical boundaries. This cloud based system will allow my team to plan a package of care following an AI enhanced assessment.

A web-based Capacity Tracker system, developed by the NHS, is already being used in some areas to provide live care home bed state/capacity information to clinical and hospital staff. This could remove the need for numerous phone calls to find available beds and helps to reduce Delayed Transfers of Care (DTOCs), where patients are ready to leave hospital but still occupy beds.

The information systems that I and my team use will be upgraded regularly as part of a rolling programme. This will make upgrades easier to integrate into our work and will be more cost effective for my organisation than the massive, one-off IT upgrade projects of the past.

The efficiencies derived through My Job will contribute to the Thinking and Working Smarter, Smart Businesses and Growth and Skills for a Digital Age objectives of the North Yorkshire Digital Strategy.