BARNSLEY DIGITAL ROADMAP

NHS
Barnsley Clinical Commissioning Group
Putting Barnsley People First

Barnsley Digital Roadmap

Contents

Section

1. General

The Barnsley Local Digital Roadmap (LDR) has been endorsed by the Chief Officer of NHS Barnsley CCG on behalf of NHS Barnsley CCG Governing Body.

During the development of the LDR, draft versions of the document have been shared in a number of forums for comment including the;
- Barnsley CCG Governing Body
- Barnsley Senior Strategic Development Group;
- Barnsley IT Strategy Group
- Barnsley CCG IT Group
- Barnsley Healthcare Federation Executive Team
- South Yorkshire and Bassetlaw LDR Development Group
- South West Yorkshire Partnership Foundation Trust IT Forum and Executive Management Team

The Barnsley LDR has been developed by a small multi-agency sub group of the Barnsley IT Strategy Group. Lead individuals from all organisations have met to understand the Digital Maturity Index and baseline position across Barnsley. The small multi-agency group have then collaboratively developed the LDR and shared this within their individual organisation for comments and feedback. The LDR has been shared across the system in organisational and system wide meetings to ensure that there is a broad understanding of the direction of travel, approval of the LDR content and ambition and commitment at a very senior level to support the implementation of the LDR. It has also been shared with a wider audience outside of formal meetings to ensure as much input as possible from across the system including across the Local Authority and Barnsley Hospice.

Yorkshire Ambulance Service is a key partner in the delivery of health and care services across Barnsley. For the purposes of the Digital Roadmap, the information that they have shared with all partners will be submitted for assessment within the Sheffield Digital Roadmap.

There are strong links between the development of the Barnsley LDR and the South Yorkshire and Bassetlaw (SY&B) Sustainability and Transformation Plan. This has primarily been through the Barnsley CCG Accountable Officer who is the CCG Accountable Officer Lead for the South Yorkshire and Bassetlaw STP and also Chair of the Barnsley IT Strategy Group, member of the Barnsley Health and Wellbeing Board and Barnsley Senior Strategic Development Group. The CCG lead for the development of the LDR is also one of the Leads for the Digital work stream within the Sustainability and Transformation Plan. The Barnsley CCG lead is also part of the South Yorkshire and Bassetlaw LDR leads group which allows joint working and a regional approach to the development of the LDR. This offers significant opportunity for cross pollination and alignment of the two plans during the current development phase.

Significant contributions have been made to the Barnsley LDR by;

Barnsley Clinical Commissioning Group
South West Yorkshire Partnership Foundation Trust
Barnsley NHS Hospital Foundation Trust
Barnsley Healthcare Federation
Barnsley Metropolitan Borough Council
Barnsley Hospice

The final version of the LDR has been endorsed by the IT Strategy Group. Following submission at the end of June a final version will be shared widely across the system including:
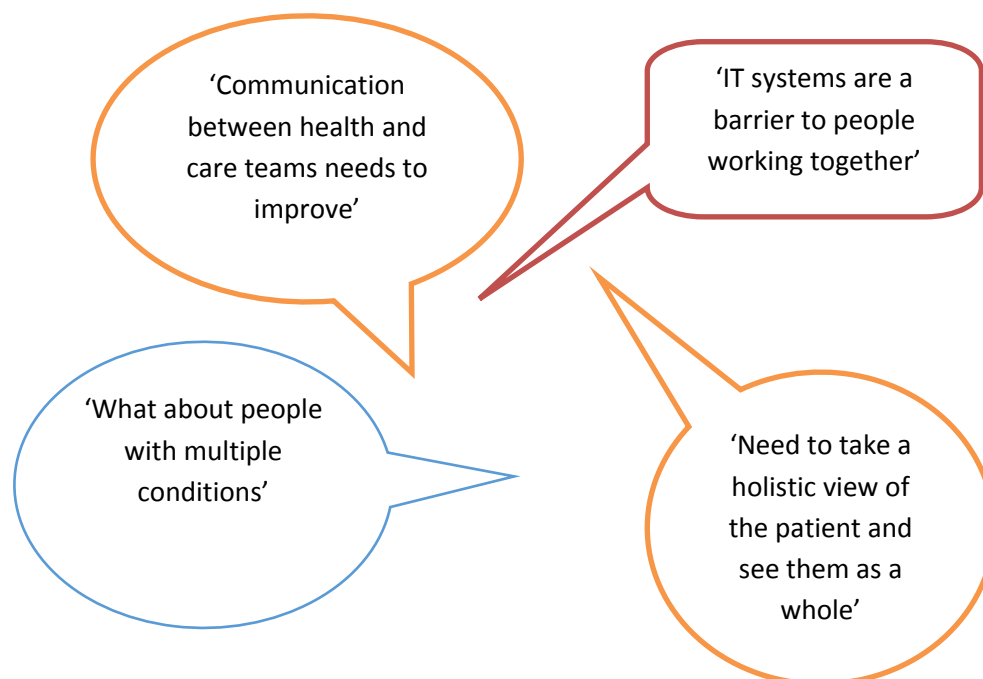
Organisation	Endorsed by	Date
	Barnsley Health and Wellbeing Board	10th August 2016
	Senior Strategic Development Group	13th July 2016
NHS Barnsley CCG	Governing Body	14th July 2016
Barnsley Hospice	Board of Trustees	4th August 2016
Barnsley NHS Foundation Trust	Trust Board	28th June 2016
South West Yorkshire Partnership Foundation Trust	South West Yorkshire Partnership Foundation Trust IT Forum and Executive Management Team	August 2016

2. Vision

In Barnsley, we know from a range of engagement activity over the past few years that our communities are frustrated when communication between services and between services and patients fail – this also leads to waste in the system and poor experiences. Simultaneously, as growing numbers of people have increasingly positive experiences of digital technology in everyday life, the disparity between commercial services and the health sector is becoming more and more apparent.

We are also starting to see examples of patients choosing to be digital innovators. Where this is right, safe and beneficial for the citizen, it can work extremely positively. We actively acknowledge that there is some hesitancy and concern within the community, especially older people, and that patients need to be assured that their data will be safe.

An indication of current challenges relating to digital capabilities within Barnsley is illustrated below from an engagement event held in February 2016. The theme of the event was 'Integration' in the broader sense. Attendees included representation from patient reference groups, the Patient Council and other interested citizens from across Barnsley.

'Communication between health and care teams needs to improve'

'IT systems are a barrier to people working together'

'What about people with multiple conditions'

'Need to take a holistic view of the patient and see them as a whole'

Barnsley Digital Vision

Within Barnsley our vision for digital maturity is clear. We will;

✓ Transform the way in which we engage with citizens; empowering them to maintain their own health and wellbeing through digital solutions
✓ Transform the way in which health and care providers, our voluntary and charitable sector organisations engage with patients within their communities
✓ Accelerate mechanisms that promote record sharing and support access to data for those working within a community setting
✓ Enabling clinicians to provide the best care in all settings by the use of mobile technology.

Barnsley IT Strategy

The Barnsley wide IT Strategy sets out two key priorities to support the delivery of the above vision. These are;
- Supporting the development of universal information and advice to enable citizens to self-care and self-manage their health and wellbeing
- Enable the sharing of information and the integration of health and care records

The digital priorities for Barnsley fall within the wider vision as set out in the South Yorkshire and Bassetlaw Sustainability and Transformation Plan (STP) Digital Work Stream which is below.

