NHS
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Clinical Commissioning Group

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North & North East Lincolnshire

Local Digital Roadmap

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North & North East Lincolnshire - Local Digital Roadmap

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North & North East Lincolnshire - Local Digital Roadmap

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www.northeastlincolnshireccg.nhs.uk

North Lincolnshire CCG
Health Place, Wrawby Road, Brigg, DN20 8GS
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1.0 Key Information:

Name of footprint:	**North & North East Lincolnshire**
Nominated LDR lead:	**Jackie France, Associate Director of IT, (joint appointment across North East Lincolnshire CCG, North Lincolnshire CCG, Hull CCG, East Riding of Yorkshire CCG)**
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CCG – Executive leads:	**Cathy Kennedy, Deputy Chief Executive/Chief Financial Officer, North East Lincolnshire CCG** **Caroline Briggs, Director of Commissioning, North Lincolnshire CCG**
STP footprint:	**Humber, Coast & Vale**
Nominated lead:	**Emma Latimer, Chief Officer, NHS Hull CCG (interim lead)**
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Organisations within LDR footprint:

CCG's:	**North East Lincolnshire CCG, North Lincolnshire**
Health Providers:	**Northern Lincolnshire & Goole NHS Foundation Trust, Hull & East Yorkshire Hospitals, NAViGO Health and Social Care CIC, Care Plus Group, focus independent adult social work, Rotherham, Doncaster and South Humber NHS Foundation Trust**
Local Authorities:	**North Lincolnshire Council, North East Lincolnshire Council**

2.0 Introduction & Context

The Five Year Forward View[1] emphasised the importance of using technology to support change, and makes a commitment that by 2020 there will be fully interoperable electronic health records. This was supported by a Government commitment in Personalised Health and Care 2020[2] that "all patient and care records will be digital, interoperable and real-time by 2020

Digital technology has a significant role to play in sustainability and transformation, including delivering primary care at scale, securing seven day services, enabling new care models and transforming care in line with clinical priorities.

To drive this agenda forward, a 3 step process was initiated, that concludes in CCG's leading health and social care systems to produce Local Digital Roadmaps, setting out how they will achieve the ambition of operating paper-free at the point of care by 2020.

In the first instance, commissioners and health and care providers were invited to organise themselves into local footprints. Initially North East Lincolnshire CCG and North Lincolnshire CCG planned individual submissions, through developing the Roadmap, it became clear there are efficiencies and economies in combining resources, plans and ideas, consequently there will now be a North & North East Lincolnshire LDR covering the South of the Humber. This will be developed in partnership with Hull CCG and East Riding of Yorkshire CCG LDRs, covering the North of the Humber and the Vale of York CCG and Scarborough and Ryedale CCG. These 6 CCG's make up the Humber, Coast and Vale STP.

Step two, required NHS secondary and community care providers to complete a Digital Maturity Self-assessment. The results of which have been referenced to help determine the priorities for our Local Digital Roadmap.

The final step in the process is the development of the Local Digital Roadmap for submission by the end of June 2016. It has been informed by the emerging priorities and vision identified in the Sustainability and Transformation plan (STP), and describes digital technology as an enabler to support local clinical priorities and service innovation, and address the 3 national priorities; Care and Quality gap, Finance and Efficiency gap and Health and Wellbeing gap.

[1] The Five Year Forward View, NHS England 2014
[2] Personalise Health & Social Care 2020, NIB November 2014

3.0 Developing the Local Digital Roadmap

3.1 Background

The LDR builds on a strong foundation of Information Management and Technology development and digital enablement across the area over many years, particularly within primary and community care services and more latterly with acute care services. The plan is focussed on key areas and priorities for enhancement in order to support three key transformational change programmes.

Transformation Change Programmes

There are two key transformation programmes informing this LDR;

- Sustainability and Transformation Plan (STP) priorities
- NL/NEL joint 'Healthy Lives Healthy Futures' (HLHF) - which is a programme of system transformation, consists of 3 elements:
    - Transformation at scale across the North and North East Lincolnshire footprint and;
    - Development of 2 Accountable Care partnerships development

These programmes are each designed to address the three critical national and local challenges of: closing the health and wellbeing gap, closing the care and quality gap and closing the finance and efficiency gap. The governance design across these programmes has been tested to ensure that they operate in a complementary manner, without gaps or overlaps. The finance and efficiency gap has been clearly identified at HLHF and STP levels, and the programmes and priorities for service transformation have been identified to also address the key care and quality challenges faced in our communities. Whilst the HLHF programme has been able to make significant progress against financial and quality gaps, the development of Accountable Care systems in each locality is designed to provide the 'next step' in transformation to address the key outstanding challenges – and to integrate the work of both health and local authority organisations in addressing health and wellbeing gaps.

We anticipate that the greater Lincolnshire Devolution plans may have some impact on health and social care transformation in the future however these have not been identified as a key priority for action in the first two years of the Devolution plan.

Stage of Development

At this point the plan provides a robust view of the key elements of the strategy vision and clarifies the priorities for 2016/17, but in a number of areas, we have described a plan for a plan. This position is due to two key matters:

Firstly, there are material differences in the maturity and stage of development of the key transformational change programmes in terms of their vision, objectives and underpinning service plans. The Healthy Lives Healthy Futures programme has been in place for several years, and has a clear vision and an active programme of service change that is being taken forward on a multi-organisation basis. This programme has therefore enabled a number of clear priorities to be identified for the next three years. In contrast, the STP is still in development and although priorities for action have been identified there has been limited opportunity to identify and test the resulting specific LDR priorities. However, there is clear congruence between the STP and HLHF programmes of work, and their underpinning vision and objectives, which means that there will be similar key

themes for digital enablement. The third element of Accountable Care is the least mature and this area of strategic change has therefore not yet identified any addition LDR priorities.

Secondly, the prolonged process of the Yorkshire and Humber procurement of commissioning support services, which has had a significant impact on our ability to develop and move forward with the CCG role of providing leadership to the digital agenda, across North & North East Lincolnshire and wider Humber localities, at the pace we would have wished. We have continued to deliver on the key priorities, and significant progress has been achieved across primary care digital capability, however, capacity to fully develop our strategic ambitions has been constrained, which is reflected in the maturity of this LDR submission.

However in late 2015, the four CCG's across the Humber (North East Lincolnshire CCG, North Lincolnshire CCG, Hull CCG and East Riding of Yorkshire CCG) jointly funded an Associate Director of IT post. This role is now in situ and will be a valuable resource in developing and driving delivery of the LDR and managing the eMBED contract delivery. There are also stable and well-established IM&T support services in place for the key local providers which have not been affected by the changes described above.

3.2 Contribution and Endorsement

Given the background position, our focus has been to; establish firm foundations on which we can fast track over the next 3 years, have comprehensive plans in place to deliver our priorities and universal capabilities in 2016/17, and begin development and engagement on our 2017/18 ambitions and 3 year forward view.

Robust governance arrangements are critical in ensuring strategic alignment and effective decision making, engagement and assurance. The governance structure that we have developed focuses on the North & North East Lincolnshire LDR, but also ensures integration across the Humber region and with the STP footprint, and has been agreed across the 17 organisations that makeup the Humber footprint, and latterly the Vale of York and Scarborough and Ryedale CCG's.

These 17 organisations have each made a significant contribution in the development of their respective LDR's, and have all given their commitment to work collaboratively to deliver the ambition of paper-free at the point of care by 2020/21. The extent of commitment and collaboration is recognised as a key strength.

Development of the North & North East Lincolnshire LDR has been through the Southbank Digital Programme Board, a multi-agency board, comprising both IT and Business leaders. The Board was established in a manner that enables it to link effectively into the overall governance arrangements to drive through digital transformation across the wider STP footprint. The Board has met to understand the requirements of the LDR, and subsequently its members have provided detailed returns on their baselines, strategic plans and activities, against each of the 7 capabilities over the next 3-4 years. This information has been combined and further refined to describe plans and activities to deliver the 10 universal capabilities and begin to develop a capability deployment schedule over the next 4 years. The membership of the Board is representative of all parties involved, and will continue to expand:

Individual names redacted

Southbank Digital Programme Board Membership	
Member (Core)	**Organisation Represented**
	Northern Lincolnshire & Goole NHS Foundation Trust (CEO) Chair (Healthy Lives/Healthy Futures Rep)
	Humber CCG's (SRO) Deputy Chair
	eMBED Health Consortium (Primary Care) (Digital Citizen/Self-Care Lead)
	Northern Lincolnshire & Goole NHS Foundation Trust (Interoperability/Shared Record Lead)
	Care Plus Group
	NAViGO Mental Health Services
	East Midlands Ambulance Service
	North East Lincolnshire Local Authority (Infrastructure Lead) (IG Lead)
	North Lincolnshire Local Authority
	NL CCG (Business Rep)
	NEL CCG (Business Rep)
	CCIO
	Focus (NEL Adult Social Care)
	Rotherham, Doncaster and South Humber Foundation Trust
	STP Rep
	Patient/Carer Representation

Throughout its development, the LDR has been shared for input and comment with a variety of individuals, bodies and groups across the system, to ensure that there is a broad understanding of the direction of travel, ambition and content at a very senior level to support its stated priorities and implementation.

These groups include, but are not limited to:

- North Lincolnshire CCG Engine Room (Clinical and managerial sub-committee of CCG)
- North East Lincolnshire CCG Clinical Leads Group
- Northern Lincolnshire & Goole Hospitals Foundation Trust Clinical Reference Group
- Healthy Lives, Healthy Futures Operational Group
- North East Lincolnshire Senior Management Team
- Humber IMT Strategy Group

In addition, each representative on the Digital Programme Board is responsible for consulting with and seeking ratification through their respective organisation.

Engagement with the STP lead has been maintained throughout in the form of bi-weekly meetings, to ensure alignment with the STP. However, as identified earlier, the vision and priorities for the STP have not yet concluded to a level for them to be fully reflected within the LDR.

Due to time constraints, this submission has been agreed by each CCG Digital Executive Lead, and will be endorsed by each CCG's Governing Body at the earliest opportunity. A process of endorsement will continue through the respective organisation's governance and the Humber IMT Strategy Group.

The Humber Strategy Group has Executive Officer representation from providers and commissioners across the Humber area. Within the revised Governance Arrangements, this will become the Executive Board (Sponsoring Group) for the Southbank and Northbank LDR's. Engagement with Health and Wellbeing Boards will be through Senior Executives of this group, This approach has been taken to ensure that the natural patients flow and service linkages across the Humber area are reflected in the prioritisation and implementation of the two LDR's.

A process of formal approval will continue into July and beyond.

Recently supplier Involvement has been minimal, although there are invites in place for attendance and discussion at future Programme Boards. There has been engagement in the past, particularly in developing our solution for a fully integrated shared record. Organisationally, there are established relationships and regular account meetings with key Suppliers.

4.0 Local Digital Roadmap Footprint Configuration

North East Lincolnshire and North Lincolnshire CCG's form part of the wider Humber, Cost and Vale STP footprint. As a collective of two, they are also referred to as the Southbank or South Humber.

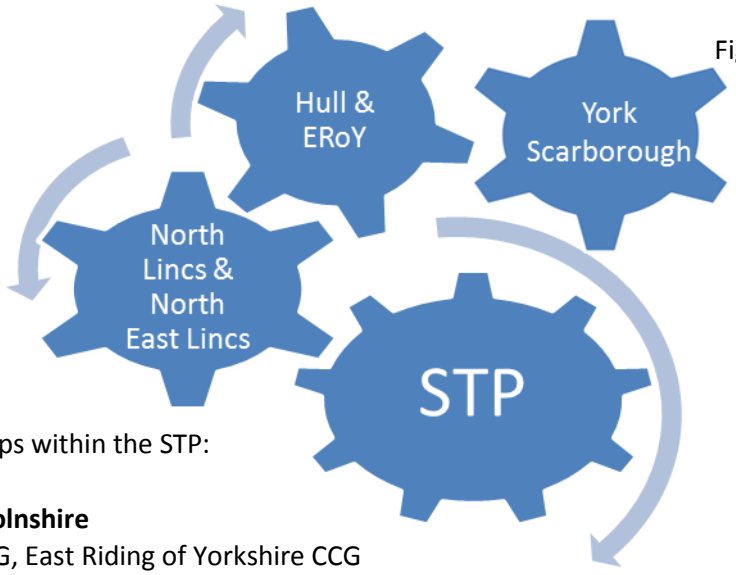


Figure 1

There are 3 Local Digital Roadmaps within the STP:

- **North & North East Lincolnshire**
- **North Humber** – Hull CCG, East Riding of Yorkshire CCG
- **North Yorkshire** – Vale of York CCG, Scarborough and Ryedale CCG

Although each of the LDR's have an emphasis on local transformation and delivery, all 3 have been developed in close collaboration, recognising the significant advantages in developing capabilities and use of resource across a wider footprint, particularly as all 6 CCG's contract with eMBED as their IT delivery partner. To realise the clinical and financial outcomes identified in the STP, developing digital capability at scale is essential.

