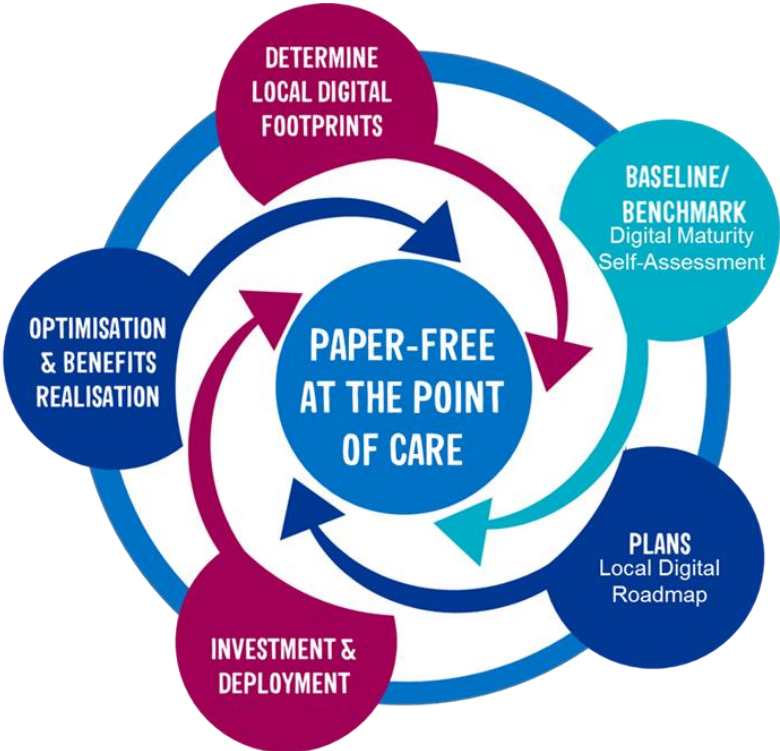# Derbyshire Local Digital Roadmap

Paper-free at the Point of Care 2020

NHS
Erewash Clinical Commissioning Group

NHS
Hardwick Clinical Commissioning Group

NHS
North Derbyshire
Clinical Commissioning Group

NHS
Southern Derbyshire
Clinical Commissioning Group

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Peter Sanderson	Derbyshire Healthcare NHS Foundation Trust (Mental Health)		2.0
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Colyn Kemp	Derby City Council		2.0
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1 Executive Summary

The Derbyshire Local Digital Roadmap sets out an ambitious vision for how the local health and care system intend to exploit digital technology to deliver the Sustainability and Transformation Plan and Paper-free at the Point of Care by 2020.

Derbyshire has a strong track record of informatics partnership and collaboration, fostered and coordinated by the Derbyshire Informatics Delivery Board (DIDB). The strength of these existing relationships between health and care providers, commissioners and the public has been the key to articulating the ambition of this roadmap. It has provided a solid background of local cooperation and shared strategy upon which this roadmap has been built and a strong foundation upon which this ambitious vision can be achieved.

The development of the LDR has been undertaken in conjunction with the creation of the Derbyshire Sustainability and Transformation Plan to ensure that the 'golden thread' of *digital enablement* runs through Derbyshire's ambitions and plans for sustainable transformation. It has been shaped to meet the dual requirements of the STP and NHS Digital, but importantly its primary focus is to use information and technology innovatively to deliver better quality outcomes to the people of Derbyshire.

And in this context, digitally enabling health and care is just part of a greater journey; ALL public services, whether local or national, are on their own digital journeys, that collectively empower and benefit the citizen in all their interactions with public services. These already include Police and Fire, Local Government and many of the central Departments of State that deal directly with the citizen, e.g. DWP. It is necessary to design and deploy these programmes of complex change separately but not in ignorance of each other; the whole must be greater than the sum of the parts, or we will all have missed an important opportunity offered by the digital age, in terms of exploiting:

- Shared digital assets, solutions, knowledge and services
- Commoditisation/ rationalisation of processes and solutions
- Interoperability of solutions and data
- The power of the internet

The ability of the citizen to be a co-creator of their public service experiences, not just a consumer of them.

In developing the LDR, the Derbyshire health and care system have extended and shared their understanding of individual partners' digital maturity and identified and addressed the collective implications in planning for the footprint. This willingness to share learning and insight and plan collectively has enabled the creation of an ambitious roadmap that provides a clear and achievable plan to support the STP to meet the challenges of closing; the health and wellbeing gap, the care and quality gap and the finance and efficiency gaps by 2020.

Derbyshire Digital Vision

Right information, right people, right time
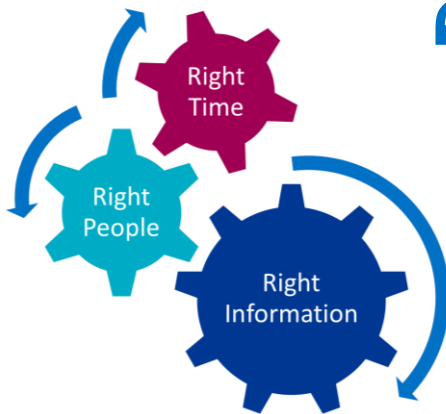
" *We will use information and technology to facilitate system change, across the whole health and social care economy. To ensure appropriate and accurate information is available and accessible to our patients and their clinicians, supporting the provision of high quality outcomes, in the delivery joined up care* "

Figure 1: Derbyshire Local Digital Roadmap Vision

In order to deliver this vision, a number of Digital Roadmap Priorities and high level delivery plan have been devised.

Derbyshire Digital Roadmap Priorities

1. **Exploit the Derbyshire Summary Care Record** expanding viewing access and increasing information available to patients and health and care professionals
2. **Develop the Digital Care Record** creating an editable, patient owned DCR containing all relevant records and information accessible by patients, carers and health and care professional
3. **Deliver Interoperability** providing real-time information for DCR with bi-directional updates between DCR and source systems accessible by patients, carers and health and care professionals
4. **Expand E-Prescribing** ensuring all prescribing is electronic across all settings
5. **Make medication records and information available** to all patients, carers and health and care professionals
6. **Introduce joined up asset tracking and management** use GS1 for optimal visibility and common tracking of high value assets across Derbyshire
7. **Give professionals technology and tools** to support them to fulfil their roles effectively
8. **Promote assistive technology** to support self and remote monitoring by users and health and care professionals
9. **Increase remote communications and consultations** to enable citizens and health and care professional to communicate more efficiently and conveniently
10. **Improve online information, advice, guidance and assessment** giving citizens the information they need to self-assess and triage and route to the appropriate service based on their need
11. **Increase electronic transfers and integrate with online services** including all referrals, transfers (any to any), discharge and correspondence with history and records included in DCR

12. **Increase electronic orders and results** requests in real time, published online through the DCR, with alerts to citizens and health and care professionals and integrated into clinical systems

13. Increase access to information tools and alerts to **support decision making**

14. **Enable mobile health and care professionals to work anywhere** connecting at partner and citizen settings with offline working where internet access is unavailable

15. **Increase sharing of common technology infrastructure** making it easier to collaborate, reducing cost and taking advantage of local economies of scales

16. **Explore sharing of common ICT and Business Services** to reduce cost

17. **Develop a Derbyshire wide Business Intelligence capability**, pulling data from all available systems and providing tools for analysis and insight

Derbyshire Digital Roadmap Delivery Plan

The plan sets out a high level sequence of projects identified to deliver the LDR, building on the existing work of the Connected Derbyshire Programme and DIDB work streams and taking into account current and planned initiatives.
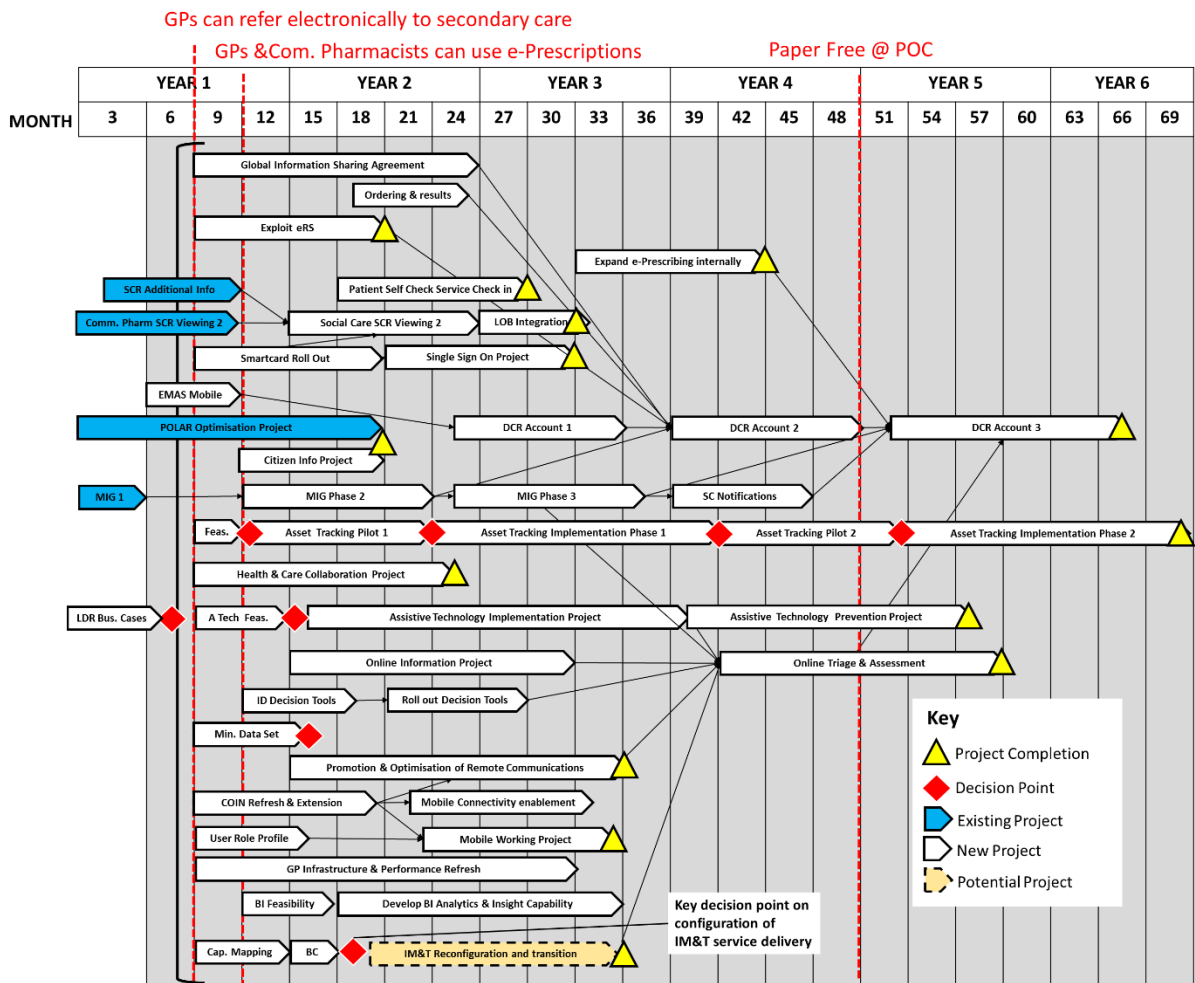
Figure 2: Derbyshire LDR Programme Plan Overview

The potential benefits to the health and care system are significant but must be understood in relation to the wider initiatives outlined in the STP. The technologies, initiatives and digital innovation identified in this roadmap will not deliver the benefits required in isolation. As the LDR makes clear, the success of this delivery plan is contingent on the much broader system and cultural changes set out in the STP.

Leadership and Governance

The governance model for the LDR builds on the architecture of the Derbyshire Informatics Delivery Board. The connection with the STP governance model is maintained through the role of the Chairman and LDR sponsor, Rakesh Marwaha, who is a member of the STP Chiefs group. The importance of clinical leadership is fully recognised and its importance reinforced by the role of the Chief Clinical Information Officer.

The LDR has been endorsed by Senior STP Executives, Health & Wellbeing Boards and members of the Derbyshire Informatics Delivery Board, which includes both Derbyshire County and Derby City Council.

2 Introduction

The Derbyshire LDR outlines how the Derbyshire health and care system plans support the STP and deliver the Five Year Forward View's commitment to provide 'fully interoperable' electronic health records so that patient's records are paperless' by 2020. The vision for paper-free digital records forms a focus of the NHS's aspiration to harness digital capabilities to deliver sustainability and transformation, support clinical priorities and deliver key policy initiatives such as seven day services; primary care at scale and enabling new models of care.

The evidence base and focus on the clinical and administrative benefits enabled by greater exploitation of digital capabilities has been augmented with a number of key recent and forthcoming reviews. These include publications by:

- The Nuffield Trust on delivering the benefits of digital health care,
- Baroness Martha Lane Fox's work on increasing digital health literacy and access to information,
- Dr Robert Wachter's exploration of clinical informatics leadership,
- Dame Fiona Caldicott's work on behalf of the Care Quality Commission on public confidence and data management,
- Lord Carter's review examining operational productivity in hospitals.