Within Barnsley there is a set of key principles that we apply to the implementation of digital. These are;
1. To improve the way we work together
2. To have a user centred design
3. To reduce rather than exacerbate health inequalities

South Yorkshire and Bassetlaw STP Digital Vision

Our digital health strategy has three essential elements.

- Citizen and Patient Empowerment
- System integration and operational efficiency
- Strategic decision support

Our future technology enabled communities will therefore be characterised by:

- Enabling health and care providers' access to appropriate patient clinical electronic data across traditional boundaries, agnostic of staff employer or organisation. Having a Shared Care Record in place, accessible to clinical staff or those who need it wherever they are, is the single most important change we need to make. As we develop plans for clinical services across the wider SYB footprint, we will inevitably see our patients moving between organisations to receive care. Therefore it makes sense that our ambition for Shared Care Records extends across this larger footprint. Access to Shared Care Records is particularly important for urgent and emergency care, but such a system would have significant benefits for clinical care. This ambition:

- o Will require up to date hardware and wireless networks so that access to data is fast and easy for our citizens, patients, carers, staff or wider health and care communities.
- o Will require us to develop clear rules within which we operate to ensure appropriate governance and security for patient data as well as interoperability of systems and technologies now and into the future. Consequently, data, data management and systems will be subject to agreed national and local standards supporting ongoing interoperability.
- o Will incorporate data from multiple sources including NHS and social care as well as other public and voluntary or charitable organisations and include citizen generated data from citizen controlled devices and innovations
- o Will mean citizens and patients take greater ownership for their health and wellbeing. They will be supported to do this through technology which promotes prevention as well as self-care and management.

- Innovation and learning will be part of our DNA, translated into rapid deployment of technology (e.g. related to access, devices, apps etc.) and signposting where helpful to achieve improved health and wellbeing outcomes. This will need us to also concentrate on improving digital literacy so that interventions help to bridge, not exacerbate, the digital health divide and health inequalities across our broad socio-economic communities. Personal health and wellbeing digital data needs to be as 'consumable' for health and care professions as for citizens and patients in order to maximise potential.

- Robust population based analytics, supporting risk stratification and system alerts which result in rapid response and appropriate interventions tailored to the individual's needs.

Within the next five years our system will therefore deliver a new way of supporting and working in partnership with communities to achieve improvement in health and wellbeing outcomes and address current health and care challenges.

Gap	How we will address the Gap
Care and quality	- Shared records offering increased access to relevant, real time, information about a patient by health and care providers as well as patient authorised viewers - Develop interoperability to enable effective transfer of care across providers through e-referral and discharge processes - Promote mobile working of practitioners through Wi-Fi accessibility and roll-out of mobile devices for practitioners
Health and	- Citizens will have significantly more control over their care, and experience better outcomes through improved treatment

wellbeing	and medication adherence as well signposting to appropriate services within their community
	- Proactive care will reduce frequency of exacerbation, and co-ordinated care will address their health and care needs holistically - including mental health
	- Promotion of remote monitoring, new forms of consultation (e.g. video, phone) and mHealth will also support care based in the citizen's own home, reducing the burden of routine care on patients, their cares and families, and health professionals.
	- We will develop new integrated self-care technologies to support citizens, patients and carers to manage their own wellbeing
	- We will develop a universal advice and information approach and offer to citizens
Finance and sustainability	- We will develop combinatorial technologies to promote increased efficiency in the ongoing care and management of patients.
	- Greater integration of care will mean increased opportunity for admission avoidance
	- Increased reliance on validated risk stratification and population analytics will enable more efficient case finding and targeted intervention
	- Remote monitoring and surveillance will mean earlier intervention to avoid unnecessary use of secondary care resources and effective use of community based resources
	- Better tracking and scheduling of staff resources will enhance operational efficiencies
	- Reduced DNAs through easy access to GP booking systems, reminders, patient self-reporting/recording and active self-management
	- Clinicians able to use their time more effectively through the use of technology

3. Baseline Position

In preparation for the development of the Local Digital Roadmap the two secondary care providers in the Barnsley footprint carried out a Digital Maturity Assessment in between November 2015 – January 2016. A summary of the results from this initial assessment of the two providers is shown in the table below.

Section	Type	BHNFT	SWYPFT	National Average
Strategic Alignment	Readiness	85	63	76
Leadership	Readiness	95	70	77
Resourcing	Readiness	90	75	66
Governance	Readiness	50	70	74
Information Governance	Readiness	88	92	73
Records, Assessments & Plans	Capabilities	12	45	44
Transfers Of Care	Capabilities	49	29	49
Orders & Results Management	Capabilities	59	14	52
Medicines Management & Optimisation	Capabilities	9	3	29
Decision Support	Capabilities	13	73	36
Remote & Assistive Care	Capabilities	8	42	33
Asset & Resource Optimisation	Capabilities	35	35	42
Standards	Capabilities	29	6	41
Enabling Infrastructure	Enabling Infrastructure	70	70	68
Readiness Average	**Readiness**	**82**	**74**	**73**
Capabilities Average	**Capabilities**	**27**	**31**	**40**
Enabling Infrastructure Average	**Enabling Infrastructure**	**70**	**70**	**68**

As can be seen from the table above the assessment scores for the Barnsley footprint identify that our current level of development is consistent with the national position. A key insight is that our organisational readiness is strong but capabilities still need to be developed. Nationally the capability areas where it has been identified that there is particular room for growth are medicines management, decision support and remote care. Our scores indicate that these are also key development areas for Barnsley along with transfers of care, orders and results management, asset and resource optimisation and standards.

In addition to the above exercise, Barnsley CCG has submitted a Digital Maturity Assessment for primary care and BMBC has been asked to complete a Digital Maturity Assessment via the Local Government Association. Analyses of the results for these assessments are still to be published for the Local Authority. The primary

care results were published towards the end of June and will be interpreted locally with national support through advertised webinars to be included in further iterations of the LDR.

An overview of the current digital maturity of the primary, secondary and social care providers within the Barnsley LDR footprint along with a summary of their recent achievements and current initiatives is given below:

Primary Care

Overview of Maturity

There are 36 GP Practices in Barnsley, 28 of which are member practices within a single GP Federation, Barnsley Healthcare Federation. There is a range of digital maturity across these practices. There are currently 2 dominant clinical systems in use across Barnsley practices and a range of document management systems in place. There is currently a move towards paper light and paper less working in some practices. Most practices are already operating 'paper free at the point of care' with no reference to paper based notes during patient consultations. Despite developments towards paper light and paper less working, there is still a reliance on fax communication in some areas.

Key recent achievements within primary care include:
- Over 85% take up of the Medical Interoperability Gateway (MIG) by local practices to enable real time sharing of clinical data between health and social care organizations.
- Primary Care Access to Secondary Care Radiology reporting and imaging
- Wi-Fi enabled in 35 of the 36 practices
- 100% rollout of electronic requesting of medical imaging from within the ICE system.
- The ability of Barnsley GPs now to see lab results and x-ray reports from South Yorkshire and Bassetlaw hospitals which their patients have attended as well as those from the local hospital.
- GPs can receive electronic copies of hospital inpatient discharge letters (D1s) into their clinical systems as well as NHS 111 and out of hours reports from deputising service.