The 4 CCG's within Humber have worked collaboratively on delivering the IMT agenda since their inception, the joint appointment of an Associate Director of IT has strengthened this arrangement, and facilitated a single approach in developing the LDR's across the Humber.

Whilst there are significant similarities across the North and South Humber, and alignment with the Humber, Coast and Vale STP; there is clear rationale for maintaining separate LDR's across the North and South;

North & North East Lincolnshire are partners in the Greater Lincolnshire devolution agreement, which involves 10 local authorities coming together to form a "combined authority". This creates opportunities for further development of an integrated, devolved approach to health and social care, building on North East Lincolnshire's legacy of pioneering new approaches to integration.

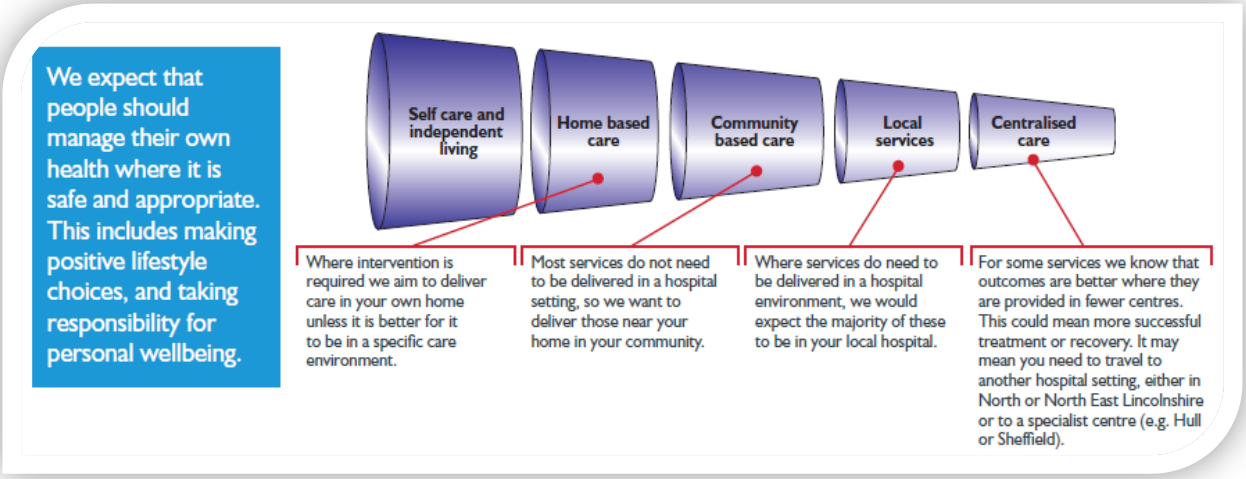
North & North East Lincolnshire are on a path to move to an Accountable Care Model, this is conjunction with a major programme of work to transform health and care models across the localities, (Healthy Lives, Healthy Futures). Together these will revolutionise how health and social care is delivered across the whole of North & North East Lincolnshire. Both of these programmes are in the process of finalising their strategic aims and priorities. Digital enablers to these programmes will be reflected in the LDR as they are better understood.

The overall aims of this programme is to;

- Build services that allow people to get the right care in the right place when they need it
- Expect people to be able to manage their own health where it is safe and appropriate to do so. This includes making positive lifestyle choice and taking responsibility for personal wellbeing
- Redesign models of care and system arrangements to deliver services that are of the right quality, affordable and sustainable.

The shift to the left diagram below shows how we want to change health and care in the future with more care provided in or near to patients' homes and less care delivered in a hospital setting.

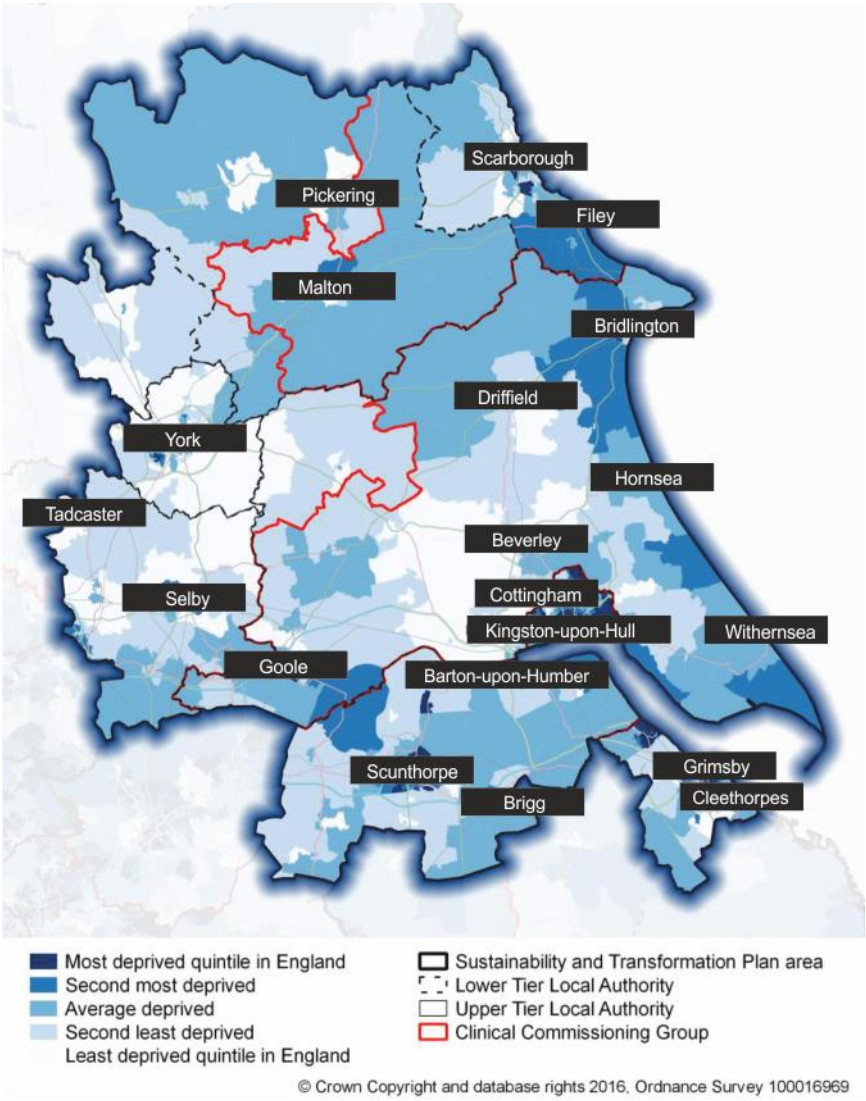
Figure 2



Digitisation is a key enabler to realising the full potential of these service changes, and will greatly influence the priorities and solutions of North & North East Lincolnshire's LDR.

5.0 Sustainability and Transformation Plan

Figure 3



Humber, Coast and Vale Sustainability and Transformational Plan covers a diverse rural, coastal and urban community with a population of 1.4m. As depicted in the map, the Humber, Coast and Vale footprint covers six CCG boundaries, six local authority boundaries as well as services provided by 3 acute providers and a number of health and social care organisations.

The STP vision is to transform the way in which we deliver a high quality health and care service to the people of the diverse communities that make up the Humber, Coast and Vale into the future.

The Humber, Coast and Vale STP challenges and priorities have been identified as;

Redacted as these have since been updated

Through working together effectively and delivering at scale, where appropriate. The STP identifies four key enablers, with detailed base-lining through 16/17 to inform the strategic approach in the next four years, these are:

- Finance
- Digital Health
- Estates
- Workforce

6.0 Vision for Digitally Enabled Transformation

We have adopted the vision statement for digital enablement as set out in the paper "Personalised Health and Care 2020", which has been tested against the objectives and priorities identified across the local system in the development of the STP and the needs of each of the transformational change programmes. This high level vision has been endorsed by both the Southbank Digital Programme Board and the Humber Strategy Group and is expected to be in place well beyond the 5 year horizon set out in the LDR guidance.

"Full integration and care coordination between services, where individual citizens and their carers, through access to information, are active partners in their health and care.

A technology and data enabled care system that has the citizen at its centre and enables health and care professionals to operate paper free at the point of care."

It is critical that our vision is and remains a touchstone for what digital enablement and paper-free care represents, and is clearly and easily understood by our patients, carers and citizens using the services and across all levels of staff operating within the services.

Using the analogy that "a picture paints a thousand words", we have engaged with a local media company to work with us in developing our overarching vision. This will be a key tool in our communication and engagement plan.

As described earlier in this document, the three transformation programmes that critically inform this LDR are each (and collectively) focussed on addressing the three national challenges: of closing the health and wellbeing gap, closing the care and quality gap and closing the finance and efficiency gap. They each incorporate a minimum five year time horizon. By supporting the delivery of these programmes, the LDR will therefore be a key enabler of progress against these challenges.

The scope of our vision currently has five key themes, identified from the priorities of the transformation programmes, and will encompass:

1. Integration and interoperability of "paper-free" systems across health and social care to enable :

    a. real time accessibility of care records and information at the point of care, enabling information empowered care and speedier, informed decision making,
    b. the operation of an integrated accountable care system
2. Digital access for patients, third sector and the public to care data, advice and information that will support greater self-care, prevention and community support
3. Data sharing to support data analytics, population health & wellbeing management and effective strategic/individual care commissioning
4. Maximum efficiency in back office and service delivery working practices including agile/mobile working, avoidance of duplication, and reduction in non-productive activities
5. Effective enablers, including digital literacy of individuals, and the leadership and resourcing of programme & project delivery

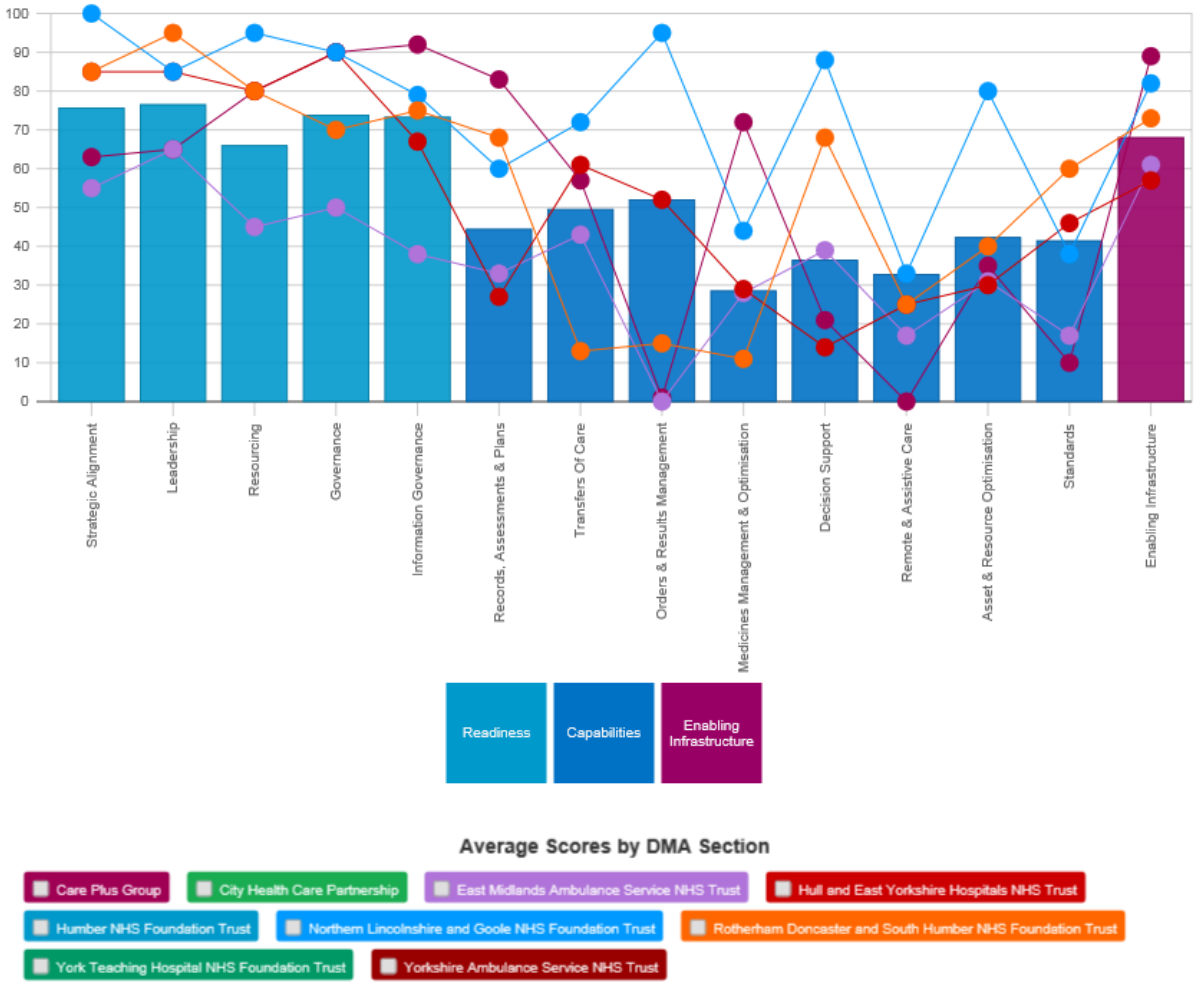
The baseline and digital maturity assessments have demonstrated that the LDR will be building on strong foundations for delivery of these themes, but also some key gaps.