The development of the Derbyshire LDR is the culmination of a three step process introduced by NHS England during autumn 2015, that tasked local Clinical Commissioning Groups with leading the local health and care system to set out how they will achieve the ambition of operating Paper-free at the Point of Care by 2020, (PF@PoC).

This work was supported by the completion of Digital Maturity Assessments (DMAs) conducted in NHS provider organisations, local authority social care with primary care to follow late summer 2016. The DMAs provided a baseline for the Derbyshire health and care system's digital maturity that informed the LDR development process. The responses from the DMA submissions evidences that Derbyshire is well placed to deliver the universal capability requirements ahead of time with significant work delivered or underway.

In Derbyshire, the LDR builds on a rich history of health and care system cooperation, embodied in the Derbyshire Informatics Delivery Board, which already oversees an ambitious programme of Information Management and Technology initiatives. The LDR builds on this by exploiting and optimising progress already made and initiatives underway.

In recognition of the solid foundation this affords, the Derbyshire LDR extends beyond the confines of the requirement and sets out the aspirations and ambitions of the health and care system to fully exploit the potential opportunities of digitally enabled health and care.

The development of the LDR has been conducted in conjunction with the design of the Derbyshire Sustainability and Transformation Plan and in collaboration with partners from neighbouring footprints. The documents have been developed in parallel and iterated collaboratively to ensure that the 'golden thread' of digital technology runs through Derbyshire's ambitions and plans for sustainable transformation.

2.1 Contributing Organisations

The Derbyshire Local Digital Roadmap has been developed and endorsed by the following organisations:

Organisation	Role/ Contribution	Endorsed by
Derbyshire Informatics Delivery Board	CCG Lead for Informatics and LDR	Rakesh Marwaha
Chesterfield Royal Hospital NHS Foundation Trust (Acute)	LDR Working Group Representative and key collaborator	Ian Hazel
Derby Teaching Hospitals NHS Foundation Trust (Acute)	LDR Working Group Representative and key collaborator	Mark Norwood
Derbyshire Community Health Services NHS Foundation Trust	LDR Working Group Representative and key collaborator	Alvaro Pancisi
Derbyshire Healthcare NHS Foundation Trust (Mental Health)	LDR Working Group Representative and key collaborator	Peter Sanderson
East Midlands Ambulance Service NHS Trust	LDR Working Group Representative and key collaborator	Steve Bowyer
Derbyshire Health United/ OOH Provider (Nat)	LDR Working Group Representative and key collaborator	Nat Pearson
Derbyshire County Council	LDR Working Group Representative and key collaborator	David Gurney
Derby City Council	LDR Working Group Representative and key collaborator	Colyn Kemp
Arden Greater East Midlands Commissioning Support Unit (AGEM CSU)	Facilitation, coordination and drafting of the LDR	Nikki Hinchley Andrew Wall Claire Hilton

Table 1: Organisations that have contributed to the Derbyshire LDR

2.2 Development of the Derbyshire LDR

Building on the existing strength and maturity of the Derbyshire Informatics Delivery Board, a project team was formed from the DIDB PMO to develop the LDR. The project team used existing governance and engagement fora to work with footprint organisations, citizen and clinicians to develop the roadmap.
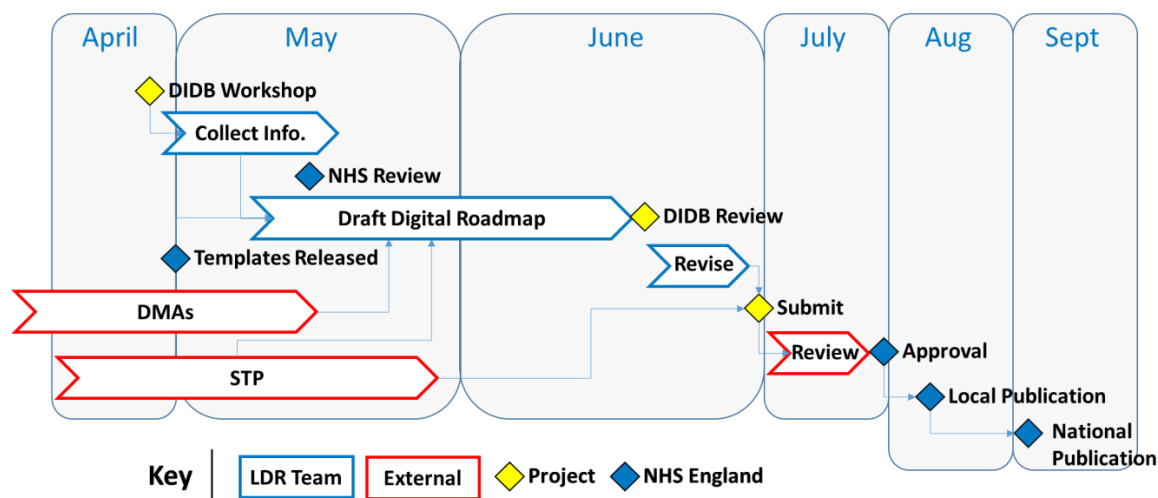

Figure 3 LDR Development Plan

Working closely with the STP leads, the project team held an initial LDR workshop with the DIDB. This enabled:

- Review of the existing local health and care IM&T vision and programme plan against LDR requirements. Enabling linkages to be drawn between existing progress and planned activity and the capabilities outlined in the guidance
- Identification of aims and aspirations for the LDR and common articulation of the digital vision and ambition for the LDR footprint, in the short, medium and long term
- Initial assessment of the baseline position and the readiness of the respective organisations in the footprint and wider local health and care system
- Establishment of an LDR Working Group to provide support and guidance to the LDR Project Team
- Development of an ambitious digital roadmap for Derbyshire, designed to support and enable the STP by aligning with its key levers: Efficiency, Care Quality and Prevention.

Following the initial workshop, a LDR Working Group was set up with key representatives from the DIDB to provide further input, governance and oversight to the development of the LDR. The LDR Working group is comprised of the following organisations:

Organisation	Representative
Derbyshire STP link and CCG representation	Rakesh Marwaha
Chesterfield Royal Hospital NHS Foundation Trust (Acute)	Ian Hazel
Derby Teaching Hospitals NHS Foundation Trust (Acute)	Mark Norwood
Derbyshire Community Health Services NHS Foundation Trust	Alvaro Pancisi
Derbyshire Healthcare NHS Foundation Trust (Mental Health)	Peter Sanderson
East Midlands Ambulance Service NHS Trust	Steve Bowyer
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Derbyshire County Council	David Gurney
Derby City Council	Colyn Kemp
Arden Greater East Midlands Commissioning Support Unit (AGEM CSU)	Nikki Hinchley Andrew Wall Claire Hilton

Table 2: LDR Working Group Composition

The LDR working group has supported the project team to develop the LDR and sign off the LDR through a process of further workshops and individual consultation and information sharing.

2.3 Engagement with the Sustainability Transformation Plan

The LDR project team have worked with the STP Engine room to align the LDR with the STP priorities to ensure the roadmap is positioned to enable delivery of the STP. The process started with the creation of a Derbyshire LDR 'Hypothesis Tree' a high level but detailed translation of aspirations to initiatives recognising the potential benefits for change supported by national (or wider) evidence of change where they existed. As the STP developed and the five priorities emerged, the LDR was

realigned to ensure that the priorities identified in the roadmap to deliver the universal capabilities and Paper-free at the Point of Care, also enabled delivery of the STP priorities and initiatives. This is part of an on-going process to ensure that the LDR remains in step with the new requirements emerging from the STP.

A detailed mapping, demonstrating how the LDR priorities align and support the STP is set out in section five.

2.4 The wider context of Public Services change

Digitally enabling health and care is just part of a greater journey; ALL public services, whether local or national, are on their own digital journeys, that collectively empower and benefit the citizen in all their interactions with public services.

There are many parts of Government, both central and distributed, that have a direct and impactful relationship with the citizen and their experience of public services. Health and care are important and obvious examples but there are many others; police, fire, housing, education, welfare, etc.

Most of these also have major change programmes underway to digitally enable their services and, in so doing, make efficiency savings, improve quality and improve the citizen experience; essentially to all be *"better for less"*.

It is necessary to design and deploy these programmes of complex change separately but not in ignorance of each other; the whole must be greater than the sum of the parts, or we will all have missed an important opportunity offered by the digital age, in terms of exploiting:

- Shared digital assets, solutions, knowledge and services
- Commoditisation/ rationalisation of processes and solutions
- Interoperability of solutions and data
- The power of the internet
- The ability of the citizen to be a co-creator of their public service experiences, not just a consumer of them.

Different parts of the public sector are moving at varying pace, and focused by different priorities, but all are moving in the same direction, which essentially is to seek commonality of form and function where it adds value by doing so, gaining economies of scale and improved user experiences without creating more governance or increasing risk.

3 Derbyshire Digital Vision

The LDR vision for digitally enabled transformation is built on the foundation of the Derbyshire Informatics Delivery Board. The vision and principles have been refined to align with the aspirations of the Derbyshire LDR and support the STP:

Right information, right people, right time
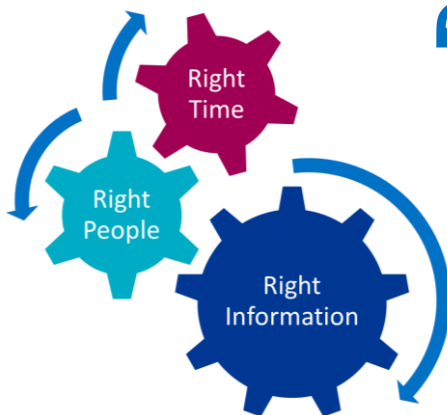
"We will use information and technology to facilitate system change, across the whole health and social care economy. To ensure appropriate and accurate information is available and accessible to our patients and their clinicians, supporting the provision of high quality outcomes, in the delivery joined up care"

Figure 4 Derbyshire Local Digital Roadmap Vision

3.1 Derbyshire Digital Strategic Principles

The principles set out below provide a strategic framework that informs how the LDR vision will be delivered within Derbyshire. They were defined and agreed by the LDR working group and build upon the principles that underlie the Derbyshire Informatics Delivery Board IM&T Strategy.

1.   **Support delivery of local Sustainability and Transformation Plan**
2.   **Shared responsibility and resourcing across all partners - making the best use of existing resource (finance / people)**
3.   **Do no harm: Any development should not disadvantage a part of the health and wellbeing community**
4.   **Sharing information openly, appropriately - timely**
5.   **Reduce duplication**
6.   **Exploiting existing systems - where of appropriate standard**
7.   **Organisationally agnostic**
8.   **Complies with national/ industry standards where available (e.g. interoperability/Wi-Fi)**
9.   **Realistic and achievable with high impact– technical and business**
10. **Safety and quality at the heart of all decisions**
11. **Best use of the 'Derbyshire Pound'**

3.2 Derbyshire Digital Priorities

The LDR will build on the foundation laid by the DIDB IM&T Vision and delivery programme to deliver local digital priorities over the short (S), medium (M) and long (L) term to deliver paper-free care. These priorities include:

No.	LDR Priorities	S	M	L
1	**Exploit the Derbyshire Summary Care Record** expanding viewing access and increase information available to patients and health and care professionals	✓		
2	**Develop the Digital Care Record** creating editable, patient owned DCR containing all relevant records and information accessible by patients, carers and health and care professional		✓	
3	**Deliver Interoperability** providing real-time information for DCR with bi-directional updates between DCR and source systems accessible by patients, carers and health and care professionals			✓
4	**Expand E-Prescribing** ensuring all prescribing is electronic across all settings		✓	
5	**Make medication records and information available** to all patients, carers and health and care professionals			✓
6	**Introduce joined up asset tracking and management** use GS1 for optimal visibility and common tracking of high value assets across Derbyshire			✓
7	**Give professionals technology and tools** to support them to fulfil their roles effectively		✓	
8	**Promote assistive technology** to support self and remote monitoring by users and health and care professionals		✓	
9	**Increase remote communications and consultations** to enable citizens and health and care professional to communicate more efficiently and conveniently	✓		
10	**Improve online information, advice, guidance and assessment** giving citizens the information they need to self-care and triage and route to the appropriate service based on their need		✓	
11	**Increase electronic transfers and integrate with online services** including all referrals, transfers (any to any), discharge and correspondence with history and records included in DCR		✓	
12	**Increase electronic orders and results** requests in real time, published online through the DCR, with alerts to citizens and health and care professionals and integrated into clinical systems		✓	
13	Increase access to information tools and alerts to **support decision making**		✓	
14	**Enable mobile health and care professionals to work anywhere** connecting at partner and citizen settings with offline working where internet access is unavailable	✓		
15	**Increase sharing of common technology infrastructure** making it easier to collaborate, reducing cost and taking advantage of local economies of scales			✓
16	**Explore sharing of common ICT and Business Services** to reduce cost			✓
17	**Develop a Derbyshire wide Business Intelligence capability,** pulling data from all available systems and providing tools for analysis and insight		✓	

Table 3: LDR Priorities

3.3 The Derbyshire Digital Ambition

The table below sets out the Derbyshire footprint's shared ambitions for each of the capability and infrastructure groups:

Capability	Ambition
Records, Assessments and Plans **Capture information electronically for use by me and share it with other professionals through the Integrated Digital Care Record**	• Enhanced Derbyshire DCR – (Digital Care Record) • Patients & Carers can add to and enrich their Digital Care Records • Real-time information is fed seamlessly into digital care records from all health and social care interactions (For example prescriptions and order and results information) • DCR is portable and can be taken with patients when they move locality • DCR includes electronic recording of outcomes from all health and care organisations • Ability to share DCR between the health and care organisations working with patients • Ability of all clinicians and health and care professionals to record information and outcomes on the DCR • Citizen information captured electronically @PC.
Medicines Management and Optimisation **Ensure people receive the right combination of medicines every time**	• E-prescribing expanded throughout all health and care pharmacy settings • Real-time prescribing information available to professionals wherever the citizen is within the Health and Care footprint e.g. Nursing/residential homes • Effective monitoring and tracking of medicine allocation and automated reminders for repeat prescriptions using GS1 • Recording of prescriptions and medication information on DCR (Accessible by citizens, carers and professionals) • Audit of medicines to enable identification and optimisation of prescribing • Automated stock replenishment for professionals with responsibility for prescribing • Citizens understand the importance of compliance with medicine and their role in medicines management and optimisation
Asset & Resource Optimisation **Increase efficiency to significantly improve the quality and safety of care**	• Common GS1 asset tracking and monitoring system used across Derbyshire to optimise use of assets and resources including automatic stock replenishment/ reorder notifications • Tracking activity and improved traceably and visibility of citizens moving through health and care pathways. • Professionals have access to GIS dynamic appointment clustering and travel planning and rostering tools etc. • Single sign on capability to the systems they use • Digital resources to promote professional collaboration/ multiagency meetings and ad-hoc sharing across the Derbyshire footprint – access to printers and peripherals, online transcription etc.
Remote Care **Use remote, mobile and assistive technologies to help me provide care**	• Telehealth – tracking of biometric information (Blood pressure readings and outputs from health and lifestyle applications) o Use of commodity health tracking applications (Fitbit, Apple Health etc.) • Use of remote monitoring to prompt patient to take action if required or indicate the need for clinician intervention/ appointment • Remote consultation and online interaction with citizen (Skype/video conferencing, webchat, social media etc.) • Clear and accessible NHS accredited information is available to patients and carers online to support self-care

Capability	Ambition
	• Information tailoring and development of self-care plans • Making connections to 3rd sector support groups (Voluntary organisations etc.) • Use of online support and social media to support self-care for long-term and chronic conditions (Self Help groups – condition specific) • Online triaging (Map of Medicine), identification/ decision support of need/ severity and redirection to relevant organisation • Online assessment tools used to connect patients with information or universal services best suited to their needs • Transition to online referral to relevant health or care service where needs are greater than can be met by self-care/ redirection • Information recorded is made available to the relevant clinician • Ability for the patient to book an appointment with the relevant service • Citizen experience data gathered reviewed and feed back to influence change as standard across Derbyshire health and care footprint.

Transfers of Care
Use technology to seamlessly transfer patient information at discharge, admission or referral
	• 100% Electronic referrals and transfers available to all services (national and out of local footprint) published on the national Directory of services
	• Standard message format and minimum data set for transfers (Derbyshire and National Standards)
	• Secure transfer/ Access of patient information to all relevant health and care professions. Including:
	   o Notification of health and care professionals working with the patient
	   o Update of DCR
	• Tracking of transfer progress between the referring and receiving teams
	   o Transfer progress/ tracking made available to patient via DCR
	• Full implementation and high uptake of Ambulance service conveyances
	• Tertiary referral functionality available to enable re-routing of incorrect referrals

Orders & Results Management **Use technology to support the ordering of diagnostics and sharing of test results**	• Orders and results are made available to patients online in citizen friendly language • Orders and results are automatically updated to patient DCR • Orders and results are made available to all relevant professionals working with the patient • All health and care professionals can request the appropriate diagnostics from within the setting they are working • Use of ordering and results information to identify trends in consumption and health needs supporting more effective commissioning and intervention
Decision Support **Receive automatic alerts and notifications to help me make the right decisions**	• Clinicians have access to patient information available at the point of care – access to DCR and ability to record and amend information • Advice and guidance available to health and care professionals to support decision making. • Consistent footprint approach to decision protocols to guide the most appropriate care pathways • Remote support from specialist/ experts to support decision making
Mobile Working Infrastructure	• Professionals can access the systems and information they need to fulfil their role in the health and care settings where they work • Empower and upskill professionals to work flexibly and safely across the footprint, delivery of role based training, Health and Safety and HR Policies that are in support of flexible and mobile working arrangement • Enables a Derbyshire wide accommodation strategy

Capability	Ambition
	- Strategic approach to internet connectivity and coverage of mobile internet within Derbyshire supported by the most effective mobile working solutions that use 'store and forward' functionality with automated synchronisation to the DCR and other services - Realise and eliminate application and device dependencies – mobile working applications and authentication designed specifically for mobile working and functional on a variety mobile/handheld devices - Utilise cloud technology and storage - Replacement of the original NHS N3 network to enable mobile working and secure access to information and systems across the Derbyshire footprint - Seamless use of digital resources to promote mobile working, professional collaboration/ multiagency meetings and ad-hoc sharing across the Derbyshire footprint – access to printers and peripherals, online transcription etc.
Collaborative Working and Shared Infrastructure	- Exploitation of information and technology across the Derbyshire footprint - Common ICT architecture and shared ICT infrastructure - Interoperability and integration as key underpinning enabler for all capabilities - Shared network and connectivity infrastructure – Derbyshire wide CION - Application and device alignment to new or existing roles and new models of care to capitalise on benefits - Common Derbyshire user profile and device catalogue for efficient and effective infrastructure, user management and support - Digital collaboration - Joining voice/video services with presence & instant messaging – all will be available via NHSMail2, Derbyshire Directory of services and professionals - Aligned to pathways / workloads / places etc. emphasis on the critical business change, adoption & exploitation of this capability - Proportionate risk-based assessment and attendant policy changes to better utilise commodity technologies within health and care – e.g. Drop-box for improved flexibility, SaaS, IaaS, Office 365 for shared working) and cloud based data storage and management - Pursuing significant cost saving and leverage with suppliers of technology and infrastructure - A robust and flexible information sharing process that links directly to the Derbyshire Wide Information Sharing Protocol with standardisation and rationalisation of Health and Social Care governance e.g. Information Governance and Security, HR Policies etc. - Explore Shared Services - Explore common ICT Governance mechanism with appropriate budget and accountability to commission IM&T services on behalf of the Derbyshire health and care economy - End User Computing service contract – providing EUC full lifecycle EUC services for all partners - Common ICT architecture and technology infrastructure with governance mechanism with appropriate budget and accountability to commission IM&T services on behalf of the Derbyshire health and care economy - Shared use of common business applications or contracts for ERP/ HR & Payroll, Finance system - Expansion of current Shared Services (Creation/ contracting of a common ICT Services function) to support local authority/acute/3rd sector space with necessary investment to drive out efficiencies. - Data Warehousing and Business Intelligence Services
Data Analysis and Insight Capability	Commissioners are provided with the information that they need to support effective commissioning

Capability	Ambition
	• Real/ near real time data feeds from all organisations within the LDR footprint • Business analytical platform enabling commissioners to interrogate and model data enabling forecasting /predicative modelling and risk stratification and turn date into insight • Data coded to common standards SNOMED-CT to enable effective analysis and information sharing • Whole Systems intelligence to support population health management, commissioning, clinical surveillance and research • Sharing data warehouse facilities, centralised analytics and data sources – broaden the scope of the data to provide health and care connected information, single source of truth.

Table 4: Ambitions against individual capabilities

4 Strategic Value of the Local Digital Roadmap

The Local Digital Roadmap is designed to deliver an effective and coordinated response by the footprint to the delivery of key digital capabilities, enablement of Sustainability and Transformation Plans and fundamentally, the exploitation of digital technologies for the benefits of patients and health and care professionals. Citizens and stakeholders from the health and care professions in Derbyshire have been engaged in this process using existing channels in conjunction with the STP communications and consultation strategy. The section below outlines how the LDR will benefit these stakeholder groups:

4.1 Citizen Impact

Citizens should be able to:

- Find out what services are available to them and how to access those services
- Access information on the performance of their local health and care services
- Book appointments with their GPs and primary care clinician online
- Have a role in determining the security and confidentiality of their own information and how it is used
- Have electronic access to their own health and care records
- Have confidence that health and care professionals have access to the information necessary to provide the best possible care outcomes
- Use standard automated electronic services for routine interactions such as repeat prescriptions
- Consult electronically with health and care professionals on specific issues

Figure 5 below shows what this will mean for citizens in Derbyshire.

4.2 Health and Care Professionals Impact

Expected positive impacts for health and care professionals:

- Improved Clinical outcomes
- Efficiencies maximised by provision of the right 'tools' for the job
- Provision of appropriate training to support care delivery
- Efficient and improved methods of communication, e.g.; email, websites, self-care apps, etc.
- Assurance in the delivery of health and care
- Improved experiences in care delivery
- Improved Patient & Public experience

Figure 6 below demonstrates what this will mean for health and care professionals in Derbyshire.

Derbyshire Local Digital Roadmap

The Derbyshire Local Digital Roadmap sets out how local health and care organisations will work together to use technology to provide better and more cost effective care for local people. This diagram describes what it might mean for you.

Medicines Management and Optimisation

Orders & Results Management

Records, Assessments & Plans

I can securely access my care records online

I can manage my medication more effectively

I can order repeat prescriptions online

I can track progress and access my results online

I am alerted when my results are ready

Remote Care

My GP can monitor my health remotely & alerts me when I need an appointment

I can share my information with the people I choose

I can add information to my record

I can access information tailored to my needs

I can contact health & care professionals online when I need support

Citizens

I don't have to tell my story again each time

I can track my own health & make decisions about my care

Proposed Roadmap

I can book appointments online

I can track my referrals online

I know who is working on my case and where it is in the system

Transfers of Care

| I can book appointments & order repeat prescriptions online | I can view my GP record online | Health & Care Professionals are aware of my end of life decision | Information advice & guidance is available to me online | I can access my full care record share it and add information | Social Care receive electronic information about my case | I can track orders & referrals and contact professionals online | My GP and I track my health remotely |

16/17   17/18   18/19   19/20 +

Figure 5: What the LDR means for citizens

Derbyshire Local Digital Roadmap

The Derbyshire Local Digital Roadmap sets out how local health and care organisations will work together to use technology to provide better and more cost effective care for local people. This diagram describes what it might mean for health and care professionals.
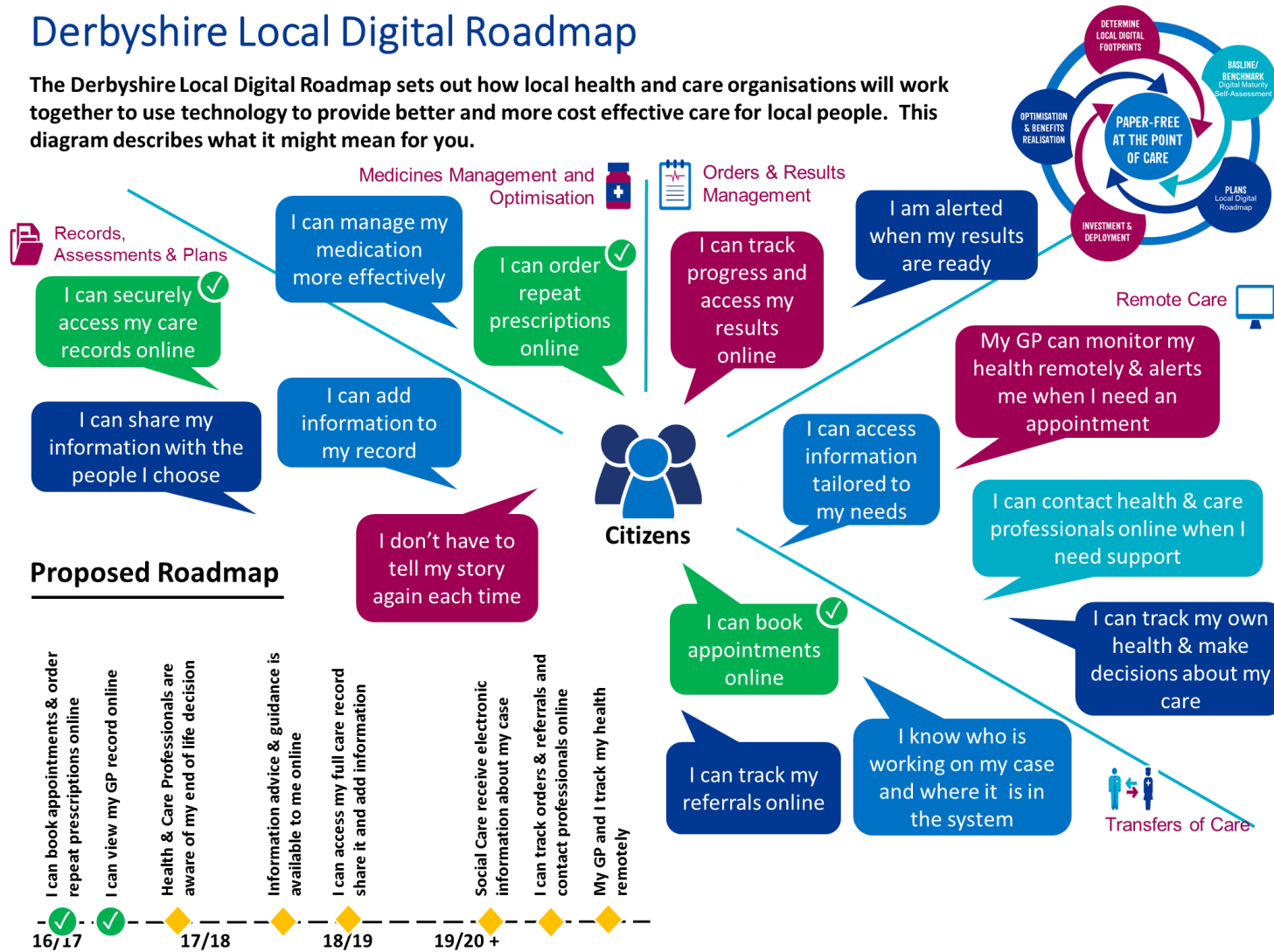