Current initiatives within primary care include;
- Roll out of MIG to remaining primary care practices
- Roll out of MIG to wider system including BHNFT, SWYPFT, Barnsley Hospice in phase 1. This will allow clinician access to patient's own GP records when needed both in and out of hours
- Minimum 10% of patients registered for online services at each GP Practice for 2016/17 (rising to 20% in 2017/18)
- Develop a collaborative approach towards paperless/light running across all Practices

Barnsley Hospital NHS Foundation Trust

Overview of Maturity

Core Capability	Barnsley Hospital Maturity Q1 2016/17 Status
Records, assessments and plans	Very Immature (Missing Capability)
Transfers of care	Immature (Some Capability – Not Tested)
Orders and results management	Fairly Mature(not all specialities) – In operation
Medicines management and optimisation	Very Immature (Missing Capability)
Decision support	Very Immature (Missing Capability)
Remote care	Very Immature (Missing Capability)
Asset and resource optimisation	Immature(More optimisation required)

Barnsley Hospital NHS Foundation Trust is fairly immature in their use of technology to support patient care. Although there is excellent technology in use at departmental level the organisation as a whole is dependant paper records throughout the trust as the formal record of care. There are also some fundamental technical and clinical functionality which need to be developed.

As part of this digital roadmap the hospital is embarking on an aspirational journey towards paperless 2020 where it is seeking to deliver prescribing, digitisation, clinical portal and assessment missing capabilities.

Key recent achievements include;
- Primary Care Access to Secondary Care Radiology reporting and imaging
- Electronic Radiology requesting
- E-forms capability initiated
- Lorenzo Optimisation programme established
- Digitisation capability established
- Vital Signs Business Case agreed at Trust Board
- Medworxx system flow bed management project established
- Bluespier Theatre replacement project established
- Radiology reporting

Key current initiatives
- Dermatology Electronic records
- Endoscopy Reporting and Requesting
- Results and reporting programme
- Working towards sending outpatient letters direct to all GP clinical systems in Barnsley

South West Yorkshire Partnership Trust

Overview of Maturity

Core Capability	South & West Yorkshire Partnership FT Maturity Q1 2016/17 Status
Records, assessments and plans	Immature (Limited Capability)
Transfers of care	Immature
Orders and results management	Limited capability
Medicines management and optimisation	Very Immature (No Capability)
Decision support	Reasonably Mature
Remote care	Fairly Mature (Limited Deployment)
Asset and resource optimisation	Immature(More optimisation required)

South West Yorkshire Partnership NHS Foundation Trust (SWYPFT) has over the last 2 years made significant inroads in terms of their use of technology to support patient care through its ever expanding service transformation programme of works. The Trust's main two clinical information systems, RiO for Mental Health Services and SystmOne for Community/Children's Services are core components of the SWYPFT electronic care record (which are both National Spine enabled) which all care professionals utilise to capture clinical interventions as part of the formal record of care including clinical notation, clinical assessments and care planning. There remains a degree of immaturity in relation to archived/historic paper records dependencies but solutions are being implemented that will address this during 2016/17. Whilst the Trust remains relatively immature in respect of medicines management/ePrescribing capabilities, a programme of work is in the planning stage to address this area for development.

In support of the wider digitisation agenda, the Trust has a major investment programme that is well established that has enabled approximately 2000 staff to work in an agile manner with the capability to access and record clinical care information electronically. As part of the Trust's digital roadmap and drive towards a paperless 2020, clinical information systems interoperability (integration) capabilities were established during 2015/16 and work is actively progressing the flow of eDischarge summaries to primary care together with improved integration between the Trusts main clinical information systems.

Aligned to this work, SWYPFT has also commissioned and is developing its own Trust-wide clinical portal which serves to improve accessibility to holistic virtual electronic care record information. SWYPFT is also working collaboratively with partners (primary care, secondary care and health and social care providers) across its geographical boundaries in exploring wider clinical interoperability opportunities in response to CCG/Commissioner SDIPs requirements, the Trusts integration

roadmap reflects the opportunities that these collaborations will bring and the key objective of this development will be to deliver shared care capabilities to clinical services to improve the delivery of patient care and personalised care.

Key recent achievements include;
- Mobile working Phase 1 (up to 2000 staff)
- Telecoms replacement Phase 1
- VPN replacement
- Unified Comms – Skype for business
- Year 1 infrastructure development
- SystmOne EPRCore
- SystmOne Full Clinical Deployment
- Smoking Cessation

Key current initiatives
- RiO Upgrade to Version 7
- Clinical Portal Phase 1 and 2
- Mobile working Phase 2 (800 staff)
- Wi-Fi accessible on all Trust sites
- Wi-Fi accessible on all Partner sites
- Year 2 infrastructure development
- Medicines Management / e Prescribing
- Business Intelligence development
- Medical records scanning
- Digital dictation
- Review of options available to the Trust to re procure the Mental Health clinical information system within the next 1- 2 years
- Investigation & development of apps to support and improve service user care and recovery

Barnsley Metropolitan Borough Council

Overview of Maturity

Barnsley Metropolitan Borough Council (BMBC) has some pockets of digital maturity across the organisation but overall it is in a state of digital immaturity. The base provision to enable paperless service provision is currently being rolled out to staff. This includes mobile devices, tablets or laptops and a secure VPN connection back to all of our systems. It is not currently possible to connect to a number of systems directly, particularly those used by Children and Adults social care. Neither department can currently access, amend or add records in either a live or offline capability. This function will be delivered to both social care teams within the next few years beginning with the Adult Social Care team. It is envisaged this would be achieved via direct access to the system rather than via offline and syncing technologies. This will allow for real time updates. A pilot will take place during 2016 with a full rollout to Adult Social Care completed during 2017 and Children Social Care by the end of 2018.

0-19 staff are moving back to the BMBC and will be given access to SystmOne, mobile equipment and Wi-Fi access. This will be completed in 2016.

Further developments of integrated working with South Yorkshire Police (Public Services Hub) are likely to create additional technology developments that enable greater integration of systems to enable effective deployment of resources across the system, particularly in relation to people and families with multiple and complex needs.

Key recent achievements include;
- VPN solution for social care staff

Key current initiatives and known requirements include;
- Mobile devices for all social care staff
- Access to SystmOne for 0-19 provision
- Wi-Fi across all sites for both BMBC staff and partners
- Development of system integration capabilities between South Yorkshire Police and the Council
- Potential development of system integration capabilities between South Yorkshire Fire and Rescue and the Council
- Digital Development Programme
- Prevention and Early Intervention including Assistive Living Technology
- Universal Advice and Information to create an accessible information standard
- Specific Independent Living project to connect systems with partner systems

Barnsley Hospice

Overview of Maturity

Barnsley Hospice currently uses iCare as its main clinical System. Through this it has introduced 'paper light' meaning all care plans, assessments and patient notes are created and stored digitally across the Inpatient Unit and Daycare services, with expansion into Therapy Services on the roadmap.

Patient and GP letters are now created and stored electronically through use of mail merge within the iCare system across all Hospice Services with the exception of Bereavement Support and Complementary Therapies, which are currently in the process of being introduced.