The next stage in the development of this vision will be:

I. to engage with a broad cross section of both professionals and public in confirming these themes and identifying the key priorities over the next 3 to 5 years that will underpin them. This engagement is expected to be concluded by late autumn 2016
II. to assess the priorities emerging from this engagement and the developing transformation programmes to identify the key LDR priorities for delivery in future years

7.0 Baseline Position

Overview of Digital Maturity



With the exception of a couple of outliers; the baseline assessment for strategic alignment and leadership, indicates a very positive position in term of readiness, this is likely to have improved further since the assessment, due to the focussed work on aligning the business agenda through the digital governance structure.

Work to further analyse the results and understand the detail behind the data will be a priority for the programme, with the aim to bring all organisations within an equal level of readiness.

The capabilities section shows a mix of results, however this is not surprising, given our knowledge of organisations current plans. Our 2 main acute providers have recently invested heavily in their EPR solutions, but both are at a fairly early stage of implementation. There are dedicated programmes of work within the Trusts to drive the digital agenda forward, and a good level of resource has been targeted to developing the EPR. This work is at the core of our strategy for paper-free and is a critical enabler to a shared, integrated care record. There is some obvious good practice, which can be shared across providers.

There is a high degree of uncertainty around East Midlands Ambulance Service EPRF solution; the emergent exit from the LSP contract creates a funding gap in the region of £15m.

Electronic requesting and results reporting is well established in North & North East Lincolnshire, this was implemented through Pathlinks, a pioneer in this area.

There is high prevalence of SystmOne usage across community, primary, palliative care, GP Out of Hours Services, and within Adult Social Care in North East Lincolnshire. This solution remains core to our digital strategy, and as such both CCG's in North & North East Lincolnshire have committed to a 5 year contract, following exit from the LSP contract.

Comprehensive electronic records within primary care, enables extensive access to GP summary information across a wide range of health and care professionals.

- North East Lincolnshire EMIS – 25% GP record only
- North East Lincolnshire SystmOne – 75%
- North Lincolnshire EMIS – 31% - GP record only
- North Lincolnshire S1 69%

We have a nominal number of systems used across North & North East Lincolnshire, all of which have integration capability and mobile access, apart from Mental Health Services, and North Lincolnshire Social Care. Mental Health Services in North East Lincolnshire are the only service not yet on a re-procurement path.

We have extensive connectivity across care provider locations, enabling health and social care professionals to access their native systems across service boundaries, supporting multi-disciplinary working. The Single Point of Access in NEL and Care Network Model in NL integrate staff from across a variety of health and social care services to deliver co-ordinated care.

NEL Adult Social Service led a pioneering piece of work to develop an Adult Social Care module within SystmOne, providing record integration across a health and adult social care for a large proportion of service users. Investment in supporting infrastructure has enabled a fully agile workforce, and facilitated a paper-light record.

Infrastructure capability throughout North and North East Lincolnshire supports true agile working, enabling both clinical and corporate staff to work securely from home, when mobile or from any internet connected location.

Primary Care

There are 47 Practices across North & North East Lincolnshire;

- 19 within North Lincolnshire, all of which are part of the Safe Care Federation
- 28 with North East Lincolnshire, 12 of which are part of 360 Federation and 6 of which are part of Yarborough/Clee Federation.

Digital maturity is good across all GP Practices; there are 2 primary clinical care systems in use; EMIS and SystmOne. All have document management capability, although in a minority of practices these are not fully integrated with the clinical system.

All practices operate paper light, and are paper-free at the point of care, with no reference to paper during consultations. All practices have mobile capability, but there is further work required to fully optimise this for all practice staff.

Key recent achievements

- 100% centrally hosted records in primary care
- 100% uploads of SCR (subject to consent)
- 100% activation of repeat prescriptions and booking of appointments
- 100% activation of access to coded records
- 95% of Practices are ITK compliant
- 100% of Practices within North Lincolnshire are utilising e-RS
- 63% of Practices are utilising SMS to remind patients of appointments, notify patients of results, and key public messages –ie. Flu jab reminders.
- 100% of discharge summaries are semi structured and sent electronically via DTS
- Click through access from the patient record in the GP clinical system to secondary care EPR. This is currently in pilot across 12 practices, the data available includes standard PAS data including, attendances, admissions, diagnostic results and discharge correspondence. The data will be enriched as the EPR matures.
- Primary care access to electronic requesting and results reporting across pathology and radiology reports and images.
- Wi-Fi has been enabled in all primary care centres. Within North East Lincolnshire, patients are able to access "Services 4 Me" information from within the majority of practices.
- Implementation of tele-conferencing facilities within primary care centres, to enable multi-disciplinary team meetings between professional from a wide geographical area, resulting in increased clinical attendance and input.

Current initiatives

In addition to those already identified in the Universal Capabilities Delivery Plan

- Implementation of Patient partner – which provides 24/7 telephone appointment booking and requests for repeat prescriptions. This is currently used across 10 practices within the 360 Federation and is integrated across the 10 SystmOne appointment schedules, to support extended GP services.
- The patient partner capability is currently being used as a proof of concept to introduce GP triage services.
- A bid has been submitted to the Estates and Technology Transformation Fund to extend patient partner across a further 7 practices in North East Lincolnshire and all practices within North Lincolnshire.
- In North East Lincolnshire there is a bid to upgrade the current Single Point of Access telephone system, introducing multi-media functionality, ie web-chat, conference facilities, email and text messaging. The bid includes extending this functionality across all Practices, and has the potential to be expanded across all health and social care services. This enables integration across wider urgent and emergency care, primary, community and social care. This digital capability will support a clinical hub model to access clinical advice, support the Urgency and Emergency Care Strategy.

- AskmyGP – Some limited funding has been identified, within NEL, and there is a bid into the Estates and Technology transformation fund to increase funding, to implement AskmyGP across Practices within NL.
- Care Homes Connectivity – Providing base level technology into 8 care homes within North East Lincolnshire, enabling electronic communication with other care professionals via NHS mail, access to shared calendars, access to SCR, video conferencing, and allowing care professionals attending to residents to access their native electronic record. A bid has been submitted to the Estates and Technology Care Transformation Fund to extend this to all nursing homes within both North and North East Lincolnshire.
- Care Home Clinical Record – Within North East Lincolnshire a pilot commenced 8 months ago to introduce SystmOne Care Home Module, uptake has been limited, but has proved to be relatively successful in that it enables Care Homes to move to paper-light environment and greater visibility to other professionals of the care record. On the reverse this provides information to the Care Homes on alerts and indicators. We aim to extend to other Nursing Homes if we are successful in the bid to provide connectivity.
- Video Consultation – Implementation of the Skype application within GP Practices, allowing GP's and other care professionals the ability to integrate video consultation into their standard working practice. This is available to all practices, but is currently being tested within 10. A bid has been submitted to the Estates and Technology fund to upgrade devices in practices, to enable video consultation to take place from consulting rooms.
- Tele-dermatology – a proof of concept, sending high definition skin images to secondary care has enabled specialists to provide immediate advice to GP's on whether a referral is required, which has the potential to reduce demand on a pressured service.
- In North East Lincolnshire a Social Prescribing brokerage function is being created which will allow referrals to be made from primary, community & social care settings alongside self-referrals. The brokerage function will look at providing non-medical, socially based activities for patients with non-medical needs. The Brokerage function will hold a complete record on a SystmOne unit allowing care professionals to see what holistic care has been provided by the real time sharing of records.
- DXS has been purchased, through GPSoC for use by all Practices within North Lincolnshire as a replacement for Map of Medicine. This is a decision support tool, providing GP's with standard pathway and referral documentation, along with a comprehensive directory of services. It is being rolled out over the next 12 months to reduce variation in referrals and support GP's identify the most appropriate referral routes.
- In order to support the North & North East Lincolnshire's digital rich initiatives within Primary Care, bids have been made to upgrade the existing N3 network connections. If successful the upgrades will open the door to many real time public facing data services.

Rate Limiting Factors

- Practices are individual businesses, delivering primary care services and each with competing priorities and operating from different baselines; this creates a challenge in reaching standardised strategic agreements and adopting universal solutions.
- Agreement across primary care to adopt a single sharing protocol
- Clinical engagement continues to be a challenge, which is related to competing priorities and capacity rather than a lack of interest
- A lack of appointments slots on e-RS is a significant barrier to GP's referring electronically; consequently there continue to be reliance on use of fax machines.

- There are significant delays in bids for capital monies being approved and funding being released, which creates pressure on the service and an inability to plan and allocate resource effectively.
- The network infrastructure is overdue for an upgrade/replacement and is struggling with the current demand. There is a level of reluctance in primary care to introduce further technologies which will just exacerbate this.
- Discussions are on-going with our IMT Provider (eMBED) to clarify contract specification and resources included within the contract. The outcome of this could have a significant impact on our ability to progress the digital agenda.
- There are a lack of IMT specialists and skills generally, however, within North & North East Lincolnshire we struggle to attract and recruit to these specialist posts, knowledge and skills on integration and system configuration are of particular concern.
- Data Quality was excluded from the GPIT Operating Model in the 2014 review, this has had an impact of the standard and quality of date across GP systems, and creates a reluctance to share records and enable access to records in some areas.

Secondary Care

Northern Lincolnshire and Goole NHS Foundation Trust, is the main secondary care provider, with some services provided by Hull and East Yorkshire Hospitals

Current Maturity

Northern Lincolnshire and Goole NHS Foundation Trust, runs 3 main sites across North & North East Lincolnshire, the two largest being hospitals in Grimsby and Scunthorpe. The Trust is also responsible for the delivery of community services in North Lincolnshire.

As part of its 2012 strategy refresh, the Trust began a process to rationalise and consolidate its IM&T Clinical Systems with efforts to develop its own EPR. While the agenda has been challenging, progress to date has resulted in significant gains in digital maturity in 2013/14 and 2014/15.

Outcomes from the recent Digital Maturity Assessment indicated that while strategically the direction of travel is embedded within the organisation, on-going work should focus on the implementation of standards and support for some of the technical challenges around prescribing and remote assistive technology.

Key recent achievements

- Within Northern Lincolnshire and Goole NHS Foundation Trust there has been significant investment (finance and resource) into the development of Web V, an in-house Electronic Patient Record (EPR) System that is utilised within NLaG for Secondary Care records. The system provides a consistent overview of patient information for patients referred from North Humber.
- Clinical Observations taken at the patient's bedside are now collected electronically, via a specialised Web V module that is used on tablets and phones. Data is recorded and utilised within the EPR by attaching it to the patient's record allowing clinical observations to be reviewed in context.
- A Ward/Bed Management module has been developed and deployed across all wards within the Trust. This locally developed software provides the ability to see a full Trust overview of

bed capacity and current ward status. Wards have been supplied with 42" Touchscreens which are installed to allow full recording and interaction with the ward management module.