Figure 6: What the LDR means for health and care professionals

4.3 LDR Benefits

The table below sets out how the individual LDR projects address the three key gaps: Care and quality, finance and efficiency and wellbeing:

No.	Initiative	Description	Care Quality	Efficiency	Wellbeing
1	POLAR Optimisation Project	Designed to increase patient update of online access to records & transactions	✓	✓	✓
2	Info Sharing Agreement Project	Local global information sharing agreement to be developed in the absence of the national ISA.	✓	✓	
3	Smartcard Rollout Project	Extend SCR access to other providers	✓	✓	
4	SCR Viewing 2 Project	Roll out SCR access to Social Care professionals	✓	✓	
5	SCR Viewing integration into LOB applications	This designed to support technical integration of SCR into key LOB applications to support adoption.	✓	✓	
6	Citizen Information Project	Raise awareness of POLAR with a publicity and marketing campaign	✓		✓
7	Digital Care Record Account Project 1	Provide a single patient owned DCR Editable and accessible by patients, carers and health and care professionals (GP IT Systems)	✓	✓	✓
8	Digital Care Record Account Project 2	Populate DCR with all info (E-Prescribing, Orders & results, all Health & Care Data)	✓	✓	✓
9	Digital Care Record Account Project 3	Extend the record access to include other public services (3rd Sector, Voluntary, Care Providers, Private Health etc.)	✓	✓	✓
10	Information and Data Quality Standard	Ensuring that information and data integrity is maintained to support effective use of information across a number of capabilities	✓	✓	
11	MIG Phase 1: Roll out to GPs	Phase 1 implementation and roll out to GPs	✓	✓	
12	MIG Phase 2: Roll out to other partners	Roll out to other providers and add EoL module and additional information (orders and diagnostics etc.)	✓	✓	

No.	Initiative	Description	Care Quality	Efficiency	Wellbeing
13	MIG Phase 3: Multi-direction Integration	Multi-directional integration with relevant health and care applications to aggregate and expose data via LOB Applications and DCR	✓	✓	
14	Provider e-Prescribing Projects.	Health Providers expand e-Prescribing internally and ensuring that information is recorded digitally to enable sharing of medication records and information with patients and professionals	✓	✓	
15	Asset Tracking Feasibility Project: Project.	Investigate the value of using common asset tracking across the footprint building on DTH GS1		✓	
16	Pilot Project 1 with multiple organisations within physical premises boundaries	Pilot using a common solution to multiple organisations to use in premise based setting		✓	
17	Roll out common asset tracking solution	Roll out to remaining organisations		✓	
18	Pilot beyond physical premises for non-premise based assets	Pilot using a common solution with multiple organisations for use with non-premise based assets		✓	
19	Roll out common asset tracking solution for beyond physical premises for non-premise based assets	Roll out to remaining organisations		✓	
20	Collaboration Project:	Online document share and collaboration between health and care professionals in mobile organisations	✓	✓	
21	Patient Practice Self Service	Self-check-in and queue management		✓	
22	Alternative Methods of Communication	Implementation in health and care settings to ensure compliance with Accessible Information Standards		✓	✓
23	Single Sign on Project (Based on Smartcard roll out)	Single sign on project to enable health and care professional to access the systems they need with one set of credentials	✓	✓	
24	Assistive Technology Feasibility Project:	Investigation of joined up Derbyshire wide approach to telehealth and care in community.		✓	✓
25	Assistive Technology Implementation Project: Proactive Care for Intensive Case Management and Condition Management	Implementation of joined up Derbyshire health and care wide telehealth and care strategy.		✓	✓
26	Assistive Technology Implementation Project:	Implementation of joined up Derbyshire health and care wide Telehealth		✓	✓

No.	Initiative	Description	Care Quality	Efficiency	Wellbeing
	Avoiding Citizens moving into the category above	and care strategy.			
27	**Remote Communications Project:**	Investigation and implementation of commodity communications technology –. for remote consultation. Devices and connection for other setting (e.g Care homes)	✓	✓	✓
28	**Patient Telephony Access Improvement**	Introduction of interactive telephony to support patient access, triage and transactional services (Self Care repeat prescriptions & bookings)	✓	✓	
29	**Online Information Project:**	Consolidation and improvement of Derbyshire Information, Advice and Guidance (IAAG), including directory of services.		✓	✓
30	**Online Assessment & Triage Project:**	Create a common assessment platform that tailors information for self-care and refers to appropriate service and setting.	✓	✓	
31	**Enable Social Care Notification Project:**	Provide notification into Social Care systems of interactions with shared individuals within health	✓	✓	
32	**DCCx2 CPIS Implementation Project:**	Child Protection Flags in SCR	✓	✓	
33	**DCCx2 eWhiteboard Integration Project**	Integrate notifications directly into Social Care Systems	✓	✓	
34	**Messaging Format (Minimum Data Set) Project:**	Define standard message format for all transfers	✓	✓	
35	**Exploit National eRS pre- referral Advice and Guidance Functionality Project**	Exploit existing functionality for professional to professional pre-referral advice.	✓	✓	
36	**Ordering and results management Project**	Move all orders and results requests online. Includes extension of order comms/ test requesting to neighbouring footprints	✓	✓	
37	**Identify Decision Support Tools:**	Investigate the tools and systems available to support decision making.	✓	✓	
38	**Roll out Decision Support Tools:**	Derbyshire wide deployment and implementation of selected tools.	✓	✓	
39	**EMAS Mobile Device Refresh:**	Refresh end of life devices with new devices.	✓	✓	
40	**EMAS ECS Replacement**		✓	✓	
41	**User Role Profile Assessment Project**	Define role profile and technology requirements for Derbyshire Health &		✓	

No.	Initiative	Description	Care Quality	Efficiency	Wellbeing
		Care workforce.			
42	**Mobile Working at Place Level**	Promotion and support health and care professionals to adapt to new ways of working.		✓	
43	**Capability Mapping Project:**	Identify opportunities for technology and informatics service sharing across Derbyshire		✓	
44	**Improve GP Practice infrastructure and performance**	Connectivity and hardware upgrades. Key enabler for Place based STP model		✓	
45	**Extended Shared Service Feasibility Study:**	Feasibly study and Business Case development exploring the value of increasing shared services		✓	
46	**COIN Refresh and Extension across Derbyshire**	Renewal and extension of the network infrastructure		✓	
47	**Mobile connectivity Enablement**	Provision of consolidated mobile network internet coverage to support mobile working		✓	
48	**Clinical System Harmonisation**	DCHS and DHcFT investment to support harmonisation	✓	✓	
49	**Business Analytics and Insight Capability Feasibility Study**	Feasibly study and Business Case development to identify Business Analytics solution		✓	
50	**Develop Business Analytics and Insight Capability**	Including risk stratification tooling		✓	
51	**LDR Programme Management Team**	LDR Programme Director, Programme Manager, Change and Benefits Manager and Project Support Officer		✓	

Table 5: LDR Project Benefits aligned to Gaps

5 Alignment to STP

The Derbyshire Sustainability and Transformation Plan: **Joined Up Care** has been developed by health and care leaders across the footprint to address the challenges facing Derbyshire, now and in the future and is designed to transform health and care over the next five years. The plan seeks to address these challenges and close the **Health and Wellbeing, Care and Quality** and **Finance and Efficiency** gaps by focusing on five key priorities:

STP Priorities

Place Based Care	We will accelerate the pace and scale of the work we have started to 'join up' care to operate as a single team to wrap care around a person and their family, tailoring services to different community requirements across our 21 places.
Urgent Care	Transforming urgent care provides our single greatest opportunity to address fragmentation and unwarranted variation
Prevention & Self-management	By preventing physical and mental ill health, intervening early to prevent exacerbation and supporting self-management, we will improve health and wellbeing
System Efficiency	We will ensure ongoing efficiency improvements across commissioners and providers
System Management	Our organisations' leaders will come together to manage the Derbyshire system through an aligned leadership and governance approach

The plan builds upon existing initiatives like the Erewash Vanguard Multi-Speciality Community Provider (MCP) and integrated care to deliver health and care differently and more effectively. By uniting professionals and services through new models care, and connecting professionals and citizens through common digital platforms, Derbyshire will continue to put its citizens at the centre of its plans and tackle the challenges that await head on.

The LDR vision, has informed the development of the STP by outlining the art of the possible and showing the potential for information and technology innovation to enable the delivery of radical improvements and cost reductions in the delivery of health and care.   The LDR priorities and roadmap have in turn been shaped to support the delivery of the STP priorities and key initiatives.

Figure 7 demonstrates how the LDR priorities have been developed to support the STP priorities and align with the key national capabilities:

Local Digital Roadmap: How the LDR Priorities support the Derbyshire Sustainability & Transformation Plan
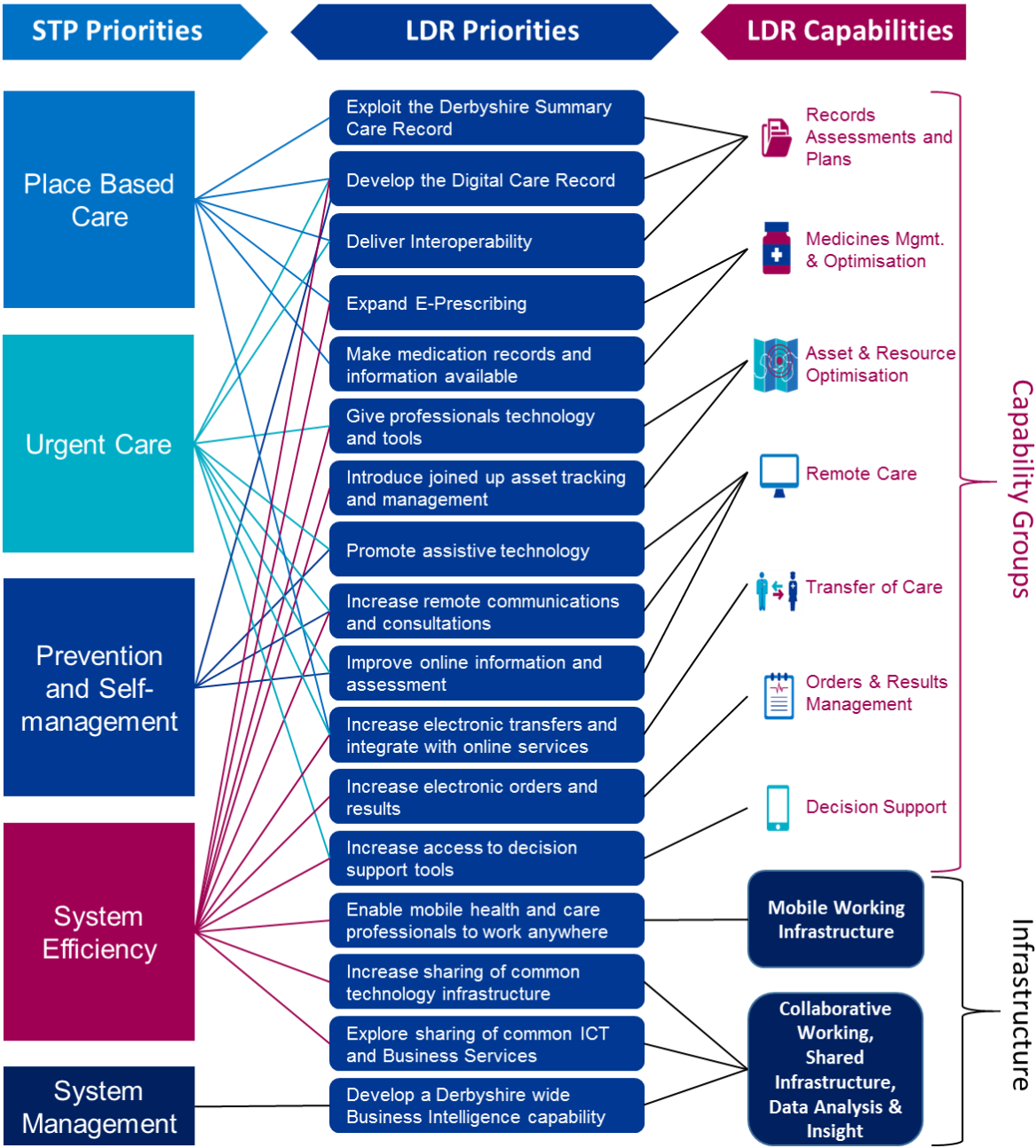

Figure 7: how the LDR Priorities support the Derbyshire STP and LDR Capabilities

The sections below set out in more detail how the LDR ambitions support the individual STP priorities and the specific impact and contribution they will make to addressing the Health and Wellbeing, Care and Quality and Finance and Efficiency gaps.