External professionals are also using the system when attending patients on the Inpatient Unit, which has eliminated the need to keep paper based 'Multi-disciplinary Team' records (Pharmacists access relevant doctors notes, and the Physiotherapist and Social Worker both use the system to access notes and to create their own electronic notes. The Physiotherapist also has an electronic assessment document).

The Hospice has an N3 connection which is separate to the Hospice network and is restricted to a small number of computers providing access to ICE, Impax and EPR core.

The current level of access to patient records, for example, X-rays is via ICE via the hospital, and we have to still rely on faxes via a dedicated fax machine for receipt of referrals and we still obtain paper records/ patient notes from the hospital.

Key recent achievements include;

The Inpatient Unit is currently using a combination of laptops and hand held devices to carry out assessments at the point of contact with a patient using the Hospice's secure Wi-Fi connection (unsecure Wi-Fi is available separately for Hospice patients and visitors). This is paving the way for mobile working should the Hospice decide to move to remote hosting for its patient information system - an option which is perfectly feasible with the current system, but brings financial considerations - meaning two way access to Hospice records would be available for domiciliary visits, and for any future remote clinics, should the Hospice be in a position to fund the remote hosting option.

The key current initiatives are;

The Hospice shares information holistically across all its departments and is due to implement the MIG imminently, which will enable access to wider community healthcare electronic records. However this is presently not reciprocal as the Hospice is unable to import information to the shared portal without rolling out use of (for example) SystmOne which is in the Hospice's strategic plan

Financial constraints and current infrastructure restrict the deployment of the services across the network and limits the wider use of shared systems currently.

Yorkshire Ambulance Service

YAS can provide world-class care for the communities it serves by providing and coordinating access to Urgent and Emergency Care in Yorkshire and Humber, ensuring the right care to patients close to home following their first contact.

Key recent developments include the implementation of a new digitally enabled model of care ensuring the right care to patients close to home following their first contact. Inclusion within the Urgent and Emergency Care Vanguard in West Yorkshire Urgent and Emergency Care Network has meant that this new "Hear, See and Treat" model can be deployed across the wider Yorkshire and Humber Region. The "Hear and Advise" element of the service (or the Clinical Advisory Service) can be broken down into two elements:
> *Clinical Advice* focuses on the development of a multidisciplinary team to provide specialist clinical advice to patients and frontline staff.
> *Care co-ordination* ensures that patients are proactively and appropriately navigated or signposted to key services by booking and liaising with the relevant services.

The "See and Treat" element of the model concentrates on the development of services that will respond to a patient's urgent need in their home or in situ; avoiding emergency services where appropriate. The development of both elements requires mobile working in combination to access to data and records that support our practitioners to understand the needs of the patient better and sign-post them appropriately.

Barnsley Citizens

Recent information published by the Office of National Statistics on Internet Users in the UK, 2016[1] is set out in the table below.

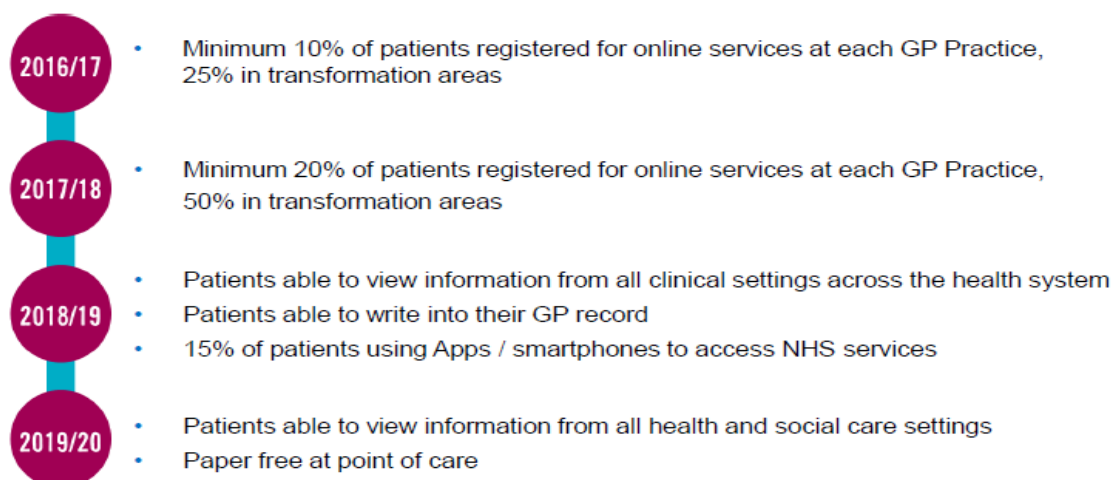| Persons aged 16 years and over	Used in the last 3 months						Used over 3 months ago/Never used					%
	2011	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
UK	79.4	80.9	83.3	85	86.2	87.9	20.3	18.9	16.5	14.8	13.5	12
Yorkshire and the Humber	78.4	78.8	82.4	83.6	85.3	85.9	21.4	21	17.4	16.3	14.4	13.6
Barnsley, Doncaster and Rotherham	80.4	74.4	79.2	82.2	81.9	78.3	19.3	25.5	20.3	17.8	17.9	21.7

The table above demonstrates that although internet use is common across Barnsley, Doncaster and Rotherham, it is still below the Yorkshire and Humber and UK average. This needs to be considered as part of all digital initiatives to ensure that the use of modern technology does not widen the pre-existing health inequalities across Barnsley. In addition to this, local surveys during the development of local services in Barnsley have also found that 85% of residents surveyed have access to a smart device.

Whilst we recognise there are opportunities for development in our digital maturity, we understand as a community where the greatest resource and effort needs to be applied in order to support our delivery of our transformational agenda. Our capability trajectory demonstrates a clear intent for how our secondary care providers will develop its seven PF@PoC capabilities over the next three years and achievement of the National Information Board commitments (see below).

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[1]

http://www.ons.gov.uk/businessindustryandtrade/itandinternetindustry/bulletins/internetusers/2016
http://www.ons.gov.uk/file?uri=/businessindustryandtrade/itandinternetindustry/datasets/internetusers/current/internetusers2016datatables.xls

Future Mandate, GMS Contract and National Information Board Commitments

NHS England

2016/17
- Minimum 10% of patients registered for online services at each GP Practice, 25% in transformation areas

2017/18
- Minimum 20% of patients registered for online services at each GP Practice, 50% in transformation areas

2018/19
- Patients able to view information from all clinical settings across the health system
- Patients able to write into their GP record
- 15% of patients using Apps / smartphones to access NHS services

2019/20
- Patients able to view information from all health and social care settings
- Paper free at point of care