- An Infection control audit module has also been developed to allow electronic audit and reporting against Infection Control Frameworks. Audits can be carried out on mobile devices with WIFI connectivity in a similar fashion to clinical observations.
- There is active and on-going use of SCR within Pharmacy and small elements of urgent care. Staff are currently reviewing SCR information approximately 750 times a week for tasks which can include Medicine reconciliation and allergy alerting.
- Diagnostic imaging has recently been made available through the EPR system by extending the functionality of the existing PACS system to allow the rendering of images via a Zero footprint Web Viewer. Web V now has the ability to display these directly outside the main PACS system and allow them to be viewed alongside associated results/reports which should expedite clinical decision making.
- Work has been undertaken to complete the successful transition from National LSP system contracts for 2 clinical systems. New arrangements have been set up by a combination of procurement and in-house development which has mitigated risks associated with the LSP exit deadline.
- Upgrades have been completed for the Web Services/Intranet System which now runs on a more recent version of Microsoft SharePoint. The platform provides a framework for the development of key business applications. The upgrade provides key benefits and new functionality, minimising the time from development to publication.
- Extensive work has been done around strengthening positions on Software Licence liability, principally with Microsoft. This has allowed more effective use of IM&T assets and closer control of costs. A move to a subscription based licence model alongside upgraded asset management tagging has provided more efficient asset use and reduced some unnecessary wastage.

Within Hull & East Yorkshire Hospitals

- Successful implementation of Lorenzo Regional Care (Phase 1) Trust wide on 8th June 2015. Since go-live around 1000 clinical users per day have been actively using Lorenzo, with over 1m electronic Pathology and Radiology orders placed.
- Four fold increase in the use of the Summary Care Record. Since Lorenzo was implemented Hull and East Yorkshire Hospitals has become the highest user of Summary Care Record in the country with circa 8000 hits per month. This has enhanced safe & accurate prescribing of medication in the ED, ensuring the doctor is aware if a patient is taking a high risk medication where extra care may be needed. Pharmacies use of the SCR to support medicines reconciliation has increased significantly since it was integrated into the Lorenzo EPR. Over 700 Pharmacy staff refer to the SCR each week.
- Successful completion of the GP/Lorenzo e-Discharge Summary trial. This provides the technical solution via which to send all Immediate Discharge Summaries Electronically to GPs. Roll out commenced 2016/17.
- Radiology e-Reporting and Escalation System. Significant improvements in control and risk reduction have been achieved by the introduction of the e-Reporting and escalation system for Radiology reports. The requests placed in Lorenzo are transmitted to Radiology for the investigation to be planned and performed. The results are then sent back to Lorenzo and also distributed via email to the ordering Consultant for rapid alerting of actions. e-Reports are distributed to GP Practices.

- Successful trial of Lorenzo electronic To Take Out (TTO) prescribing for Patient Medications. Lorenzo has provided the ability for electronic prescribing at discharge and within outpatients. This allows the Trust to record medication taken on admission (medication clerking) in the Lorenzo EPR, and then the prescribing of discharge medication electronically within the Lorenzo EPR. TTO has been successfully piloted on CHH Cardiothoracic & Cardiology Wards, and in ED and will be rolled out across the Trust as part of the Trust's Electronic Prescribing Project, IPPMA.
- e-Observations. The soft-landing of e-OBS onto four wards has been completed (two medical and two surgical wards). Staff and patient experiences have been positive, with a significant increase in the volume and timeliness of observations taken.

Current initiatives

In addition to those already identified in the Universal Capabilities Delivery Plan

Within Northern Lincolnshire and Goole NHS Foundation Trust;

- The deployment of Web V into Primary Care as a clinical portal and secondary care record viewer is currently in progress. The long term goal of the portal is to consolidate a number of clinical functions provided by acute services and allow them to be accessed externally by primary care and/or other providers through a single route. At this current point in time, the solution will allow real-time access to patient status, documentation/alerts and historic records for a GP when their patient is in receipt of services from the Trust.
- The EPR Clinical Documentation module is nearing completion and once deployed will allow fully customised documentation to be created and deployed within Web V. These digital documents will be extended to include coded information in the next 12-18 months and this will remove the need to continue to develop paper versions of clinical documentation.
- The Trust is looking to expand its use of electronic referrals and is working with local commissioners to review a number of options including the national eReferrals solution. A recent workshop has been hosted by HSCIC to further develop API specifications from NHS eReferrals that could be utilised by Trusts nationally.
- A pilot to assess eReferral Advice and Guidance is currently being arranged within Dermatology Services in North East Lincolnshire. Recent investment in camera technology within Primary Care should allow GPs to transmit images to request advice on relevant condition from a Secondary Care Consultant in Dermatology.
- An Electronic Prescribing module is being scoped for development within Web V from later this year. The module will allow ePrescribing from a patient's bedside in conjunction with the various other functions currently provided by the EPR. ePrescribing will have a significant benefit to the accuracy of prescriptions and cut wastage in medicine administration. It will also benefit by enhancing the content of the discharge summary by allowing prescription data to be automatically integrated into the document.
- A Theatres module is also under development and will be deployed at the start of July. The module will provide functionality to support workflows within Theatre, record activity and operation notes. Documentation will then form part of the EPR patient timeline.
- A new Digital Dictation has been implemented within NLaG with the final areas in the process of going live. This solution provides a number of advantages over older systems including the ability to create flexible workflows which could include outsourced transcriptions, eApprovals for letters and electronic output of finalised letters.
- A Digital Correspondence project is aiming to utilise existing platforms and transport mechanisms to increase the scope of clinical correspondence sent from the Trust to primary

care. Discharge Summaries have already been flowing electronically for 2 years, there is now further work to enhance flows to include electronic clinic letters.

- The Trust is in the process of procuring a new PACS System to support the Transformation of Diagnostic Imaging Services. As a member of the Yorkshire and Humber Regional Imaging Collaborative, the Trust alongside 8 others will aim to utilise a common PACS platform which will enhance imaging sharing and reporting within the region.
- Procurement of a new Digital Pathology system has been completed and is currently entering the implementation stage. The system will increase the efficiency of Pathology investigation by allowing digitisation of Path slides. This will open up opportunities for greater efficiencies in reporting and allow faster clinical decisions.
- Infrastructure development for enhancing local Data Centre links is planned in the near future to ensure bandwidth for data replication between sites is sufficient.
- A new Telephony/VOIP System is being implemented between Hospital sites which will replace an aging switch board. The new system will bring options for more flexible communications, linking together landline/mobile routing and opening up a roadmap for true Enterprise Voice communications.

Within Hull & East Yorkshire Hospitals;

- Roll out of a new, replacement Data Network & Digital Telephony system commences in 2016. This investment will provide a high performing, resilient digital platform, which will support mobility, agile working, asset tracking, unified communications, video conferencing and will include patient/guest wi-fi. Roll out e-Observations across all inpatient areas.
- Eradicate over 1m active paper Casenotes via a combination of Lorenzo e-Forms and a new Casenote scanning system. Lorenzo Clinical data capture forms will be developed as part of a wholesale review of the patient record, extending the availability of e-information. Procurement of a scanning solution is planned for 2017/18.
- Digital Dictation & Voice Recognition System. Roll-out commenced in 2015/16 and will be completed by the end of 2016/17. The new system will be fully integrated with Lorenzo, enabling direct dictation into the clinical record.
- New Radiology Information System (RIS) in 2016/17.
- Roll-Out of Lorenzo e-Discharge Summaries. In April 2016 the Trust commenced the sending of Immediate Discharge Summaries Electronically to GPs. 106 Practices across our two main Commissioning partners will receive Discharge Summaries as soon as they are marked complete by the Trust. Summaries are sent securely, and are accepted into the GP systems electronically saving time faxing, scanning and uploading at the GP Practice. Looking ahead, we will extend the breadth and volume of correspondence that can be transmitted to GPs and other Care Partners electronically and will extend the service to other Commissioning partners.
- Extend the breadth of Electronic Results Reporting beyond Radiology and Pathology. Throughout 2016 and beyond the Trust will increase the scope of results that can be made available centrally within the EPR. This will include, for example, GI Physiology; Urology; Lung Function; ECG reports; Vascular; Palliative Care.
- GP Portal. Through a combination of Lorenzo and BI the Trust will launch a GP Portal to provide GPs with real time access to view all relevant treatment, progress and activity information specific to patients within their practice. This will be available in Q2 2016/17.
- Electronic Drug Prescribing (IPPMA) for Patient Medications. The Trust expects to implement Lorenzo Electronic Prescribing System (IPPMA), commencing Spring 2017, which will support the safer management of the prescribing and administration of medication in the acute

hospital setting. The current trial of Lorenzo TTO will be extended in tandem with the IPPMA roll-out.

- Lorenzo Advanced Bed Management (ABM). This will provide an integrated solution to enhance the Trust's ability to fully utilise and manage its inpatient activities and resources. ABM will combine activity and clinical data into a single view allowing staff to monitor and manage capacity and patient progress within a single core application. ABM is scheduled for deployment in Spring 2017.
- Lorenzo Maternity will replace the existing Evolution Maternity system. This development will allow the patient's outpatient, antenatal and postnatal care to be held centrally within the core EPR, which is a major step in providing a single point of access for a patient's holistic record. Currently Maternity information is held on a separate system, where no clinical data is shared with the main Patient record system. Lorenzo Maternity is scheduled for deployment in Spring 2017.
- Lorenzo integrated Theatre Management Record will replace the existing system, allowing integration of theatre planning, activity and clinical data capture into the patients main EPR. A key benefit will be that Lorenzo Theatres enables data collected at the waiting list stage (access plans) as part of the scheduling process to be combined with ABM to allow the Trust to enhance the elective scheduling process.
- Real time Patient Clinical Indicators to support timely care. An initial Clinical Indicator has been configured to support the Trust with the completion of timely VTE assessments. Each patient's record has been developed to show when VTEs are recorded. A timer and traffic light system has been developed to trigger on admission and the timeliness of VTE assessments is monitored from admission turning Amber if not undertaken within 6 hours and Red if not undertaken within 12 hours. This will be further developed to incorporate monitoring of VTE assessment review after the initial 24 hour period, and additional indicators will be developed going forward.
- Use of Virtual Clinics / Video Consultations to support remote care. During 2016 it is planned to commence a trial of the use of virtual clinics to support the cancer survivorship programme. This capability is dependent on the new data network.

Rate Limiting Factors

- A direction of travel has been set for the commercialisation of the Web V platform. Further development of the current plans will need to take into account this direction, when agreeing shared resource/assets across the community.
- Capacity for technical developments and associated skillsets needed for those currently lie within a couple of core teams.
- The process of appointment booking via NHS e-Referrals is currently limited by capacity constraints within clinical services. Slot availability has been restricted in order to manage pathway and waiting list positions
- Interoperability standards and capability between primary and secondary care systems.
- The ability to share information easily
- Shared consent models access primary, community, mental health and secondary care
- Specialist resources available to implement technologies and carry out change management
- The availability capital funds and pooled development budgets

Community Care (North East Lincolnshire)

Key recent achievements

- Patient records are available on SystmOne to all community clinical staff and therapists, at base and in the community via mobile access.
- Via EMIS Viewer, staff are able to access EMIS GP summary record information
- Community and therapy staff are able to access secondary car information via the Trust's WebV solution, providing information on discharge summaries, pathology and radiology information.
- Within U&EC settings, community staff have the ability to access the patient record within SystmOne, through shared wireless network infrastructure.
- Staff within SPA, Macmillan Team, Haven Team can access all patient records held on SystmOne and Summary Care Records and also have a Read only access to EMIS records and the acute Trust Web V for discharge summaries, pathology and radiology information
- The majority of CPG services are accredited with ISO 9001 and as such adopt the Plan - Do - Check - Act (PDCA) methodology of continual improvement

Current initiatives

In addition to those already identified in the Universal Capabilities Delivery Plan

- Introduce further mobile solutions during 16/17 for staff involved in EoL pathways and Rapid Response.
- Hoping for opportunities to engage within interoperability work with TPP, depending on TPP Roadmap and outcome of GP Connect.
- Develop electronic referral route for EoL services, providing a consistent approach to data recording and increasing the availability and quality of information available on end of life preferences
- Continue to facilitate integration between our Health & Social Care Teams utilising the electronic patient record.
- Community Nursing to be brought into the scope of the ISO 9001 Quality Management System accreditation

Rate Limiting Factors

- Lack of interoperability within the health and social care community,
- The inability to share coded data between clinical systems due to APIs not being available,
- No access to capital monies and very limited revenue funds.
- Ageing equipment and infrastructure and limited funds to refresh.