5.1 Place Based Care

Place based care will act as a focus for integrating health and care services and teams and tailoring services to different locality needs, as well as providing a base for delivering transformed specialist services closer to people. The LDR will support this priority by providing citizens and professionals with the information and tools they need to deliver health and care services in the settings they require.
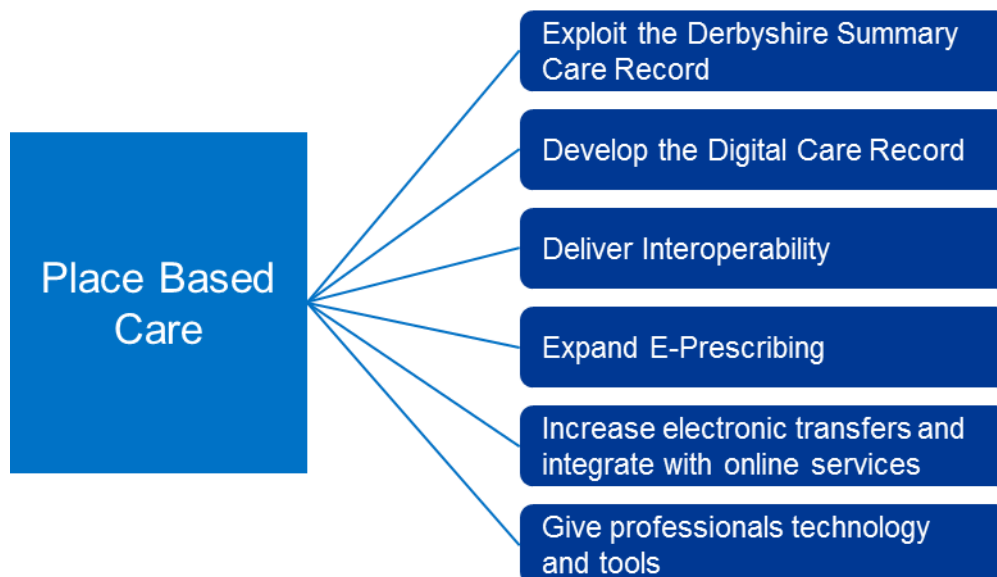

Figure 8: LDR Priorities supporting Place Based Care

How the LDR Ambition supports the STP Priority	Impact on Health & Wellbeing, Care Quality and Efficiency Gaps
- The Derbyshire Digital Care Record (DCR) will enable patients and health and care professionals to access all relevant information recorded pertaining to place based cases - Professionals will be able to record, update and share information with relevant parties involved in the case - The DCR is enabled and enhanced by interoperability which allows data held on multiple systems to be aggregated and presented to citizens and professionals providing a full picture of the case. - Recording of prescriptions and medication information on DCR (Accessible by citizens, carers and professionals) - E-prescribing expanded throughout all health and care pharmacy settings - Real-time prescribing information available to professionals wherever the citizen is within the Health and Care footprint e.g. Nursing/residential homes - Citizens understand the importance of	**Care Quality Gap** - Timely access to DRC information improves patient experience and ensures that all relevant information is available to health and care staff at the point of care leading to improved decision making. - Improved patient experience **Finance & Efficiency Gap** - Joined up DCR accessible to patients and health and care staff increase the efficiency of intervention by ensuring information is available when required, reducing the delay or duplication in recording. - More efficient allocation of medicines within the health and care community - Increased speed of transfer/ referral, reduction in inappropriate transfers and referrals **Health & Wellbeing Gap** - Patients have the information required to better enable them to reduce dependence on health and care interactions, empowering them to seek independent solutions and manage

How the LDR Ambition supports the STP Priority	Impact on Health & Wellbeing, Care Quality and Efficiency Gaps
compliance with medicine and their role in medicines management and optimisation • Professionals have access to the right technology and tools to work effectively in Place Based Care settings • 100% use of electronic transfers support timely and accurate transfers and referrals to appropriate services	their own care • Predicable and consistent use of relevant prescribed medication ensures better health outcomes for patients • Automated repeat prescription reminders to patients – preventing lapses in medication compliance and resultant health impacts on patients that then require more expensive health and care interventions

Table 6: LDR Ambitions aligned with Place Base Care

5.2 Urgent Care

Providing the right care in the most appropriate setting is one of the key drivers underpinning the STP priorities and particularly important to the effective management of care pathways and access to urgent care. The LDR will support citizens and professionals to access appropriate health and care services more effectively. By providing information, tools and channels that enable citizens and professional to identify and access the right service and settings consistently and accurately, demand on urgent care settings can be reduced and re-routed to more appropriate parts of the health and care system.
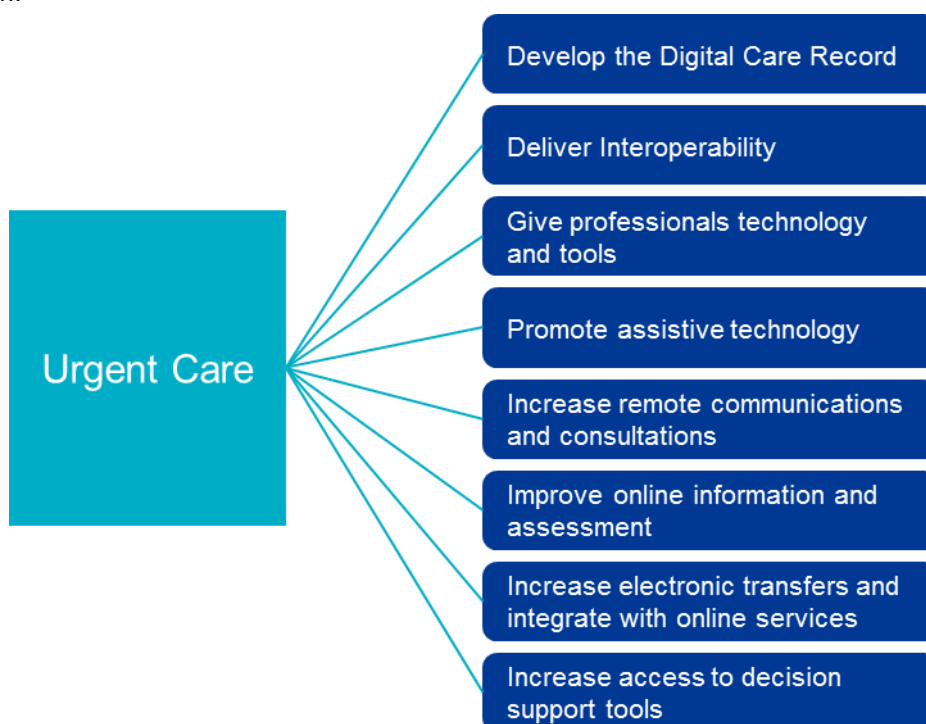

Figure 9: LDR Priorities supporting Urgent Care

How the LDR Ambition supports the STP Priority	Impact on Health & Wellbeing, Care Quality and Efficiency Gaps
• The DCR enables professionals to access all relevant information (Medication, medical history etc.) in the urgent care environment,	**Care Quality Gap** • Urgent care professionals have the information and tools required to make higher quality

How the LDR Ambition supports the STP Priority	Impact on Health & Wellbeing, Care Quality and Efficiency Gaps
supporting better decision making and care • Interoperability means that the interventions undertaken in urgent care settings are recorded and relevant professional working with citizen in non-urgent care setting are notified • Professionals have access to the right technology and tools to work effectively in urgent care settings • Telehealth and assistive technologies provide professionals with more information in more timely and useful ways • Greater use of online information/ triaging and assessment coupled with remote communication and consultations reduces the demands on F2F urgent care by satisfying citizen interactions with more appropriate lower cost channels • Easy access to decision support tools at the point of care supports improvements in the quality and consistency of decision making enabling patients to access the most appropriate services • 100% use of electronic transfers support timely and accurate transfer and discharge, enabling seamlessly transfers/ refers patient to appropriate services following discharge from urgent care settings	decisions more quickly • Improved quality, safety, speed and consistency of decision making • Improved patient experience **Finance & Efficiency Gap** • Information and remote communications enable patient interactions to be triaged more effectively, using appropriate channels and reducing the demand on higher cost F2F urgent care interventions • Information from urgent care interventions is shared immediately via the DCR and interoperability with relevant professionals alerting them to amend or update care plans as a result of the urgent care episode reducing time and duplication • Improved decision making at the optimal point in the pathway reducing wastage by reducing interactions, referrals, transfer of care, orders and diagnostic etc. • Increased speed of discharge/ transfer, reduction in inappropriate transfers and the cost of delayed transfer/discharge **Health & Wellbeing Gap** • Getting the decision right first time prevents deterioration of conditions etc. • Reduction in potential litigation flowing from incorrect decisions

Table 7: LDR Ambitions aligned with Urgent Care

5.3 Prevention and Self-Management

Prevention & Self-management is a partnership between professionals and citizens that requires both parties to change current relationships, behaviours and working practices. Access to digital tools, data and information can empower citizens to take an active role in their own health and care, making informed decisions and taking on responsibility for self-care. The LDR will support this STP priority for prevention and self-care by providing digital solutions which provide the information and tools to support prevention and self-management.
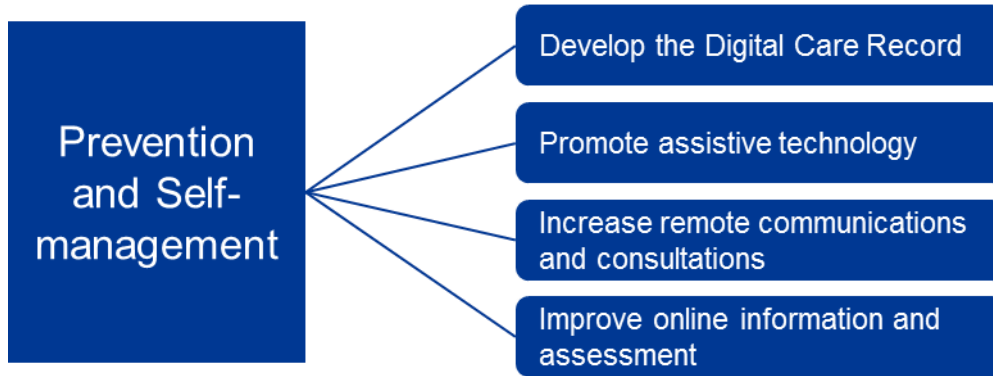
Figure 10: LDR Priorities supporting Prevention and Self-management

How the LDR Ambition supports the STP Priority	Impact on Health & Wellbeing, Care Quality and Efficiency Gaps
• Access their information via the DCR and the use of telehealth tools (biometric information and monitoring etc.) will enable citizens to take a greater role in self-management • Use of telehealth tools for remote monitoring, prompting citizen to take action or indicate need for professional intervention/appointment • Clear and accessible NHS accredited information is available to patients and carers online to support self-care • Use of online support and social media to support self-care for long-term and chronic conditions (Self Help groups – condition specific) • Online triaging (Map of Medicine), identification/ decision support of need/ severity and redirection to relevant organisation • Online assessment tools used to connect patients with information or universal services best suited to their needs	**Care Quality Gap** • Monitoring of health prevents decline of patient health enable use of more efficacious treatment and management of conditions • Patients are empowered with the tools to manage their own care resulting in better care quality **Finance & Efficiency Gap** • Use of information, online resources and interaction increases the efficiency of care, reducing high cost F2F interactions by moving them onto lower cost channel and empowering patients to self-care • Utilisation of lower cost digital channels for interaction between citizens and professionals • More effective self-referral process in place that routes citizen to the most appropriate service or professional first time, reducing the number of inappropriate contacts and referrals **Health & Wellbeing Gap** • Patients have the information required to better enable them to reduce dependence on health and care interactions, empowering them to seek independent solutions and manage their own care • The provision of relevant information ensures that patients and carers are supported to self-care or directed to the appropriate services (Including 3rd sector or private providers) to meet their requirement first time. • Tracking of relevant biometrics, and patient and clinician alerts trigger interventions that prevent the deterioration of health and requirement for higher cost treatments and promote more effective management of conditions