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Rate Limiting Factors

There are a number of rate limiting factors in progressing paper free at point of care delivery across the system. The key factors have been identified as;
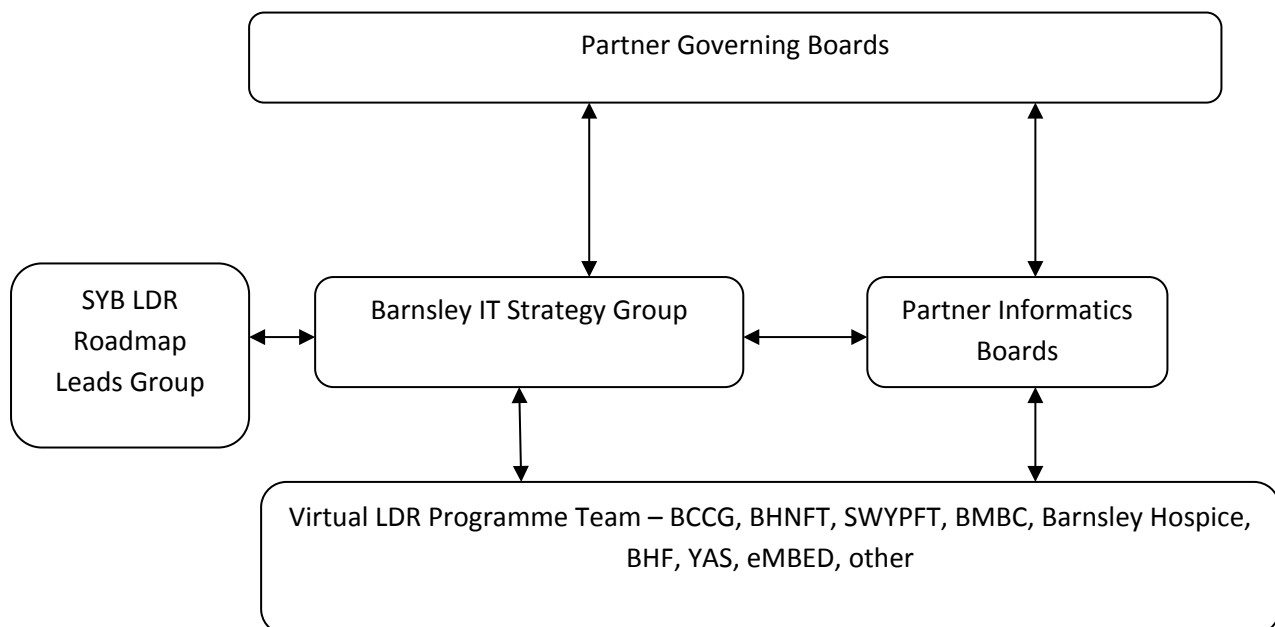
1. Limited project management resource across the system
2. Limited development resource across the system
3. Limited change management resource across the system
4. Limited clinical time for clinical engagement across the system
5. Limited technical expertise capacity across the system
6. Funding for infrastructure and technology
7. Feedback on capital funding bids delays ability to move forward with IT improvements and efficiencies
8. Lack of interoperability within the health and social care community
9. Information governance and data sharing
10. Number of primary care providers and utilisation of different systems
11. Alignment and cohesiveness from NHS and LGA national bodies to support the delivery of the digital vision, paper free at the point of care, tackling variation and delivering universal capability

4. Readiness assessment

The health and care organisations across Barnsley have a strong history of integration and working effectively together.

There is an established system wide IT Strategy Group across Barnsley which has Officer/Director representation from the organisations involved in the roadmap and also has two CCG Governing Body GPs within the membership who are the IT Leads within the CCG. The seniority of the group provides strong leadership for digital transformation within respective organisations and across the system. The baseline maturity index shows that we scored highly for digital leadership for organisations across Barnsley. Our average score was 77%. This indicates that we are in a strong position to take forward the digital transformations that are set out within the LDR for Barnsley.

It is expected that the progression of system wide IT developments will continue to be reported to the IT Strategy Group and pre-existing organisational governance arrangements as shown in the diagram below. This may be reviewed as stronger links are developed across the South Yorkshire and Bassetlaw footprint and especially as the Digital work stream of the Sustainability and Transformation Plan gains traction.

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                    ┌─────────────────────────────────────────────┐
                    │        Partner Governing Boards             │
                    └─────────────────────────────────────────────┘
                            ↕                         ↕
┌──────────────┐    ┌──────────────────────┐    ┌──────────────────┐
│  SYB LDR     │    │ Barnsley IT Strategy │    │ Partner          │
│  Roadmap     │◄──►│       Group          │◄──►│ Informatics      │
│  Leads Group │    │                      │    │ Boards           │
└──────────────┘    └──────────────────────┘    └──────────────────┘
                            ↕                         ↕
            ┌─────────────────────────────────────────────────────────┐
            │ Virtual LDR Programme Team – BCCG, BHNFT, SWYPFT, BMBC,  │
            │ Barnsley Hospice, BHF, YAS, eMBED, other                 │
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Barnsley does not currently have a shared Programme Management Office or project resources. Therefore initial delivery of the LDR will be managed using the collective resource of the partner organisations working together to ensure that changes are managed and communicated effectively.

Monitoring and reporting on the LDR delivery will be carried out by Barnsley CCG as part of their responsibility to the Barnsley IT Strategy Group. Over the course of the LDR programme, we will review and assess the structure and resources required to support effective delivery through the IT Strategy Group and make changes as required. We will also continue to participate in the development of potential programme/project resources at the SYB STP level to identify where resources supporting the LDR could be best shared across the wider area.

The Chief Officer is the Officer Lead for IT within the CCG. The CCG currently contract with eMBED to provide IT support. This arrangement is embryonic having been in place for only 3 months at the time of LDR submission.

The Practice Managers across Barnsley are also engaged in digital developments and there are 4 individuals that routinely work with the CCG in different capacities with a keen interest in driving digital development across the Borough to support patient care.

It is understood that the deployment of technology alone will not deliver the change that we collectively want to see for our patients and citizens. A strong change management approach is required to deliver the benefits of digital transformation through behaviour change and new ways of working with technology. In the past we have used a range of change models including Microsystems, PDSA Cycles and the NHS Change Model across the system. We will seek to localise the best approach for Barnsley. For any change programme across the Barnsley system we expect to deploy a standard change and programme management approach ensuring that engagement of and communication with our stakeholders is paramount. We currently have different Project Management Offices across the different organisations. We expect that we will use this resource across the system to ensure that change is managed and communicated effectively and that teams can work virtually across organisational footprints.

Across the extended South Yorkshire and Bassetlaw footprint, we have the Working Together Provider Collaborative. Within this, there is a dedicated work stream looking at IT provision across the 7 acute trusts within this collaboration. There is also the potential to share resource, knowledge, information, learning, skill and so on across this wider footprint. Again, this may progress with additional pace once the Sustainability and Transformation Plan for SYB is approved and the Digital Work stream can develop at scale.

Within the LDR footprint there is not a common benefits management approach. Discussions across the system have identified that currently the approach to manage technology enabled change and benefits management at an organisational level does not follow a standard methodology. Our discussions on benefits management in particular have raised awareness that partner organisations may not currently have the required skills or resources to provide a formal benefits management

programme. We are clear to that to achieve benefits requires addressing 3 elements; people, process and technology. It also requires significant documentation of the baseline position so that variances from baseline can be observed and accounted for. We will therefore identify appropriate benefits management models and implement them within our LDR community. These requirements have also been discussed at the SYB LDR Leads Groups and are noted as a common requirement across several of the constituent LDR footprints. We will therefore seek to assess if these skills and resources could be provided and shared on a wider footprint.

The existing budgets for IT Capital and Revenue are already over committed throughout Barnsley. It is expected that to drive digital maturity further and faster in Barnsley that we will need access to additional funding. There are a number of potential sources for this including;

- The Driving Digital Maturity Investment Fund
- NHSE Strategic Estates and Technology Transformation Fund
- GP Access Fund (previously known as Prime Minister's Access Fund*)
- Integrated Pioneer Site Funding (Barnsley is a Pioneer site)
- Additional funding opportunities, for example, through Local Government and charities

* Of note, the Barnsley Healthcare Federation has received £2.3 million in 15/16, £760k in 16/17 and funding has been agreed through to 2021.