Mental Health

RDaSH – (North Lincolnshire)

Key recent achievements

- Procurement phase for the new EPR is underway and is due to complete end of Q2 2016
- Large remote sites have been moved on to the Yorkshire and Humber Public Sector Network

- An upgrade of the Trust's core IT infrastructure upgrade was carried out during 2014-2016

Current initiatives

In addition to those already identified in the Universal Capabilities Delivery Plan

- Procurement, configuration and implementation of a new EPR
- Development of an agile working strategy
- A review of IT security and governance procedures
- A review of the Trust email services
- Investment in data warehouse capability

Rate Limiting Factors

- Lack of interoperability within the health and social care community,
- The inability to share coded data between clinical systems due to APIs not being available,
- Very limited capital and revenue funds are available.

NAViGO (North East Lincolnshire)

Current Maturity

NAViGO are at a fairly low level of maturity. The predominant system used is Silverlink, which originated from a standard PAS and has been developed overtime to include EPR functionality. In comparison with other mental health systems, it has not had the same level of investment or pace of development, so does not offer a similar level of functionality.

There is currently no access to national infrastructure.

Key recent achievements

- Electronic inpatient discharge summaries emailed from electronic patient record to GP Practice and available to download in PDF for practices to save into their patient records
- Initiated SMS Appointment reminders for services to reduce DNA Rate

Current initiatives

In addition to those already identified in the Universal Capabilities Delivery Plan

- Nursing Technology Fund project is in progress with the aim of creating a mobile app to enable clinical staff to quickly enter data into the clinical record
- Work to integrate the Mental Health Clinical System (Silverlink) with WebV and Datix is on-going.
- On-going work with the Mental Health Clinical System supplier and NAViGO staff to help improve and optimise the system for the organisation
- Refresh of the current IT Estate replacing, where possible, current desktops with laptops to enable a mobile workforce to increase productivity

Rate Limiting Factors

- As NAViGO are a social enterprise organisation - No access to capital funds, very limited revenue funding
- Silverlink is an historical system with limited development. It has no connection to the spine so is not able to link to national infrastructure applications such as eRS. Any system developments required would need to be locally funded.
- Potentially has a diminishing user base, as organisations move to alternative systems.
- Ageing equipment and infrastructure and limited funds to refresh.

Social Care

Key recent achievements

- Fully integrated and removed all paper forms for Safeguarding Adults (August 2015) & Deprivation of Liberty Safeguarding (DoLS) (April 2016) into SystmOne. recently awarded best practice by SCIE - http://www.scie.org.uk/mca-directory/forum/submissions/files/e-care-record.pdf?res=true

Current initiatives

In addition to those already identified in the Universal Capabilities Delivery Plan

- Fully integrate and remove all paper forms for Continuing Healthcare (CHC) (July 2016)
- Services4Me – Online Personal Budget Manager and Online Care Act Assessment (Citizen online social care record management)
- NHS Accessible Information Standard Template creation within SystmOne to improve patient communications and sharing information in various channels. A drive if possible to digital by default. (July 2016)
- In partnership with North Lincolnshire Social Care a Single Health and Social Care record viewer is being built that will enable professionals to view key information from both the SystmOne and Social Care (OLM Group CareFirst) databases.

Rate Limiting Factors

- Software Provider Investment/Developments i.e. Reporting & Functionality abilities
- Engagement with staff to be entirely digital
- Secure N3 Network/WiFi infrastructure i.e. Commercially limiting for product development of Servies4Me
- Delays by the HSCIC and TPP in OLM Group Ltd accessing SystmOne adaptors to test the data feed to merge with the Social Care record is limiting progress on the Single Health and Social Care Viewer

8.0 Readiness Assessment

The health organisations across Humber have worked in partnership on their digital solutions and IMT strategy since the inception of the CCG's; this has been strengthened through the sharing of IMT resources across CCG's and primary care.

There has been a Humber-wide IMT Strategy Group in existence for a number of years, which is chaired by the CEO of Northern Lincolnshire & Goole NHS Trust and currently has Chief Officer representation from all health organisations across Humber. The seniority of the group provides effective leadership and direction, both within individual organisations and across the system. The group is particularly active in its commitment for a fully integrated health and care record across the entirety of the Humber region.

This group was instrumental in developing a bid to the Integrated Digital Care Fund for a Unified Health and Wellbeing Hub, providing a regional "virtual care record". This had commitment to match fund from 17 organisations. Unfortunately we were unsuccessful in our bid, but feedback was very positive, the only weaknesses being inadequate supplier engagement and benefits plan.

The Humber region remains committed to the direction of travel described in the bid, which shapes our shared records approach.

The governance and accountability arrangements for Digital Strategy have been revised to align with the Sustainability and Transformation governance arrangements. This realigned structure will act as the Enabling Work-stream to provision the STP and all change projects across the system.

The detailed proposal attached as Appendix 1, has been widely consulted on, there has been considerable support from across the system. The proposal was agreed at the Humber IMT Strategy Group and will now be formally approved through the appropriate forums.

In summary the Humber IMT Strategy Group will transition into a Joint Digital & Informatics Partnership Board for the 3 LDR footprints. This Board will be the Sponsoring Group, with membership from across the system representing the business interests and including Chief Technical Officer(s) and Chief Clinical Information Officer. It is responsible for setting the vision and strategic direction, and providing strategic oversight and system leadership, particularly in relation to funding, ownership and accountability.

To ensure digital technology retains a level of local ownership and focus and delivery is driven at a local level, there will be 3 Digital Programme Boards, one for each of 3 cogs (Figure 1 refers)

The Programme Boards will have a full oversight of all digital enablement across the system, and will drive the programme forward, determining priorities and ensuring a consistent approach to strategy and decision making. The Boards will be responsible for providing oversight and challenge and overall assurance of plan delivery.

The Programme Boards will be led by a Chief Officer, who will report through the Joint Partnership Board. Membership will be from across the system representing; business/transformation, clinical and professional and patient/citizen interests.

Clinicians and other professionals are at the heart of any transformation plan, Digitisation is an integral part of business change and clinical leadership is embedded into every aspect of our transformation programmes Active clinical engagement will be assured through CCIO representation on the Executive Board (Sponsoring Group). We will continue to utilise established clinical groups and co-opt experts as and when appropriate.

We will involve patients and the wider community through existing mechanisms, and draw on their expert practical knowledge through the Professional and Service User Reference Groups (described in the next section).

9.0 Programme Structure

A series of key enabling Project/Delivery Groups will be established, these will be of similar themes across both the North and South-bank. Once requirements and baselines are understood, there will be opportunities to combine Delivery Groups across the Humber or wider STP footprint, ensuring consistency of outcomes and benefits and optimum use of available resource.

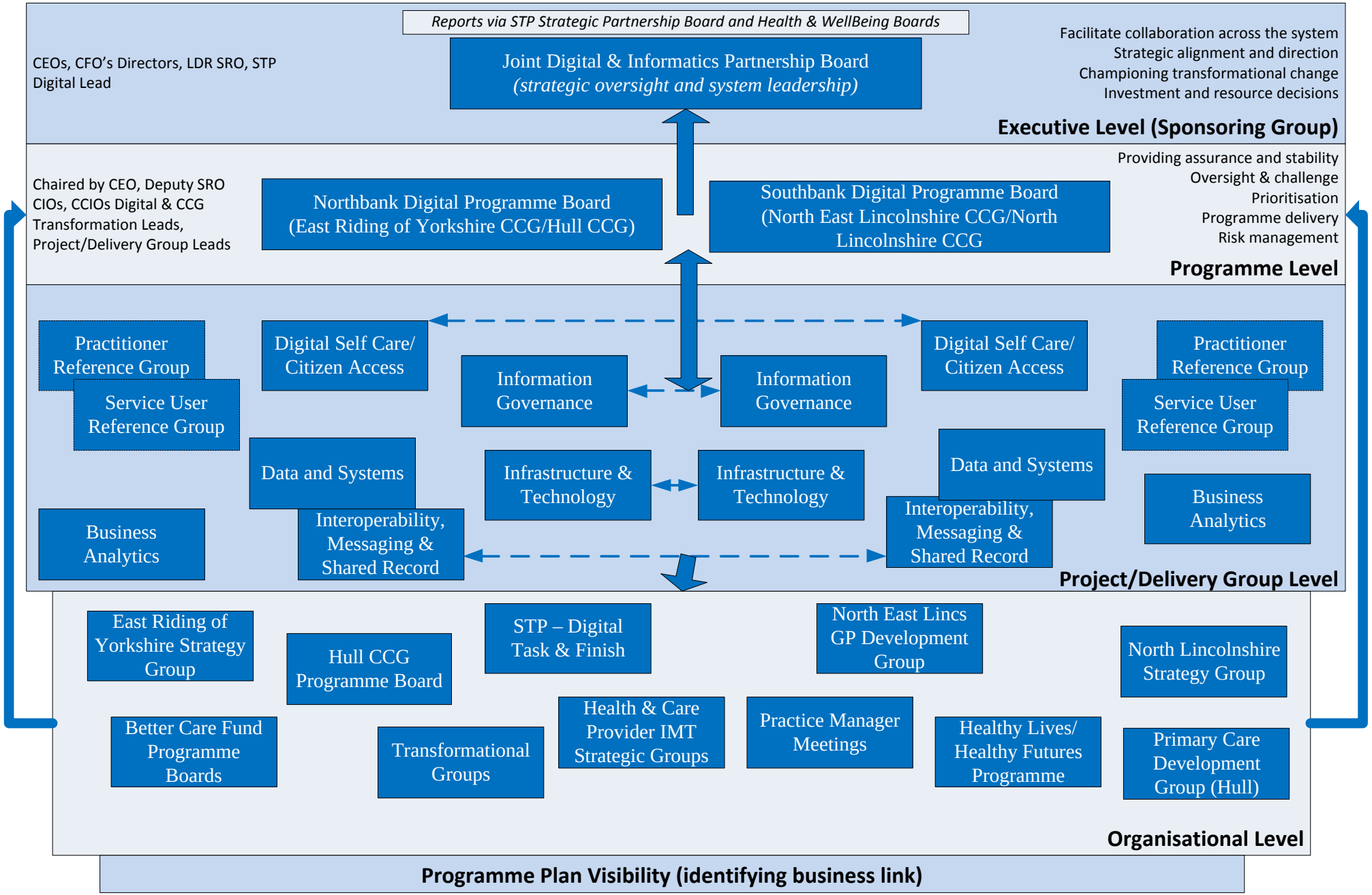
- **Information Governance** – Detailed working on policy information, sharing approach; Tier 2 arrangements, consent models and public engagement. Acting as reference and a delivery function.
- **Infrastructure & Technology** – unifying back end infrastructure, enabling access at the point of care, opportunities for improving collaboration, joint support arrangements, procurements and shared infrastructure, ensuring technology is secure, robust and fit for purpose.
- **Data and Systems** – unifying systems and reducing fragmentation and duplication, opportunities for joint procurements and optimisation of existing systems and national applications; SCR, E-Refs, etc.
- **Digital Self Care/Citizen Access** – Access to records and information, Apps, on-line access to self-care and directories of services, information portals.
- **Shared Record/Interoperability** – Integrating and connecting systems, use of API's, standards and portals, making existing systems more open and interoperable to view, share and edit data and records.
- **Business Analytics** – Improving population health and wellbeing through analysis of population health data at scale.

Practitioner and Service User Reference Group(s) – Professionals and users of the services working through detailed requirements, design and implications of change. Outputs will feed into the enabling delivery groups outlined above.

Clinical engagement and leadership, from concept and design through to implementation is critical to achieving success. Our practitioner reference groups will be led by clinicians; these groups will determine requirements and support the design and implementation of digital solutions.

Service Users are a valuable source of knowledge and expertise, and we are fortunate in this area to have a number of very active patient participation groups, which we regularly tap into.

Humber (Coast & Vale) Collaborative Digital & Informatics Governance Framework



Humber, Coast and Vale STP Governance and Accountability Framework

Redacted as this has since been updated

10.0 Programme Approaches and Methodologies

Change Management Models

It is recognised that the deployment of technology does not, in itself, lead to effective digitisation.

The baseline information captured from stakeholders confirms there are no formal models in place but a mixture of approaches to delivering change, focusing on different aspects of the overall change journey, which include aspects of; Cranfield Change Model, Lean, Lean System Linking and 'eProductive'. Both PRINCE2 and MSP are used, but at different degrees, depending on programme size and type.