Table 8: LDR Ambitions aligned to Prevention and Self-management

5.4 System Efficiency

The LDR has been designed to exploit innovative new technologies and make better use of existing infrastructure, services and information to delivery better quality, more cost effective IM&T in the Derbyshire footprint. The primary theme running through all the LDR priorities and capabilities is using technology more efficiently, (service rationalisation, consolidation, standardisation and cost reduction) to enable health care services to be delivered more efficiently within the Derbyshire system. The LDR supports the delivery of system efficiency in a myriad of different ways (reducing administration, use of digital tools, provision of online information, etc.) which fundamentally all translate into making the right information available to the right people, citizen or professional, at the right time; *digitally enabling* the care system.
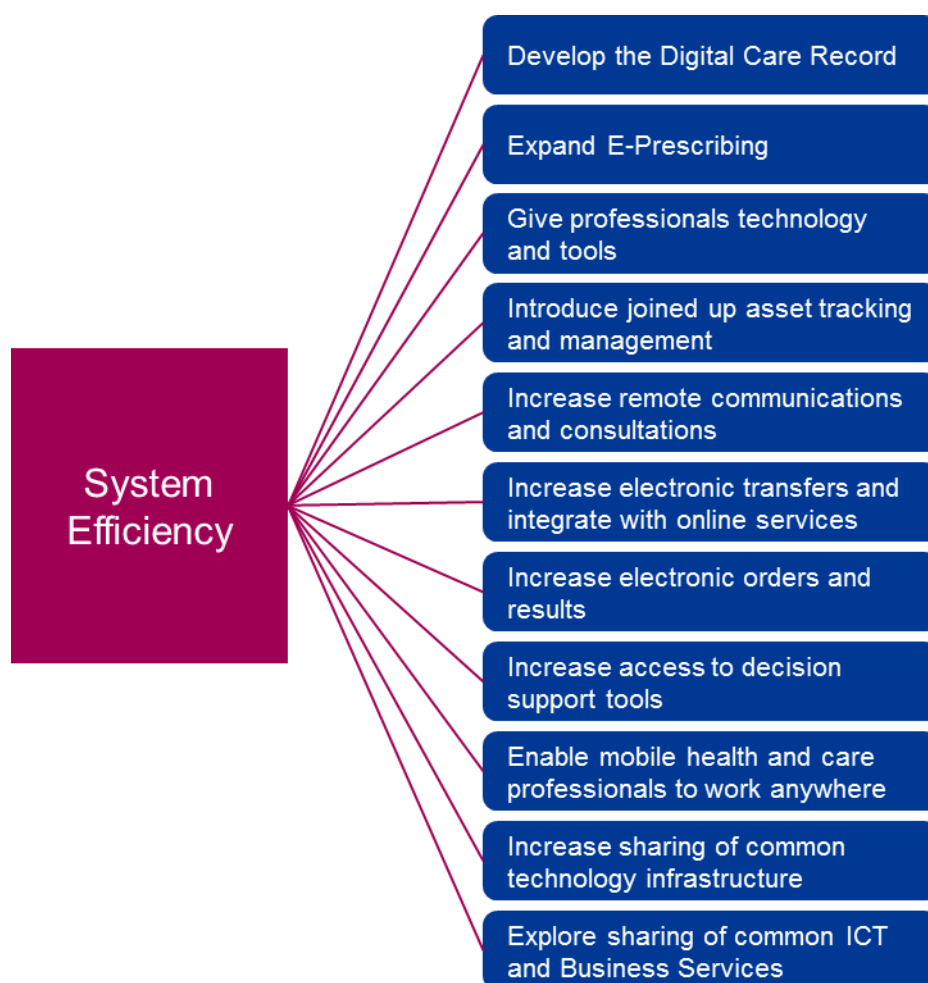

Figure 11: LDR Priorities supporting System Efficiency

How the LDR Ambition supports the STP Priority	Impact on Health & Wellbeing, Care Quality and Efficiency Gaps
• Expansion of E- prescribing throughout health and care pharmacy settings in conjunction with the DCR supports better medicines management • Providing professionals with the right information, (DCR) technology and tools,	**Finance & Efficiency Gap** • More efficient allocation of medicines within the health and care system • Joined up DCR accessible to patients and health and care staff increase the efficiency of intervention by ensuring information is available when required, reducing the delay or

How the LDR Ambition supports the STP Priority	Impact on Health & Wellbeing, Care Quality and Efficiency Gaps
including decision support enables timely access to the right information at the right time in the settings and context in which they work, whether within place based or mobile locations • Introducing joined up asset tracking will provide the data and information essential to increase overall system efficiency • Greater use of remote communication and consultations reduces the demands on more expensive F2F interventions by satisfying citizen interactions with more appropriate lower cost channels • Increasing the information and signposting available online, tailoring it to support self-care will enable people to better prepare and self-serve, reducing overall demand on the health and care system • Increasing the sharing of common technology infrastructure enables a reduction in complexity and economies of scale which will reduce overall costs to the Derbyshire Health and Care system • Exploring the sharing of common ICT and Business services will enable Derbyshire to identify opportunities for service consolidation and rationalisation and reduction in spend by sharing common services.	duplication in recording. • More efficient use of assets resulting from use of GS1 and active asset tracking across the health and care economy • Efficiency saving by sharing technology infrastructure, functional rationalisation and creation of shared service & contracting-economies of scale • Appropriate use of commodity technologies reduces cost and complexity of technology by using appropriate industry standard solutions • Provision of appropriate technology and tools enable professional to increase productivity and work more efficiently • Being able to work anywhere increases home/ remote working capability reducing overall estate footprint and releasing significant savings from the rationalisation and reduction of accommodation footprint • Utilisation of lower cost digital channels for interaction between citizens and professionals • More effective self-referral process in place that route citizens to the most appropriate service or professional – reducing duplication and waste • Reduction in cost of delayed transfer/discharge • Improved efficiency using electronic ordering and results via real time access to diagnostic information. Reducing duplication and ordering time enabling cost reduction • Improved decision making at the optimal point in the pathway reducing wastage by reducing interactions, referrals, transfer of care, orders and diagnostic etc. Increased likelihood of right decision first time – reducing requirement for rework

Table 9: LDR Ambitions aligned to System Efficiency

5.5 System Management

The STP takes an evidence based system wide perspective on the delivery of health and care in Derbyshire. Access to system wide flows of data and information to support analysis, planning and operational delivery is a key requirement for system management. The LDR is designed to provide technology, business intelligence and analytics capability at a system level to support this STP priority.

Figure 12: LDR Priority supporting System Management

How the LDR Ambition supports the STP Priority	Impact on Health & Wellbeing, Care Quality and Efficiency Gaps
• Commissioners are provided with the data and information (Single version of the truth) that they need to support effective commissioning. Including real/ near real time data feeds from all organisations within the LDR footprint • Access to a system wide business analytical platform enabling commissioners to interrogate data at a system level, support operational system optimisation and modelling, (forecasting /predicative modelling and risk stratification) turning date into insight. Providing whole systems intelligence to support population health management, commissioning, clinical surveillance and research	**Care Quality Gap** • Improved patient experience **Finance & Efficiency Gap** • Better use of resources • Evidence led commissioning **Health & Wellbeing Gap** • Supports strategic needs assessment of the locality to inform and direct prevention activities

Table 10: LDR Ambitions aligned to System Management

5.6 Supporting STP New models of care

Figure 13: LDR Priorities support STP new models of care

The STP priorities entail a significant reshaping for current health and care service around the needs of the people of Derbyshire. Delivering this vision will require reconfiguration of the way in which services are delivered and new models of care which require different teams of health and care professional to provide them. The design and configuration of this new operating model and the combination of skills and resources necessary to deliver it is an ongoing part of the STP process. As these models are further developed they will formulate clearer requirements for the information and technology needed to enable them.
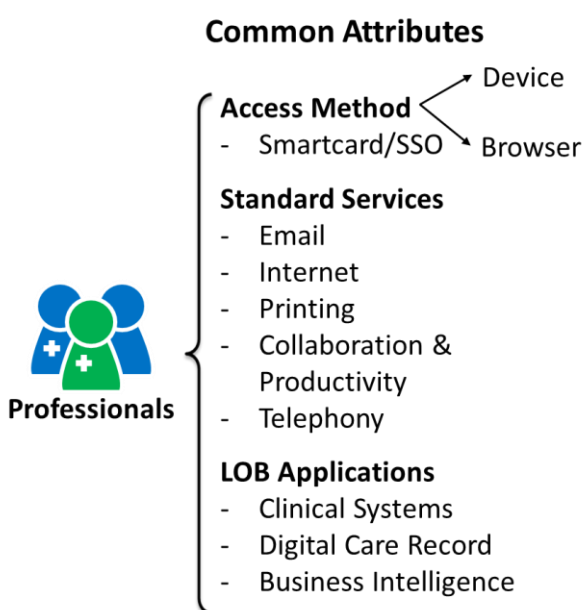
The LDR will be further developed in response

Figure 14: Common ICT Attributes for teams

to the evolution of STP requirements. However, whilst the LDR team will continue to support the STP, Design Leads will define the requirements in more detail, in the interim, the roadmap has been positioned to anticipate the common attributes required by these new team configurations. This will be developed and confirmed early on in the LDR delivery programme, defining exacting what information, devices and services individual professionals require by undertaking a detailed User Role Profile Assessment. This will determine on a team by team basis the precise information and technology required. This analysis will enable the Derbyshire footprint to determine a consolidated common catalogue of the devices and IM&T services required by the new SPT models of care. Rationalisation and standardisation of IM&T requirements and services, supported by common, shared infrastructure will in turn make it easier for professionals to undertake their work whatever the setting or team configuration.

5.7 Future change impacts on local IM&T

This LDR is designed to underpin and enable the delivery of the STP but this is through a *collective endeavour*; it fundamentally relies on the continuing cooperation and collaboration of various health and care entities within Derbyshire to invest in and mutually gain from increasingly shared IM&T.

But this is all occurring within a wider change scenario of health and care organisations changing services and, in some cases, size and shape. Over the delivery periods of the STP and the LDR we will see organisational changes in both commissioners and providers within Derbyshire, some known now and others yet to emerge.

These changes are likely to impact both local priorities and commitment. It will be essential that the STP and LDR governance processes take account of these changes before they occur and ensure that investment commitments for the LDR from local organisations remain intact, even as the organisations change.

6 LDR Baseline Position

The Local health and care system that forms the basis of the LDR footprint has a long history of effective cooperation on shared IM&T priorities and a strong foundation in the Derbyshire Informatics Delivery Board. Formed in 2007, the Board has a wide and active membership inclusive all the key organisation within the local economy. More recently in 2015 the Board refreshed its governance arrangements, defining a joint IM&T vision and agree strategic principles and five key work streams to deliver the local IM&T agenda.

6.1 Derbyshire Digital Maturity

The Digital Maturity Assessment (DMA) measures the extent to which health and care services in England are supported by the effective use of digital technology. NHS Providers formed the first wave of assessment with Primary and Social Care organisations following close behind: Derbyshire Provider organisation that completed the assessment:

- East Midlands Ambulance Service
- Derbyshire Community Health Services
- Derby Teaching Hospitals NHS Foundation Trust
- Chesterfield Royal Hospital NHS Foundation Trust
- Derbyshire Healthcare NHS Foundation Trust
- Derbyshire Health United

Primary Care organisations that completed the assessment:

- Erewash Clinical Commissioning Group
- Southern Derbyshire Clinical Commissioning Group
- Hardwick Clinical Commissioning Group
- North Derbyshire Clinical Group

Social Care organisations that completed the assessment:

- Derbyshire County Council
- Derby City Council

Each organisation has been assessed against the 3 areas, see figure 15 below, while all three areas of the assessment are important factors in the understanding of the Derbyshire foot print it has been the capability and infrastructure elements that go one to shape the formation of the LDR.