There is a strong history of partnership working across Barnsley. It is anticipated that this will form the bedrock of the LDR. It is clearly understood that we need to utilise our scant resources more effectively through information sharing, economies of scale, sharing expertise and so on. By working on a health and care system across Barnsley we will focus on how best to spend the 'Barnsley pound' to ensure that we get the best outcomes and digital advances for patients and citizens of Barnsley.

5. Capability Deployment Strategy

Operating Paper Free at the Point of Care is about ensuring health and care professionals have access to digital information that is more comprehensive, timelier and better quality, both within and across care settings. Its scope is defined by the following seven groups of capabilities;

- Records, assessments and plans
- Transfers of care
- Orders and results management
- Medicines management and optimisation
- Decision support
- Remote care
- Asset and resource optimisation

The current level of maturity of Barnsley's secondary care providers for the above groups of capabilities, as assessed by the digital maturity assessment is detailed below:

Group of Capabilities	BHNFT	SWYPFT
Records assessments and plans	12	45
Transfers of care	49	29
Orders and results management	59	14
Medicines management and optimisation	9	3
Decision support	13	73
Remote Care	8	42
Asset and resource optimisation	35	35

The above table identifies that the level of maturity across our two secondary care providers for these capability groups is variable with some low levels of maturity for both providers in certain groupings. The assessment indicates that there is further work to be done across all capability groupings to enable Barnsley to realise the ambition of operating paper free at the point of care.

As described in our vision the partners in the Barnsley LDR footprint are committed to the further delivery of digitised and shared care records across Barnsley as there will be essential to the delivery of many of our strategic ambitions. We are also committed to working with our wider partners across the wider South Yorkshire and

Bassetlaw STP footprint to deliver shared care records across the whole STP footprint.

To address the growth areas above we have identified a range of projects across the Barnsley LDR footprint that will support development of the necessary capability. The outputs form these projects have been captured in the Capability Deployment Schedule (Appendix 1). The deliverables for 2016/17 are based on in flight projects that will be delivered this year. Deliverables for future years are aspirational and will be dependent on approved business cases and funding. To deliver on our roadmap we will require finance and support and will make bids against the available technology funds for this.

Over the course of the next three years, as we deliver on the ambitions set out in this roadmap, our capabilities for the delivery of paper free care will be significantly increased. The estimated trajectories for the overall increase in the capabilities of our secondary care providers is shown in the Capability Trajectory Score and diagram below (Appendix 2)

Capability Trajectory Scores

	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	28.5	42.5	65.0	90.0
Transfers of care	39.0	47.5	60.0	75.0
Orders and results management	36.5	42.0	55.0	70.0
Medicines management and optimisation	6.0	6.0	40.0	75.0
Decision support	43.0	65.0	80.0	85.0
Remote care	25.0	35.0	50.0	60.0
Asset and resource optimisation	35.0	40.0	45.0	55.0
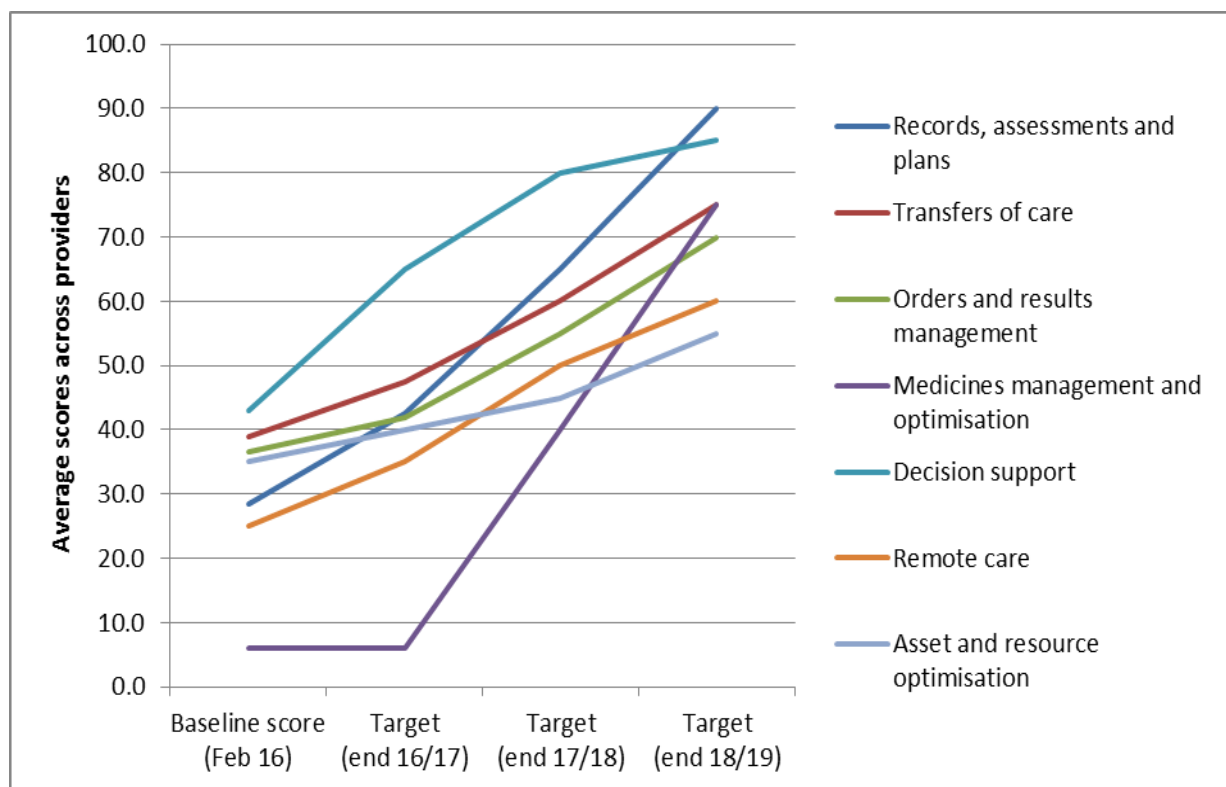
6. Universal Capabilities Delivery Plan

The Barnsley health and care system will make progress against 10 universal capabilities listed below;

1. Professionals across care settings can access GP-held information on GP-prescribed medications, patient allergies and adverse reactions
2. Clinicians in urgent and emergency care settings can access key GP-held information for those patients previously identified by GPs as most likely to present (in U&EC)
3. Patients can access their GP record
4. GPs can refer electronically to secondary care
5. GPs receive timely electronic discharge summaries from secondary care
6. Social care receive timely electronic Assessment, Discharge and Withdrawal Notices from acute care
7. Clinicians in unscheduled care settings can access child protection information with social care professionals notified accordingly
8. Professionals across care settings made aware of end-of-life preference information
9. GPs and community pharmacists can utilise electronic prescriptions
10. Patients can book appointments and order repeat prescriptions from their GP practice