However, whilst the title of each approach may be different, their principles are very similar. The general consensus around the principles for identifying change and then managing its delivery provide a sound basis for moving toward a shared approach in name and universal change management language going forward.

The Cranfield Model majors on the engagement process with staff and guides them through the change process once a solution has been identified for roll out.

'Lean' is less of a communication tool and more of an improvement tool. It concentrates on the process of identifying efficiencies which inform what the change needs to be.

Lean Systems Thinking places more emphasis on understanding the root cause of the problem and designing the solution with frontline staff and customer need in mind. It also differs from 'Lean' in that it seeks to go beyond just making the same process more efficient and instead fundamentally concentrates on changing the thinking current processes are rooted in.

PRINCE2 and MSP are not 'change identification' tools but used to manage the delivery of change once it has been identified and agreed. These do little to cover the 'softer' side of change management (engagement) and are very much delivery focused.

The key similarities across these improvement and implementation approaches are those which are promoted by NHS Improvement. There is a focus, albeit to differing degrees, on the importance of including clinical/operational staff at the heart of the change process.

This is not only taking an approach of involving them in understating the baseline and current process flow but also facilitating a situation where they take the lead in redesigning the processes and wider system in order to ensure change is fully informed and owned by those who will deliver and sustain it.

Benefits Realisation

There is an "ad-hoc" approach to benefits management across the Humber; models vary and include; MSP, Cranfield Benefits Model, KPMG benefits tool, HSCIC BART, ROI methodology

Some of these approaches will need further evaluation in terms of suitability.

The process for the identification, definition, tracking, realisation and optimisation of benefits can take many forms but, like change, it is the same activity just by different names and formats.

It is likely the choice of change management methodology will inform what form the process for Benefits Realisation will take.

More so than change, benefits realisation principles are shared as they are less moveable than principles around change management, it will simply be the terminology and tools that differ that will need to be harmonised.

To ensure a consistent approach in both the change and benefits approach, we will take a steer from the STP and modify if and where it's appropriate to do so.

Project and Programme Methodologies

MSP has been adopted for the STP and, along with PRINCE2 are familiar tools used throughout the health sector and local authorities. These same methodologies will be used for the LDR.

11.0 Sources of Investment

There is a significant element of joint investment across Humber. All CCGs contract with eMBED for their Corporate and GPIT Services. The annual value of this contract is itemised below, and this represents the total funding allocation in the CCG baseline budget.

Budgetary values redacted

	Annual value in LPF
	£
GPIT	
North East Lincolnshire CCG	
North Lincolnshire CCG	
East Riding of Yorks CCG	
Hull CCG	
CORPORATE	
North East Lincolnshire CCG	
North Lincolnshire CCG	
Hull CCG	
East Riding of Yorks CCG	

In addition there is a GPIT capital funding allocation for 16/17:
Budgetary values redacted

CCG	Capital Allocation £000s
North East Lincolnshire	
North Lincolnshire	
East Riding of Yorkshire	
Hull	

There is limited funding available, the local community is acknowledged by NHSE and NHSI as being very challenged with a significant shortfall (deficit) in the collective revenue/cash financial plans and significant constraints on capital funds.

However, there is strong commitment to advance our digital maturity and recognition that investment is needed to deliver capability and realise benefits in future months and years.

Our digital maturity is expected to increase significantly over the next 1-2 years, so we will need to identify what funding sources and options are available to us, and ensure we are in a position to develop robust business cases, in order to secure funds, particular to support our interoperability plans.

We have submitted a variety of bids to the Estates and Technology Transformation Fund, to increase digital enablement within primary care – all of which are intended to work at scale and support the case to increase efficiency and reduce capacity within primary care, and increase self-care and patient access.

We will also ensure we are in a position to take advantage of other potential sources, including:

- £1.3bn via the Driving Digital Maturity Investment Fund (£900m revenue, £400m capital over 5 years)
- £1bn Estates and Technology Fund
- Sustainability and Transformation Fund
- European Funding
- Opportunities open to Local Authorities and Social Enterprise Organisations

Providers are currently finalising their spending plans, so the information provided is not complete and subject to change

There are a number of Social Enterprise organisations in North East Lincolnshire, who do not quality for NHS or LA mainstream funding, which impacts their ability to make large-scale changes.

Budgetary values redacted

Northern Lincolnshire & Goole NHS Foundation Trust

Aspirational budgets for IM&T over the next 3 years are:

	16/17	17/18	18/19
Revenue Infrastructure (capital) Clinical Systems (capital) EPR (capital) Total			

Hull & East Yorkshire Hospitals

	HEY OPERATIONAL IM&T BUDGETS			
FUNCTIONAL AREA	**Budget 15/16 £000's**	**Budget 16/17 £000's**	**Budget 17/18 £000's EST**	**Budget 18/19 £000's EST**
IT				
PROGRAMME TEAM				
INFORMATION				

The above figures do not include Lorenzo (see below)

TOTAL IM&T CAPITAL ALLOCATION (KNOWN UP TO 31/3/17

FUNCTIONAL AREA	**Budget 16/17 £000's**	**Budget 17/18 £000's**
LORENZO PHASE 1 & 2		
LORENZ IPPMA		
OTHER IM&T SCHEMES		

LORENZO SPECIFIC PROJECT COSTS (OVER THE LIFE OF THE PROJECT)

FUNCTIONAL AREA	**Total Revenue £000's**	**Total Capital £000's**
LORENZO PHASE 1 & 2		
LORENZ IPPMA		

Rotherham, Doncaster and South Humber Foundation Trust (mental health services – North Lincs)

	16/17	17/18	18/19
Revenue Capital			

NAViGO (mental health – North East Lincs), Social Enterprise

	16/17	17/18	18/19
Revenue Nursing Tech Fund to support paper-free on Inpatient Units Discharge summary functionality Refresh of IT equipment and to support bespoke content within electronic patient record Total			

Focus, (adult social care – North East Lincs), Social Enterprise
Nominal amount for equipment refresh in 16/17
Previous spend has included to develop Adult Social Care module within SystmOne, providing full record integration across health and adult social care in North East Lincolnshire, and enabling the workforce to be fully agile
Revenue budget – IMT support services contracted out to eMBED, as per CCG's

Care Plus Group (community care – North East Lincs), Social Enterprise
No capital funding identified
Revenue budget – awaiting details

North East and North East Lincolnshire Council
Individual position for 16/17:

	16/17	17/18	18/19
NEL ICT Revenue NL Revenue NEL Capital ICT Refurbishment/Refresh NEL Capital ICT Strategy delivery NL Capital NL/NEL ICT Shared Service Set-up			

12.0 Resources

There are stable and well-established IM&T support services in place across the key local providers, which is corroborated by the positive response indicated in the Digital Maturity Baseline Assessment

The CCGs are now in a position where all digital capability, from strategy development to project and operational delivery is contracted out to a 3rd party, eMBED, who were awarded the contract as preferred supplier for the CCGs across Yorkshire and Humber, and commenced on 1st April 2016. Some discussion continues in relation to what services are funded within the contract, predominantly around strategic support and project delivery. These discussions are expected to

reach a conclusion in August, the outcome of which may have a significant impact on delivery of our digital agenda.

In conjunction with developing our 3 year capability plans, we will initiate a resource review, which will evaluate the assets, effort, capacity and capability available against need. From this we will develop a plan as to how we can optimise use of resource across the system, and identify additional investment required.

The governance arrangements are a good example of optimising our resources, which have been structured to act as a Digital Enabling Group for all programmes and project across the system; this will reduce fragmentation and ensure resources are focussed on the appropriate priorities.

There is a commitment from organisation across the system, which has been demonstrated in a previous agreement from all 17 organisations to match fund in excess of £5m in a bid to the Digital Care Fund (albeit this was not successful). Organisations have also contributed time and effort from senior team members to develop the LDR, and set-up a programme to deliver. A series of project delivery groups are established; each with a Project Lead, and representation from all main stakeholder organisations.

The Humber Strategy Group agreed the principle of sharing resource, pooling investment and sharing benefits. It was agreed to align with the approach adopted by the STP, as to how this will arranged across the provider, commissioner landscape.

13.0 Capability Deployment

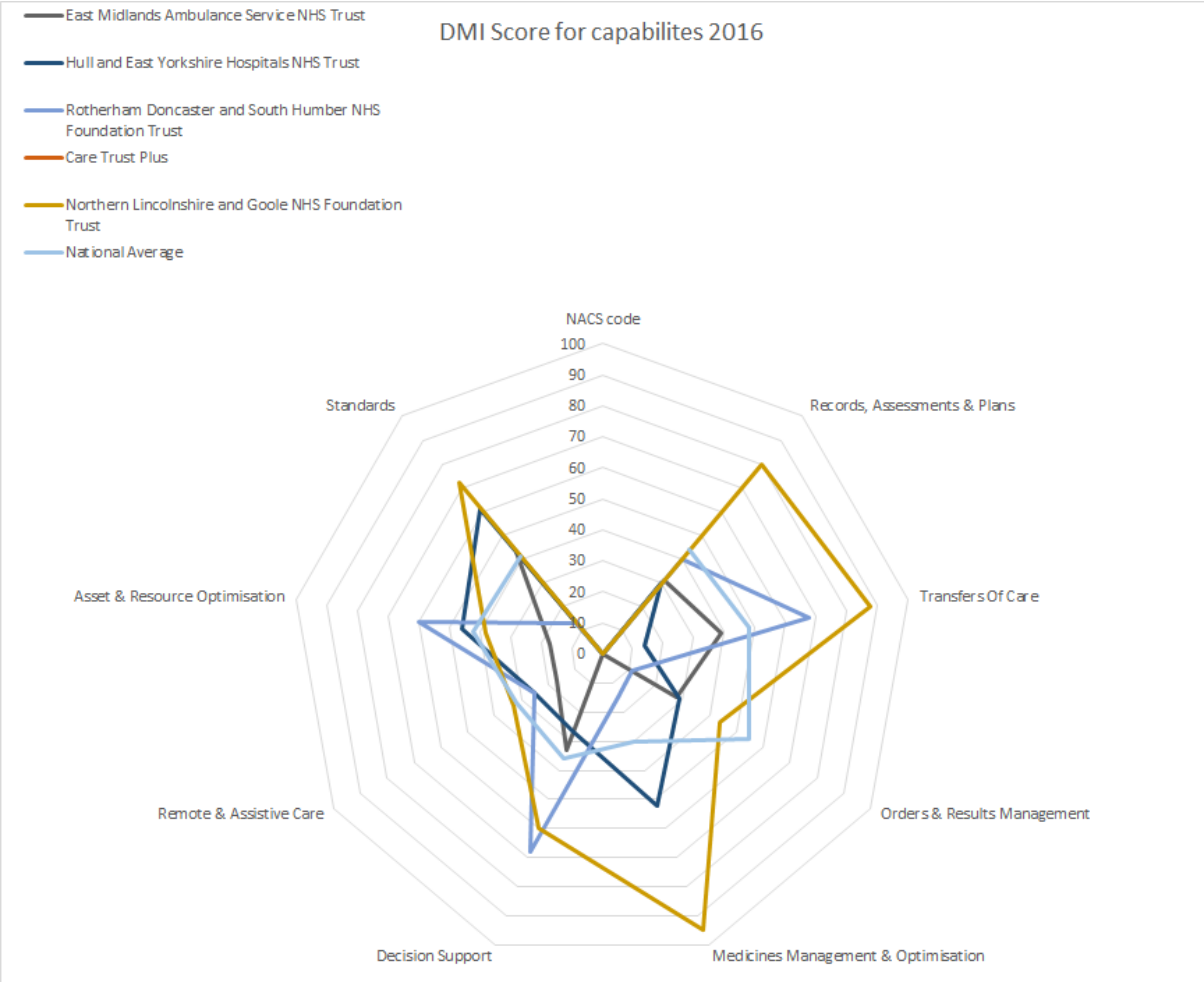
The major health providers have completed the digital maturity index. Once the primary care and social care digital maturity indexes have been developed, released and completed we will review North & North East Lincolnshire's overall position for digital maturity, and in particular understand the detail behind the data.

Although not shown on the DMI, all of our GP practices are on hosted systems (EMISweb and SystmOne) and have an excellent take up on GP2GP, ePS2 and SCR.

Northern Lincolnshire and Goole NHS Foundation Trust and Hull and East Yorkshire Hospitals) are currently deploying EPR's and have multiyear plans to improve their DMI as their respective systems are embedded within their organisations.