Readiness	covering strategic alignment, leadership, resourcing, governance and information governance
Capabilities	covering records, assessments and plans, transfers of care, orders and results management, medicines management and optimisation, remote and assistive care, asset and resource optimisation and standards
Infrastructure	covering areas such as Wi-Fi, mobile devices, single-sign on and business continuity

Figure 15 Digital Maturity Assessment Criteria

The chart below provides an overview of the results of the Digital Maturity Assessments undertaken by health providers within Derbyshire.
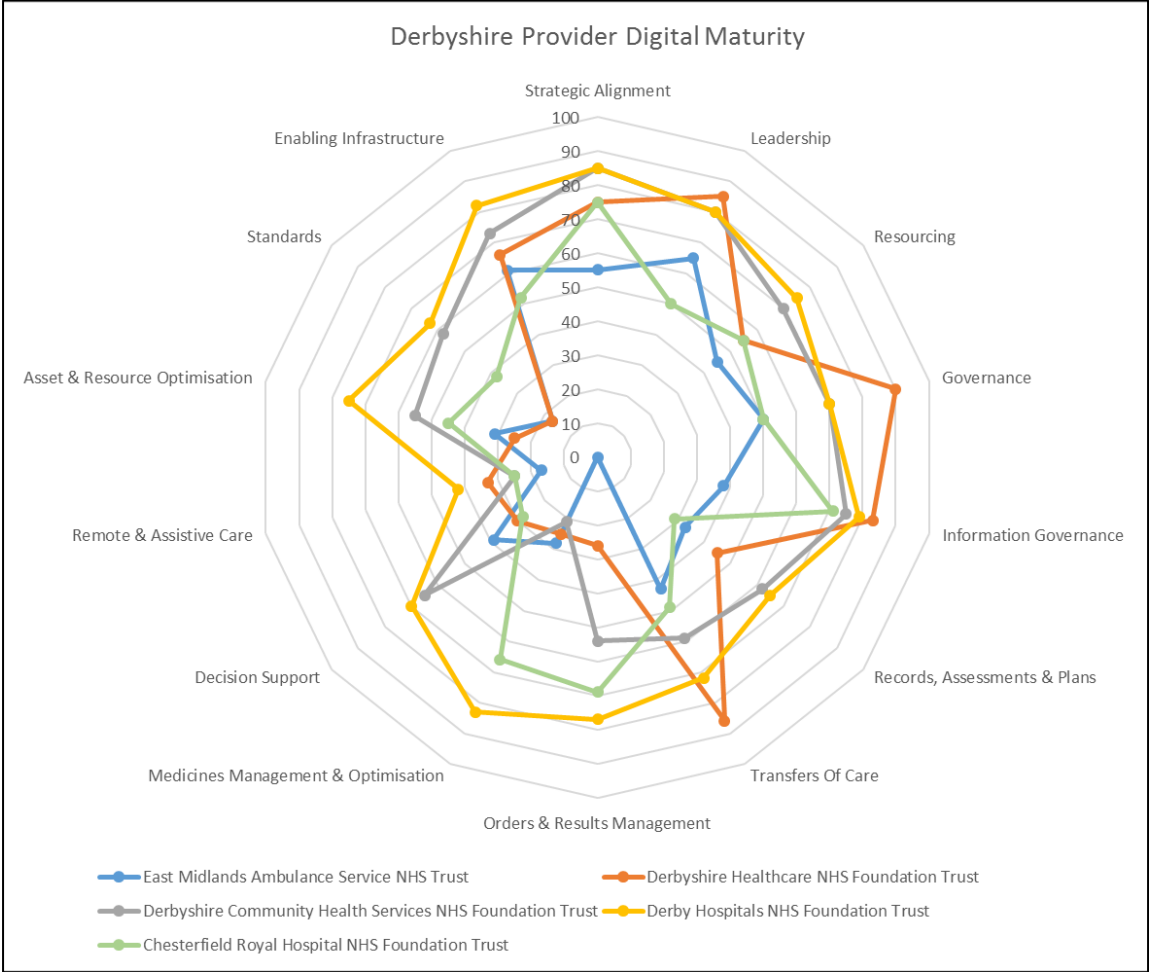

Figure 16: Provider Digital Maturity Overview

High level analysis of the digital maturity assessment can be found in the table below.

6.1.1 Derbyshire Organisations Digital Maturity Readiness & Capability Assessment

The table below provides a summary of the DMA Readiness and Capability scores derived from the self-assessments undertaken by members of the LDR Footprint. It should be noted these data are derived from Provider Organisations only.

Summary Analysis

- East midlands Ambulance Service have only a single element (Decision Support) which is above the national average
- East Midlands Ambulance Service Average Readiness is 23% below the national average and their Capability average is 14% below the national figure
- Chesterfield Royal Hospital's Readiness elements are all below their respective national average figures
- Derby Royal Hospitals elements are all above the national average except Governance which is only 4% below the national figure
- 3 out of 5 organisations are above the national average overall for Readiness (Derbyshire Healthcare, Derbyshire Community Health Services, and Derby Hospitals) whilst only 2 out of 5 are above the national average for Capability overall (Derbyshire Community Health Services, Derby Hospitals, and Chesterfield Royal Hospital)

	Readiness							Capability								
	Strategic Alignment	Leadership	Resourcing	Governance	Information Governance	Readiness Average		Records, Assessments & Plans	Transfers Of Care	Orders & Results Management	Medicines Management & Optimisation	Decision Support	Remote & Assistive Care	Asset & Resource Optimisation	Standards	Capability Average
East Midlands Ambulance Service NHS Trust	55	65	45	50	38	50		33	43	0	28	39	17	31	17	26
Derbyshire Healthcare NHS Foundation Trust	75	85	55	90	83	77		45	86	26	25	30	33	25	17	35
Derbyshire Community Health Services NHS Foundation Trust	85	80	70	70	75	76		62	59	54	21	65	25	55	58	49
Derby Hospitals NHS Foundation Trust	85	80	75	70	79	77		65	72	77	83	70	42	75	63	68
Chesterfield Royal Hospital NHS Foundation Trust	75	50	55	50	71	60		29	49	69	66	28	25	45	38	43
Derbyshire Health United	95	35	70	-	-	-		69	100	-	68	-	25	63	54	84
National Average	76	77	66	74	73	73		44	49	52	29	36	33	42	41	40

Table 11 Derbyshire provider organisation DMA baseline results
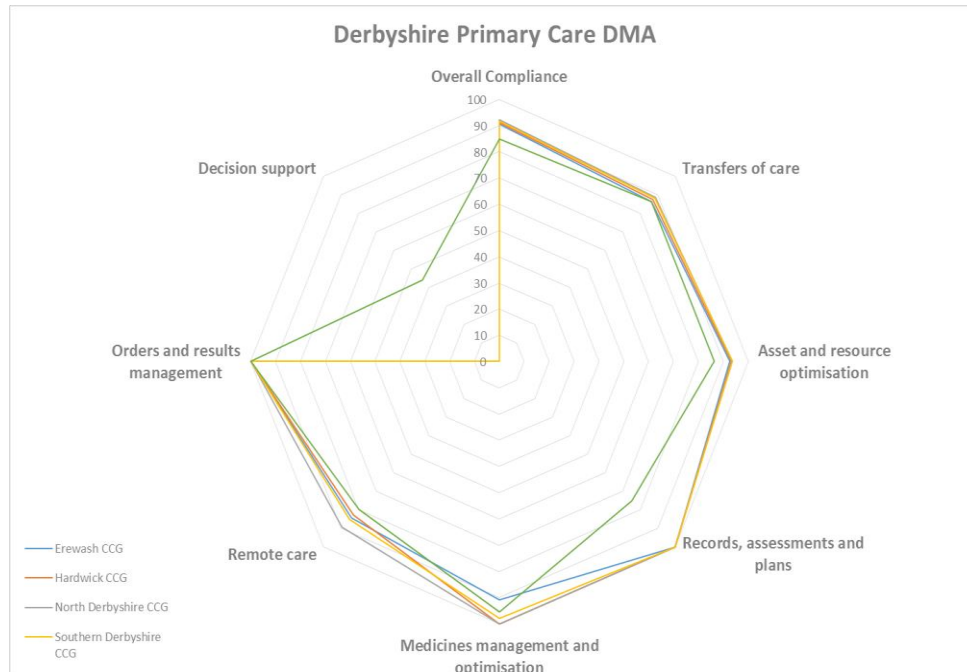
6.1.2 Primary Care Digital Maturity

Figure 17 Derbyshire Primary Care DMA

Derbyshire GP practices have a high level of compliance with key digital capabilities as demonstrated by chart opposite and table below.

	Overall Compliance	Transfers of care	Asset and resource optimisation	Records, assessments and plans	Medicines management and optimisation	Remote care	Orders and results management	Decision support
Erewash CCG	90.45	86.33	92.64	100	90.9	84.21	100	0
Hardwick CCG	91.2	87.25	93.27	100	100	82.9	100	0
North Derbyshire CCG	92.1	88.6	93.53	100	100	89.46	100	0
Southern Derbyshire CCG	91.67	88.3	93.62	100	97.82	85.08	100	0
England	84.86	86.33	86.35	75.18	95.52	79.89	100	43.89

6.1.3 Social Care Digital Maturity

Both Local Authorities in Derbyshire complete Digital Maturity Assessments. Assessments have indicated that both authorities' have social care departments that use electronic social care record systems to create digital records. Both authorities have mature mobile working programmes in place. Existing initiatives are in place using electronic whiteboard to support and manage hospital discharge processes within Derbyshire. This combined with a history of collaboration across the health and care community in Derbyshire provides a firm foundation on which to deliver the LDR priorities.

6.2 Summary of Key Achievements and Current Initiatives

Derbyshire has already made progress toward digital enablement, paper-free transfers and referrals and operating paperless at the point of care. Derbyshire providers are in Phase 1 of the Medical Interoperability Gateway (MIG) deployment and have successfully completed the deployment in Erewash CCG Practices and several Provider organisations, with this implementation due to gather momentum between now and March 2017. In addition, provider organisations are encouraged to utilise the national applications such as Summary Care Record (SCR) to view patient records with viewing statistics continuing to rise month on month.

Many areas of the National Informatics Board and NHS England Roadmap objectives that are required, have been delivered or are underway. These projects will enable 'digital by default' across the health and social care community. Given the current status and future plans Derbyshire is well placed to meet the 2020 objectives.

Derbyshire has embedded the National Informatics Board and NHS England Roadmap objectives into the combined Clinical Commissioning Group IGM&T Strategic objectives. This strategy document has been distributed across Derbyshire and will inform future initiatives, commissioning and deliverables to achieve our local digital roadmap plan.

Within the Derbyshire IM&T community, key work streams/initiatives ensure that integration of health and care delivery remains a core aspiration.

Examples of key achievements and progress to date include:

- SCR viewing capability in place across Urgent and Emergency providers, Acute Pharmacy and Community Departments, Mental Health
- Deployment of the Medical Interoperability Gateway (MIG) across Derbyshire (primary care, secondary care, out-of-hours, ambulance and community settings) – completion by March 2017
- Model on principles for information sharing and consent approved by the whole health and care system, supported by Information Governance specialists, Local Medical Committee and now adopted across Derbyshire
- 'Sweating' of National Applications e.g.: SCR to provide an End of Life, Electronic Palliative Care Co-ordination System (EPaCCS), live across health providers in Derbyshire.
- 100% of GP Practices offering patient on-line access to records with the utilisation of this functionality rising steadily in order to achieve the GMS Contractual requirement of 10% utility per practice

In addition, Derbyshire has a number of business transformation and integration programmes that are already underway:

- Prime Ministers Challenge Fund (Wave 1)
- Primary Care Infrastructure initiatives – Informatics and Premises
- Better Care Fund
- Erewash Vanguard – Multi-Speciality Community Provider (MCP) – Erewash Health

6.2.1 DIDB Work Streams

A key reason for these achievements and progress to date has been the success of the Derbyshire Informatics Delivery Board. The Board reviewed and updated the IM&T vision and priorities for the Derbyshire Health and Care Economy in January 2015 and as part of this process, designed and initiated an IM&T Programme to deliver against this vision. The programme is comprised of five key work streams set out below which are largely responsible for success to date and are key components that have been incorporated into the LDR.

	Programme Work stream
1	**Derbyshire Care Record** Platform independent customer self-service portals (Linking access to patient/ citizen information – single sign on) Web-based access available 24/7. To support self-care and healthy living, technology can play a key role. Provision of information to support healthy lifestyles and citizens/patients living with health conditions, the use of web and mobile application technologies can provide access to vital information for both health & care professionals and citizens.
2	**Information Governance / Sharing** Information Governance & Information Sharing Electronic communications across health and care, Out of Hours (Data Sharing) Online authentication and verification tools NHS Toolkit compliance. Sharing information for direct and indirect care (secondary) purposes will support the ambitions of the STP
3	**Agile working** Mobile Working (Seamless Working & vendor lobbying) Delivery of federated network, WIFI for Nursing & Residential Care Homes Public broadband and wireless network. Through improved infrastructure new, more efficient ways of working across health and care will be achieved
4	**Business Intelligence** Business intelligence (Personal, population and pathway data underpinned by standard capture and validation processes) – the provision and use of information to inform commissioning intentions, identify health and care trends, pioneering new ways or working, improving health and care pathways.
5	**Maximising existing solutions** Review existing solutions in primary care and identify how can maximise use to improve effectiveness and efficiency (start with primary care and then share with the other partners) standard data capture/ coding/ accreditation. Focusing on the measurement of optimisation of the current systems, sweating of the national applications and change management aspects this Work stream will increase the digital maturity of organisations ensuring that Derbyshire providers of care are making the most of the opportunities that the digital enablement provides.

Table 12: DIDB Work Streams

6.2.2 Progress against LDR Capabilities and DIDB Work Streams

The table below sets out progress against the DIDB Work Streams and demonstrates how Derbyshire has begun delivering transformational change against the LDR Capabilities though its existing Informatics Work Programme.