Our approach for addressing each of these capabilities is detailed in the Universal Capabilities Delivery Plan (Appendix 3). The delivery plan details the baseline, ambition, key activities and approach to evidencing progress for each of the capabilities.
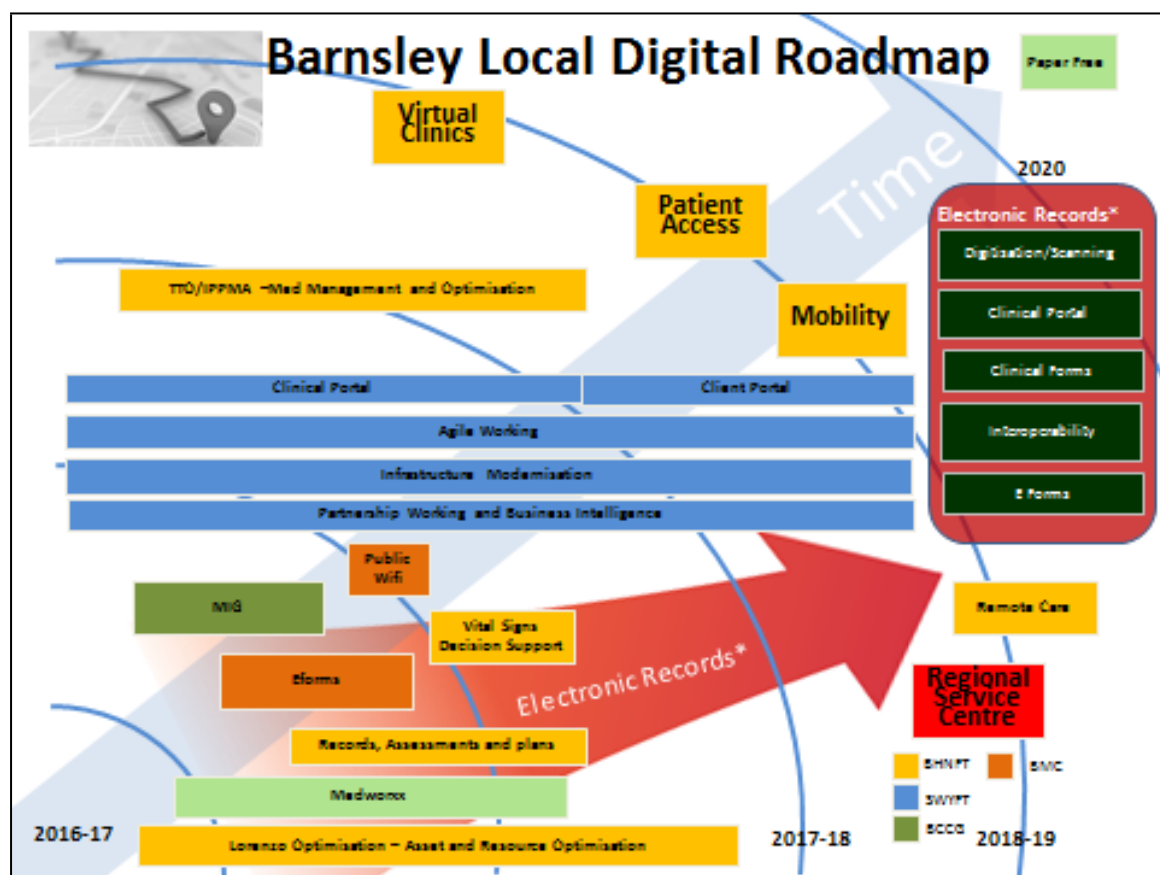
7. Information Sharing

A diagram showing how new information sharing capabilities will be deployed in Barnsley over the next 5 years and the corresponding solutions that will enable this information sharing is shown below and also in Appendix 4.

Information sharing approach – Barnsley
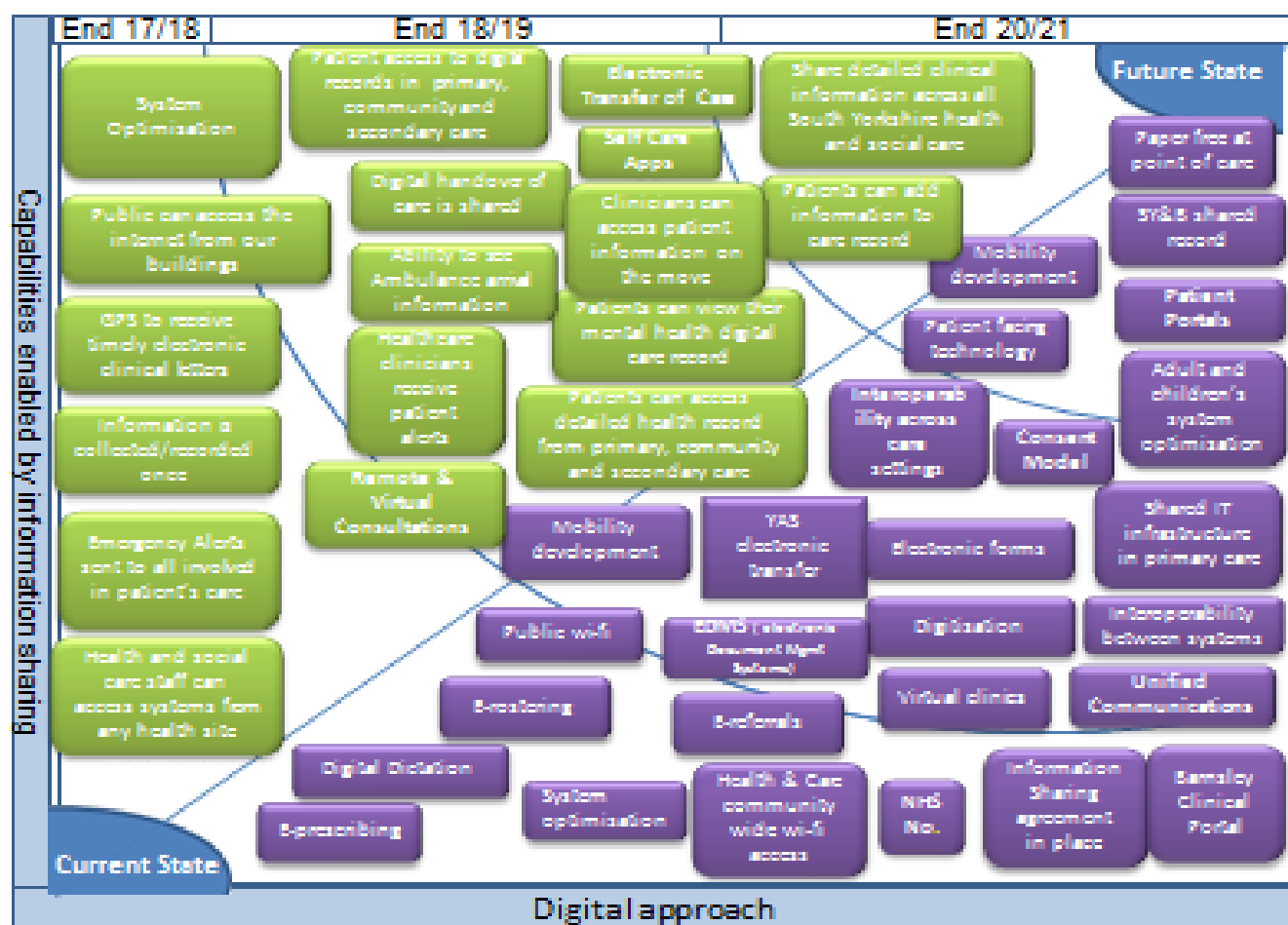
The Information Sharing diagram in appendix 4 shows how we will optimise information from the variety of existing source systems to enable patients, GPs, providers and carers to get an integrated view of a patient record across multiple systems. The actions detailed in the Capability Deployment Plan in 2016/17 and 2017/18 will underpin progress to achieving this vision.