There is also a risk with the East Midlands Ambulance Service DMI reducing as the 999 service may revert to paper, if they are not able to secure funding to extend the current contract for their ePRF.

The diagram below shows digital maturity index for NHS providers. North & North East Lincolnshire is generally at a similar level of maturity as the national average. However, we have yet to benefit from the work recently undertaken and still on-going to embed system changes into our care pathways and business processes.



Please refer to Appendix 2 (attached) for our Capability Deployment Schedule

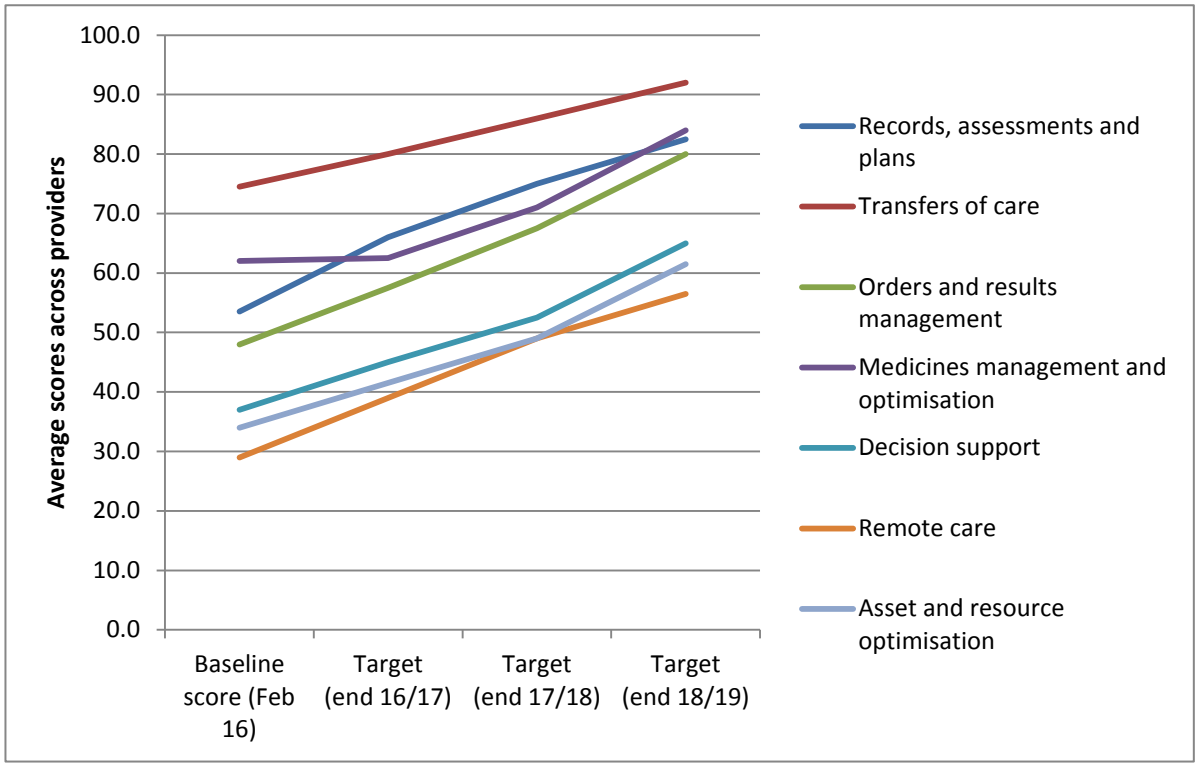
An over-arching programme plan, detailing the activities within each project delivery group, which will, together, contribute to delivery of the capabilities and ultimately our goal of paper-free at the point of care is currently in development.

14.0 Provider Capability Trajectory

A view of our combined provider capability trajectory is below, which includes:

- Northern Lincolnshire & Goole NHS Foundation Trust
- Hull & East Yorkshire Hospitals

	Average scores across providers			
Capability group	**Baseline score (Feb 16)**	**Target (end 16/17)**	**Target (end 17/18)**	**Target (end 18/19)**
Records, assessments and plans	53.5	66.0	75.0	82.5
Transfers of care	74.5	80.0	86.0	92.0
Orders and results management	48.0	57.5	67.5	80.0
Medicines management and optimisation	62.0	62.5	71.0	84.0
Decision support	37.0	45.0	52.5	65.0
Remote care	29.0	39.0	49.0	56.5
Asset and resource optimisation	34.0	41.5	49.0	61.5



Please refer to Appendix 3 (attached) for our Capability Trajectory

15.0 Universal Capabilities Delivery Plan

Please refer to Appendix 4 (attached) for our Delivery Plans for the 10 Universal Capabilities. We recognise these plans require some further refining in terms of order and presentation

16.0 Information Sharing Approach

The challenges and limited ability to see aspects of health provision outside each individual practitioner's own organisation continues to create significant logistical challenges which have a potential for direct negative impact on health provision and recurring safety concerns.

Rapid access to information, relevant to a wide range of clinical and allied professionals, without the impediment of artificial organisational technology barriers, is a core aspiration.

In 2014, 17 organisations across the Humber region supported a bid to the Integrated Digital Care Fund to develop a Health and Wellbeing Hub. Although the bid was unsuccessful, our strategic vision for an integrated care record remains the same.

The Health and Wellbeing Hub is an ambitious plan which crosses organisation boundaries across the Humber region and wider STP footprint, it combines the attributes of;

- a clinical portal;
- an information hub;
- an interactive decision support and information exchange for health, social care and other public sector and voluntary sector partners;
- a window via which citizens can access facilities and services, also known as a patient portal

Our ambition is to create a single 'landing point' in the form of a web-portal which will have three specific attributes:

I. To provide a single electronic environment to access and share, real time, information about the treatment and care of service users, enabling information empowered interactive care and rapid decision making;
II. To provide an interactive and secure environment within which service users can access their own personal records, interact with their care professionals and can take an active and empowered role in their own health and well-being;
III. Establish a vibrant information hub to promote health and wellbeing, provide pro-active advice and support to citizens, enable interaction with other service users, promoting services and social activities and acting as a bridge into community support (and social) facilities and existing citizen portals.

This unified health and well-being hub will greatly help stitch the cross-organisational digital records together in a usable record for the first time in this health community.

As described earlier in this roadmap, we have experienced some delays in executing our strategic vision, however, we are now in a position to develop plans to realise this ambition.

Our focus for16-17 is to continue to put in place the necessary building blocks to support information sharing. A number of local initiatives to establish these include:

The implementation of appropriate sharing agreements to enable, where possible, the direct integration of records between systems. , eg a SystmOne GP being able to access SystmOne Community information, or access via GP Connect project.

A series of clinical workshops have been established to map through specific pathways to identify data flows and start developing priority use cases.

Through the Data and Systems Project Delivery Group, we are pulling together detailed asset lists of systems, usage, interoperability capabilities, contracts, licences etc.

Whilst we develop our detailed plans to deliver our information sharing approach, we will focus on a number of "quick wins" to enable the viewing of information from key systems across services and professional groups.

Across our region we have a very high level of SCR utilisation, with 100% GP's uploaded and one of our local Trusts regularly at the top of the utilisation tables; we will continue to expand access to other professional groups and services.

There is considerable commitment from clinicians to utilise the enhanced SCR to provide access to a greater level of GP data across the system. We will use this to support sharing of EoL preferences and to support Long Term Condition shared pathways, starting with Diabetes.

We have implemented EMIS Viewer to provide GP Summary Information to professionals working in urgent and emergency care settings, and health and social care integrated teams, and are looking to expand this in 16/17.

Through the GPSoC integration programme, our Social Care System provider is developing a portal to share Adult Social Care data via SystmOne. This is expected to be available early autumn.

The local Trust is working closely with HSCIC, TPP and EMIS to obtain API's to enable sharing of community data with primary care and wider health and care services, through WebV. This is expected to be available early in the autumn.

A view of secondary care data is now possible through roll-out of WebV, via click-through functionality, into primary care and our health and social care network, Single Point of Access services. This provides information on admissions and discharges, diagnostics and results and clinical correspondence. This is being developed at pace, providing access to a range of secondary care data.

A paper outlining the options for Record Sharing and Integration across the Humber and wider STP footprint is attached at Appendix 5.

Our vision is to create a feature-rich, unified record from systems already in use across partner organisations; the Health & Well-Being Hub will overlay, not replace, those existing systems. A standards-based framework and roadmap will be created for this development. The first stage will be to create an output based specification which reflects current systems and information flows, and how they support the clinical pathways.

In summary our priorities for this longer term solution are to:

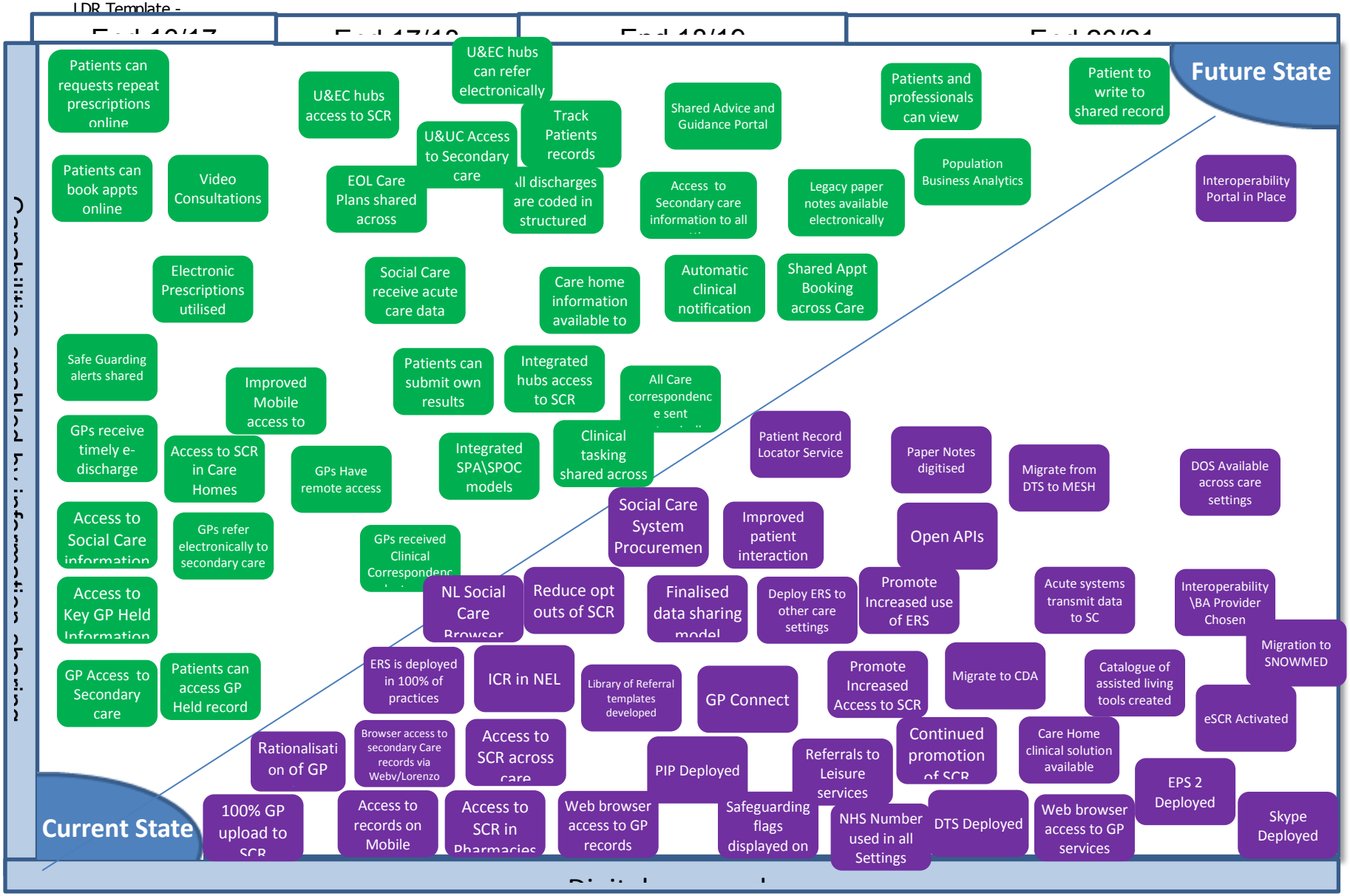
1. Engage with health professionals and clinicians through reference groups to document the vision and determine priority use cases.
2. Baseline system usage across the region/STP footprint, develop a system connectivity matrix, and engage with each supplier to investigate integration options
3. Finalise plans for sharing health based data
4. Develop a simple patient search portal enabling health/care professionals to see what health and social care services patients are receiving.
5. Identify the bespoke systems in GP practices to review integration options.
6. Undertake a Task and Finish exercise to;

    a. Review “Best of Breed” integration strategies; Leeds, Nottingham, NI, London Borough
    b. Develop a requirements specification to effectively evaluate possible solutions
    c. Engage with the supplier market to review options and quantify the investment needed.