The diagram below is a local interpretation of the template above. The length of each box provides reference to the length of time it is expected to implement each element of our roadmap locally and is colour coded to reflect the lead organisation for separate elements to be delivered across the Barnsley system. This can be seen in full in Appendix 5.

The health and care organisations within Barnsley are currently signed up to the Yorkshire Inter-Agency Information Sharing Protocol which has over 60 signatories from a variety of organisations across the Yorkshire and Humber region, including NHS Foundation Trusts, Clinical Commissioning Groups, Mental Health Trusts, Local Authorities, Ambulance Service, Voluntary Sector Organisations, Police and Fire Services. This protocol covers the sharing of person-identifiable confidential data, where a legal basis exists to allow information sharing (where this is not the

explicit consent of the individual, another legal or statutory basis for the sharing must be identified).

In Barnsley, we have developed an Information Sharing Agreement to enable the sharing of real time clinical information across health organisations. This has been taken up by over 85% of General Practices and is currently being rolled out to enable access to real time patient information within the Barnsley Hospice, Barnsley Hospital NHSFT and South West Yorkshire Partnership Trust via the Medical Interoperative Gateway (MIG). The Information Sharing Agreement is a framework on how we will share information with all the agencies involved in our patients' care. A privacy impact assessment will be put in place to ensure we have measured all the risks associated with the information sharing approach. It is the trusts duty to share information for effective patient care with all legitimate parties. As part of the local digital roadmap we will aspire to deliver a clinical portal technology, incorporating existing information sources (MIG and SCR), across the Barnsley health community in line with other health community successful models including the Bristol and Leeds Care Records. We will ensure we comply with all the regulatory requirements to ensure the safe interoperability of information throughout the health community and beyond whilst recognising that we have a duty to share information to enable the provision of safe care to our patients.

As part of our work within the wider SYB footprint we recognise the need to have a shared approach to information sharing (through both an information governance framework and technical solutions). Our intention is to engage in a wider joint approach across all SYB health and care organisations and we will be seeking to take this work forward with the SYB STP governance arrangements. We also recognise that we will need to develop an approach to appropriate information sharing with other organisations including emergency services and the voluntary sector.

The current level of adoption of NHS numbers across the local health and care system in Barnsley is strong. Across secondary care providers, the NHS numbers are used consistently in over 98-99% of the time. It is expected that the project to enable NHS number matching within social care will be completed by the end of 2016/17.

In order to extract the most value from the sharing of information, we will explore the roll out of SNOMED-CT and Dictionary of Medicines and Devices information coding standards across the local health and care system.

8. Infrastructure

The development of network connectivity between sites and mobile infrastructure has progressed in Barnsley over recent years. In the future we aim to further develop this capability to allow seamless mobile working for health and care practitioners across all health and care sites in Barnsley.

A summary of current mobile working capability in Barnsley and plans to develop this further is shown below:

Organisation	Mobile working capacity
SWYPFT	Deployed laptops/tablets to 40-50% of clinical staff (circa 2000 devices across South and West Yorkshire) as well as supporting remote and home working through VPN tokens.
BHNFT	Increasingly using IPads and supports remote and home working through VPN technology.
BMBC	Rolling out deployment of laptops and tablets throughout 2016/17 with VPN access and Wi-Fi available for all staff Roll out of public Wi-Fi across the town centre Roll out of GovRoam across Barnsley
Primary care	Plans to roll out mobile working for health care practitioners, funding notwithstanding. This is supported in principle by the CCG and a bid will be made to the 2016/17 Strategic Estates and Technology Fund for capital funding. Plans to develop a shared IT infrastructure across primary care Expand infrastructure for digital consultation via email, Skype

Further rollout of mobile working is reflected within the digital roadmap or is already completed and reliant only upon equipment distribution except for mobile working across primary care. A bid for this has already been developed and submitted to the Strategic Estates and Technology Transformation Fund.

We need to collectively assess the infrastructure across the system in order for us to have a clear baseline from which we can develop our plans for example, Medworxx, medicines management and patient facing technologies

There is an understanding that there needs to be greater collaboration between professionals from different organisations. Practically, we have already redesigned a number of specifications to enable clinicians to work across different organisations for example Intermediate Care and Community Nursing. The use of technology

needs to support the way staff can work outside of traditional care settings to ensure that safe, responsive and effective care can be delivered. This becomes ever more pressing locally as we implement a Multi-specialty Community Provider integrated delivery pathways for Respiratory Services and Diabetes providing care in new settings outside of hospital. This will also be a key requirement as we explore the development of an Accountable Care Organisation across Barnsley. This will also be a key element of the Sustainability and Transformation Plan and the Working Together Provider Collaborative Transformation work streams to enable multi-agency and inter-agency working. Whilst there are no robust plans in place for the digital enablement of this yet, it is expected that these will be required to support the delivery of new clinical pathways and out of hospital care.

As our LDR and STP develop we will use opportunities provided by working in partnership to identify where infrastructure, systems and IT services could be shared across the Barnsley footprint or possible wider across the STP or Working Together footprints.

9. Minimising Risks Arising from Technology

All partners within the Barnsley LDR footprint have their own well established Information Governance functions and will remain responsible for minimising risks associated with data security, clinical safety, data quality, data protection, privacy, business continuity and disaster recovery. This will continue but to reflect the partnership working across the system with regards to the overall delivery of the LDR, pertinent risks will also be shared with the IT Strategy Group to ensure that these are understood across the system and mitigated where possible.

Current risks identified are as follows:

RISKS IDENTIFIED	Key Mitigating Actions
Lack of financial investment	Maximise opportunities for accessing external funding e.g. Primary Care Estates and Technology Transformation Funding
Staff and citizen engagement	Develop effective Organisational Development initiatives; Communications and Engagement strategies; Digital Literacy programmes
Existing workforce skills and training	Development of effective OD initiatives supporting change management and digital literacy; undertake training needs analysis; deliver programmes for IT/digital skills development
Unintended negative impact on health inequalities	Robust development of business and technical requirements; identification of benefits; ongoing management/oversight of benefits/costs and risk through PMO approach
Governance	Mature local and SYB STP governance arrangements related to digital/IT work streams supporting ongoing coordination and collaboration across footprints.
HSCIC/national standards	Delivery of key programmes and deliverables currently within the remit of HSCIC

GS1 barcodes are at the heart of the NHS drive to make UK healthcare safer and more efficient. BHNFT are committed to a roadmap of using GS1 standards; GS1 Barcoding for Patient Identification, Device Management, Records, Stock and Medicine identification.

10. Appendices

Appendix 1 – Capability Deployment Schedule
Appendix 2 – Capability Trajectory
Appendix 3 – Universal Capabilities Plan
Appendix 4 – Barnsley Information Sharing Approach
Appendix 5 – Barnsley Digital Roadmap