The following summarises the Humber region’s sharing approach

Information sharing approach – North\South Humber

LDR Template -



16.1 Information Sharing Agreement

The Humber Information Sharing Charter was developed by partners across the Humber region and has been in operation since 2011. The Charter continues to be regularly updated and any public, community & voluntary or private sector body may choose to become a signatory.

The Charter has been adopted by over 100 organisations in the Humber region. The local authorities, health and social care organisations, police, ambulance, fire and rescue and probation services have actively contributed to the development of the Charter covering the fair, lawful and secure sharing of personal identifiable data. The Charter includes an Information Sharing Agreement template, which details the specific arrangements in place to support the sharing of personal identifiable data. North East Lincolnshire Council has led on drafting and maintaining the Charter document and it is hosted online by East Riding of Yorkshire Council.

The current version of the Charter, a list of current signatories and supporting documents are available at - http://www.humberdataobservatory.org.uk/legal

The next review of the Charter is scheduled for November 2016 and it is hoped all primary, secondary and social care providers will have become signatories by the end of 2016/17.

To progress the local digital roadmap work in the Humber region, a project group of stakeholders from health and social care organisations and the 4 local authority stakeholders has been established. The group will lead both on the implementation of interoperable solutions and ensuring compliance with information governance responsibility and privacy by design.

The activities supporting the project, include a workshop (29th July) for health care professionals to raise their understanding and application of effective information sharing. The workshop will cover relevant legislation and codes of practice including the impact / implications of the General Data Protection Regulations and the Caldicott review; and provide opportunities to work through examples of how information governance is and should be applied in practice

16.2 NHS Number Adoption

The majority of the health care providers, and Adult Social Care in NEL, have good NHS number adoption; in the high nineties. This is due to the extensive use of SystmOne across Community Services and Adult Social Care Services in NEL.

Up-to-date utilisation figures have been requested, as these are not routinely available on the HSCIC website for all organisations.

As a direct comparison with Yorkshire Ambulance Services, we anticipate low usage across EMAS for 999 services. This could further deteriorate if use of the ePRF is discontinued.

Within North Lincolnshire adoption of the NHS Number has moved on significantly to support the Better Care Fund requirements, which has resulted in 77% of adult and children's social care records having a valid NHS Number.

North Lincolnshire undertake monthly uploads to improve matching and a data cleansing exercise is underway on the remaining 23% to resolve address issues, DoB errors and duplicates.

Changes to data entry policies and the Care First Social Care system have been undertaken to reduce data quality issues and improve data matching.

On average 2.7% of the remaining (non-matched) records are matched each month. Both LA's have engaged with Capita One to consider if non-social care children's records can have a validated NHS Number attached through the HSCIC DBSB. (This is a new requirement for Children's Services where the child or family is not known to Social Care and is expected to be developed for April, 2017)

Both programmes will continue to work alongside to ensure optimisation.

The list of NHS number adoption by organisation is shown below;

Organisation	NHS No Adoption %
NORTHERN LINCOLNSHIRE AND GOOLE NHS FOUNDATION TRUST	98.7%
HULL AND EAST YORKSHIRE HOSPITALS NHS TRUST	99.0%
NORTH LINCOLNSHIRE COUNCIL – ADULT SOCIAL CARE	77.0%
FOCUS (NEL) ADULT SOCIAL CARE	100%
NAViGO MENTAL HEALTH SERVICES	99.2%
CARE PLUS GROUP	100%
EAST MIDLANDS AMBULANCE SERVICE	
ROTHERHAM, DONCASTER AND SOUTH HUMBER NHS FOUNDATION TRUST	99.%

It is anticipated that there could continue to be gaps in NHS number adoption in FY 17-18 due to local authorities.

16.3 Coding Standards

Our plans will consider the adoption and roll-out of coding standards such as SNOMED and dm+d, as information on this becomes clearer.

17.0 Infrastructure

17.1 Current Status of Mobile Working Infrastructure

North & North East Lincolnshire covers approximately 400 square miles, with a mix of urban and rural areas which presents some mobile connectivity challenges. Each organisation within the region has existing mobile data contracts (multiple contracts in some organisations which is aimed to provide best connectivity in certain areas). These mobile contracts are with a variety of providers (predominantly Vodafone, Telefonica (O2) and EE), with varying termination dates. Whilst there may be the opportunity in future years to jointly procure a single provider, the opportunity to support mobile infrastructure should strategically focus on Wi-Fi connectivity facilitated through fixed line services. When consideration is given to the number of buildings within the region, and the distribution of these locations, the South Bank Digital Programme Board will focus on the opportunity of providing ubiquitous access utilising these networks (network sharing), reducing the demand for mobile data.

Significant progress has already been made in the provision of mobile working infrastructure within Health through the provision of NHS Roam which allows networks to be shared by Health professionals across Northern Lincolnshire & Goole NHS Foundation Trust, South Yorkshire and Mid Yorkshire areas. Shared networking (including WiFi) also exists between North East Lincolnshire Council and North Lincolnshire Council with a significant drive to join up all infrastructure as part of a shared back office function (North & North East Lincolnshire Business Connect). North Lincolnshire Council has a network sharing arrangement with Health, and work is underway to expand this to North East Lincolnshire too. What this clearly shows is a commitment to sharing facilities, although this is being undertaken in a tactical, rather than a strategic manner.

The region has a mixed estate in terms of desktop and laptops which is broadly 50%/50% (but significantly different in some areas where laptops prevail assisting mobile and agile working).

17.2 Plans for Developing Mobile Working Infrastructure

Each organisation has a commitment to continue the tactical rollout of shared Wi-Fi which will facilitate mobile working. Coupled with the continued commitment to share infrastructure, resources will be shared between all organisations maximising the lessons learned with current and future mobile working projects. In addition, any future procurement of ICT systems or infrastructure will consider the potential use of solutions which can be adopted by all organisations, if appropriate.

17.3 System-wide Initiatives to Develop Mobile Working Infrastructure

All organisations are committed to continue the tactical deployment of partnership Wi-Fi, facilitating mobile working from shared locations. The pending change to the provision of N3 and the re-procurement of the regional PSN brings new opportunities to deliver a single infrastructure which will further enhance both on-site and mobile working. It is also envisaged that the re-procurement of PSN will include mobile data services, again providing the opportunity for a single data service across the region.

17.4 Plans to Improve Collaboration

The region has limited collaboration tools although a number of organisations use Skype for Business (Microsoft) and Cisco Jabber and WebEx. Some have collaboration tools deployed fully, facilitating mobile and agile working and some have trials initiated. In the past there has been limited demand for collaborative tools across the different professions, however changing working practices between all organisations has demonstrated this is an area which requires additional investment.

There is also the opportunity with the pending change from N3 to HSCN in March 2017 to review how the Health network is procured and managed across the region. There is a real opportunity to finally provide a single ICT Infrastructure across Health and the Public Sector. The procurement of HSCN could dovetail into the regional work which is being undertaken in the region for the re-procurement of a regional Public Services Network (PSN). Through a collaborative procurement framework there will be the opportunity for each organisation to procure a single network. Linked with the recent announcement of GovRoam, provided by Joint Information System Committee (JISC) and based on EduRoam, a single network will provide the foundation for ubiquitous Wi-Fi connectivity across the region (and beyond). This vision is being supported by all Health organisations, with support of the local authorities who are not only taking the lead on the ICT Infrastructure work streams, but are also all members of the Yorkshire and Humber Public Services

Network (YHPSN), which is driving a co-ordinated approach and working directly with the Cabinet Office to ensure the proposed solution works for all.

17.5 Opportunities for Sharing Infrastructure

The pending move to HSCN in March 2017 brings significant opportunities to deliver a single infrastructure across the region. However, until confirmation has been received how this will be managed at a regional, rather than national level, a strategic plan cannot be finalised. However, work is progressing with the YHPSN to identify procurement opportunities for the provision of a single shared infrastructure, with many organisations confirming, in principle, it is the way forward. The future move of applications to be web-enabled may have in implication on the requirement for some organisations to have N3 (or equivalent) connectivity.

18.0 Minimising Risks Arising From Technology

The outcomes of the Data Guardian Review and Caldicott 2 Outcomes are likely to require changes in approach and business processes for safe and lawful handling of personal information.

The LDR programme board is committed to meeting these requirements and aims to ensure all partners implement them in a co-ordinated and consistent way to minimise impact on data subjects and exploit opportunities for common standards and system interoperability.

The NHS IG Toolkit and PSN standards ensure organisation commitment to information and data security. Unsupported systems and software are dealt with in detail in the Public Services Network to which all 4 local authorities are accredited. Health side is covered by Cyber Essentials.

Minimising Risks to Patient Safety and Organisational Reputation

Health and social care providers are required to accredit against the NHS Information Governance Toolkit which provides assurance on the following areas:

- Data security
- Clinical safety
- Data quality
- Data protection and privacy
- Accessible information standards
- Business continuity and disaster recovery

All organisations comprising the LDR programme board will provide assurance that they have reached Level 2 of the Toolkit, or have an improvement plan that has been accepted by HSCIC. They will also confirm that Toolkit compliance is included as a mandatory requirement in all procurement or commissioning where providers will process patient/client data by the end of 2016/17.

The 4 local authorities in the Humber region are also accredited to the Public Services Network standard for information and data security which is based on CESG standards and is managed by the Cabinet Office.

The LDR Programme Board is also committed to support proposals, currently in their early stages, for shared wired and wireless networks and on further alignment and convergence of the NHS IG Toolkit and PSN standards.

To ensure absolute safety we will only use suppliers that are fully compliant with ISB 0129 Clinical Risk Management; it's Application in the Manufacture of Health IT systems. Partners will fully comply with ISB 0160 Clinical Risk Management; it's Application in the Deployment and Use of Health IT Systems.

All GP Practices have access to a formal Clinical Safety System (ISB 160) and qualified clinical safety officer. This is provided through our contract with our IT Supplier for GPIT services.

To support Accessible Information Requirements; templates have been configured in SystmOne to capture the summary accessible information standards ahead of clinical system provider issuing the functionality within their core systems. Staff have been provided support materials and guidance and are using the accessible information.
The same data is recorded on the PAS within the Critical Patient Information record.

All risks will be managed through a formal Risk Management System, and reported as appropriate through the governance structure.

18.1 GS1 Standards

Providers across the Humber region are committed to use GS1 standards as they become available, particularly around patient appointment letters, stock management and bar coding of diagnostic tests.

Appendix 7 - Glossary of Terms and Acronyms

ASC	Adult Social Care	U&EC	Urgent & Emergency Care
CCG	Clinical Commissioning Group	**YAS**	Yorkshire Ambulance Service
CCIO	Chief Clinical Information Officer		
CEO	Chief Executive Officer		
CHCP	Community Health City Partnerships		
CPG	Care Plus Group		
CP-IS	Child Protection Information Service		
dm+d	Dictionary of Medicines and Devices		
EoL	End of Life		
EMAS	East Midlands Ambulance Service		
EPS	Electronic Prescribing		
EPR	Electronic Patient Record		
ERS	Electronic Referrals Service		
ERoY	East Riding of Yorkshire		
GPSoC	GP Systems of Choice		
HEY	Hull & East Yorkshire Hospitals		
HFT	Humber Foundation Trust		
HLHF	Healthy Lives, Healthy Futures		
HSCIC	Health & Social Care Information Centre		
HSCN	Health & Social Care Network		
IDCR	Integrated Digital Care Record		
IG	Information Governance		
IM&T	Information Management & Technology		
ITK	The Interoperability Toolkit		
LA	Local Authority		
LDR	Local Digital Roadmap		
NEL	North East Lincolnshire		
NL	North Lincolnshire		
NLAG	Northern Lincolnshire & Goole NHS Trust		
OOH	Out of Hours		
PMO	Programme Management Office		
RDaSH	Rotherham, Doncaster and South Humber NHS Foundation Trust		
SCR	Summary Care Record		
STP	Sustainability & Transformation Plan		