Capability	Baseline and Key Achievements	Derbyshire Care Record	Information Governance / Sharing	Agile working	Business Intelligence	Maximising existing solutions
Records, Assessments and Plans	100% GP Practices enabled for Patient Access to Records in Derbyshire upload to the SCR and this information is available for viewing across the Footprint and nationally. - All NHS organisations in the footprint are able to view the SCR. Either via their clinical systems or the SCRa - Community pharmacy proof of concept project runs between Nov 2015 and March 2016 – Full roll out approval secured. - Electronic Unified Health & Social Care plan developed to support upload of additional information to SCR (Including EoL, DNACPR, SPN's) - Project planned to introduce a Medical Interoperability Gateway (MIG) to share information across the footprint.	✓	✓			✓
Medicines Management and Optimisation	93% EPS R2 Coverage – March 2016 (Non-Dispensing)					✓
Asset & Resource Optimisation	- Derby Teaching Hospital is running a national GS1 pilot project - Derby City Council is introducing a new e-Rostering system for home care staff				✓	
Remote Care	100% of GP practices have enabled POLAR Transactional services which including repeat prescriptions, appointment booking and access to records - As of March 2016 79 Practises of 120 within the footprint are already meeting the 10% target.	✓	✓			

Capability	Baseline and Key Achievements	Derbyshire Care Record	Information Governance / Sharing	Agile working	Business Intelligence	Maximising existing solutions
	Average uptake:					
Transfers of Care	▪ All GP Practices have electronic referral processes enabled and embedded. ▪ As of January 2016 78% of GP referrals to secondary care are made electronically within the Derbyshire footprint. ▪ Chesterfield Royal Hospital has pre-referral support service in place to provide advice and guidance to GPs to assist them to make the right referral ▪ A proportion of e-referrals are made using proprietary functionality between SystmOne users in primary and secondary care settings. These numbers are not currently tracked ▪ Derbyshire footprint currently exceeds the national average for e-discharge summaries (69%). Work has recently commenced to roll this into inpatient settings. ▪ Social Care are currently working towards local and remote access to passive e-whiteboard solutions in both Derbyshire acute hospitals which provides electronic discharge and withdrawal notices from acute care. Social Care can track and respond to discharge and withdrawal notices but are not actively notified if they are not monitoring the e-whiteboard solutions. Information gained from monitoring requires re-keying into their respective social care systems					✓
Orders & Results Management	▪ Derby Teaching Hospital and Chesterfield Royal Hospital are jointly procuring a Laboratory Information Management System.		✓	✓	✓	
Decision Support	▪ The HSCIC Child Protection Information team have made contact with local authorities in Derbyshire but implementation of the Child Protection Information System has not started yet. Initial discussions have commenced between the local authorities and HSCIC. ▪ Electronic Unified Health & Social Care plan developed and rolled out to support upload of "Additional Information" to SCR (Including EoL data,		✓			

Capability	Baseline and Key Achievements	Derbyshire Care Record	Information Governance / Sharing	Agile working	Business Intelligence	Maximising existing solutions
	preferences, DNACPR, SPN's) ■ SCR Viewing accessible in Acute, Community, OOH and Mental Health settings ■ Additional module for End of Life included within the MIG project					
Mobile Working Infrastructure	■ Mobile working is enabled in Practices, Primary and Community care settings			✔		
Collaborative Working and Shared Infrastructure	■ Derbyshire wide public WIFI and reciprocated networks in all partner locations enabling staff to work remotely in partner settings ■ On-going work to federate Active Directory services to enable seamless use of corporate networks			✔		
Data Analysis and Insight Capability	■ Derbyshire wide business analysis work stream in operation				✔	

Table 13: Progress against LDR Capabilities and DIDB Work Streams

6.2.3 Progress against Universal Capabilities

Table16 below sets out progress against the digital capability and infrastructure groups and demonstrates how Derbyshire is already addressing a large number of these components through its existing Informatics Work Programme.

No.	Universal Capability	Baseline and Key Achievements	Enabled	Usage/Uptake
1	**Professionals across care settings can access GP-held information on GP-prescribed medications, patient allergies and adverse reactions**	▪ 100% GP Practices in Derbyshire upload to the SCR and this information is available for viewing across the Footprint and nationally. ▪ All NHS organisations in the footprint are able to view the SCR. Either via their clinical systems or the SCRa ▪ Community pharmacy proof of concept project ran from March 2015 – September 2015, with Full Roll out commenced from Nov 2015 and March 2017 ▪ Electronic Unified Health & Social Care plan developed to support upload of additional information to SCR (Including EoL, DNACPR, SPN's) Project planned to introduce a Medical Interoperability Gateway (MIG) to share information across the footprint.	COMPLETE	IN PROGRESS
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)**	▪ 100% GP Practices in Derbyshire upload to the SCR and this information is available for viewing across the Footprint and nationally. ▪ Clinicians in urgent care settings are able to view the SCR. Either via their clinical systems or the SCRa ▪ Electronic Unified Health & Social Care plan developed to support upload of additional information to SCR (Including EoL, DNACPR, SPN's) ▪ Project planned to introduce a Medical Interoperability Gateway (MIG) to share information across the footprint. Additional MIG functionality procured to include EoL etc.	COMPLETE	IN PROGRESS
3	**Patients can access their GP**	▪ 100% of GP Practices within the Derbyshire footprint are enabled for Patient Online Access to Records	COMPLETE	IN PROGRESS

No.	Universal Capability	Baseline and Key Achievements	Enabled	Usage/Uptake
	record	(POLAR)– Transactional and Detailed Record Access		
4	GPs can refer electronically to secondary care – 80% by Sept 2017	All GP Practices have electronic referral processes enabled and embedded. ▪ As of January 2016 78% of GP referrals to secondary care are made electronically within the Derbyshire footprint. The national reporting mechanism then changed. Following this change the newly available e-RS referral figures have been seen to fluctuate month on month. ***Clarify from the national team has been requested with regard to measurement of this UC on an annual basis.*** ▪ The acute trusts have pre-referral support service in place to provide advice and guidance to GPs to assist them to make the appropriate referral and in some cases referral avoidance. ▪ A proportion of e-referrals are made using proprietary functionality between SystmOne users in primary and secondary care settings and these are not counted as part of the national reporting measurement therefore the usage percentage could be higher.	COMPLETE	69% across Derbyshire -11% from target (July 2016)
5	GPs receive timely electronic discharge summaries from secondary care	Derbyshire footprint currently exceeds the national average for e-discharge summaries (69%). Work has recently commenced to roll this into inpatient settings. ▪ Chesterfield Royal Hospital 80% ▪ Derby Teaching Hospital 100%	COMPLETE	N/A

No.	Universal Capability	Baseline and Key Achievements	Enabled	Usage/Uptake
		▪ Derbyshire Community Health Services 60% ▪ Derbyshire Healthcare Foundation Trust (MH) 100% ▪ Derbyshire averages sits at 85%		
6	**Social care receives timely electronic Assessment, Discharge and Withdrawal Notices from acute care**	Social Care are working towards local and remote access to passive e-whiteboard solutions in both Derbyshire acute hospitals which provides electronic discharge and withdrawal notices from acute care. Social Care can track and respond to discharge and withdrawal notices but are not actively notified if they are not monitoring the e-whiteboard solutions. Information gained from monitoring requires re-keying into their respective social care systems	ADDITIONAL INITIATIVES IDENTIFIED	For Derby City Council, social care have access to the Derby Teaching Hospitals e-whiteboard from both the hospital and the Council House. Social Care use the system every working day and can track and respond to discharge and withdrawal notices. Information gained from monitoring requires re-keying into the social care system. Derbyshire County Council have similar arrangements with Derby Teaching Hospitals and for Chesterfield Royal Hospital LA staff log directly into the e-witeboard system on Hospital premises and using hospital Kit.
7	**Clinicians in unscheduled care settings can access child protection information with social care professionals notified accordingly**	The HSCIC Child Protection Information team have made contact with local authorities in Derbyshire but implementation of the Child Protection Information System has not started yet. Initial discussions have commenced between the local authorities and HSCIC.	ADDITIONAL INITIATIVES IDENTIFIED	Initial discussions held in May 2016. Implementation of the CPIS has not yet started.
8	**Professionals across care settings made aware of end-of-life preference information**	▪ Electronic Unified Health & Social Care plan developed and rolled out to support upload of "Additional Information" to SCR (Including EoL data, preferences, DNACPR, SPN's) ▪ SCR Viewing accessible in Acute, Community, OOH and Mental Health settings	COMPLETE	Current SCR viewing figures demonstrate a significant increase in utilisation since the implantation of the Unified Health and Social Care Plan which includes End of Life preference information

No.	Universal Capability	Baseline and Key Achievements	Enabled	Usage/Uptake
		▪ Additional module for End of Life included within the MIG project	COMPLETE	
9	**GPs and community pharmacists can utilise electronic prescriptions – 80% by March 2017**	▪ 96% EPS R2 Coverage – September 2016 (Non-Dispensing)	COMPLETE	Current usage indicates the majority of practices reaching the 80% target.
10	**Patients can book appointments and order repeat prescriptions from their GP practice – 10% uptake by March 2017**	100% of GP practices have enabled POLAR Transactional services which include: ▪ Repeat prescription ▪ Appointment booking ▪ Assess to records As of June 2016 79 Practises (67%) of 118 within the footprint are already meeting the 10% target. Average uptake: ▪ Since June 2016 there has been an increase from 4.8% average to 5.6% average for those that are yet to meet the 10% threshold ▪ Since June 2016 there has been an increase from 19.5% average to 20.2% for those GP practises that are already meeting the 10% target threshold	COMPLETE	69% meeting or exceeding target

Table 14: Progress against Universal Capabilities

6.2.4 Mapping Capabilities and Universal capabilities with current Derbyshire Initiatives

Bringing together the elements above and placing the key initiatives against the STP/LDR delivery time line has enables new projects to be identifies. This early mapping was presented to the DIDB, LDR Working Groups members as a base in which to think creatively about how Derbyshire will meet the Five Year Forward Plan and the 2020 view of patient free at the point of care.
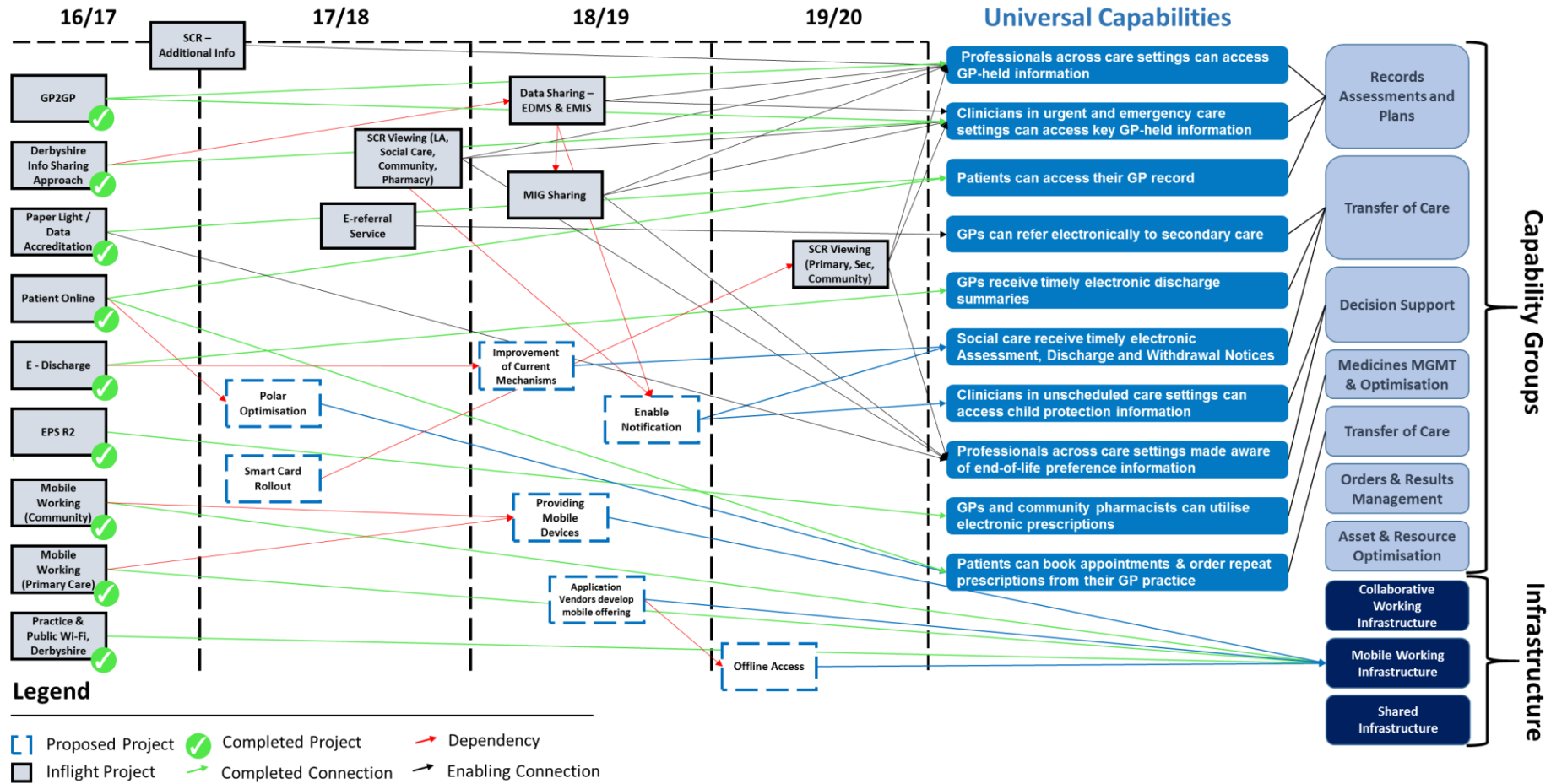
Figure 18: Universal Capabilities Delivery Plan

7 Derbyshire Digital Delivery Plan

The Derbyshire LDR footprint have developed and extended their vision and ambitions for delivery of the capabilities and infrastructure that underpin the drive for Derbyshire to be Paper-free at the Point of Care. This section outlines how the Derbyshire plans to achieve its vision and deliver the health and care system's capability and infrastructure priorities.
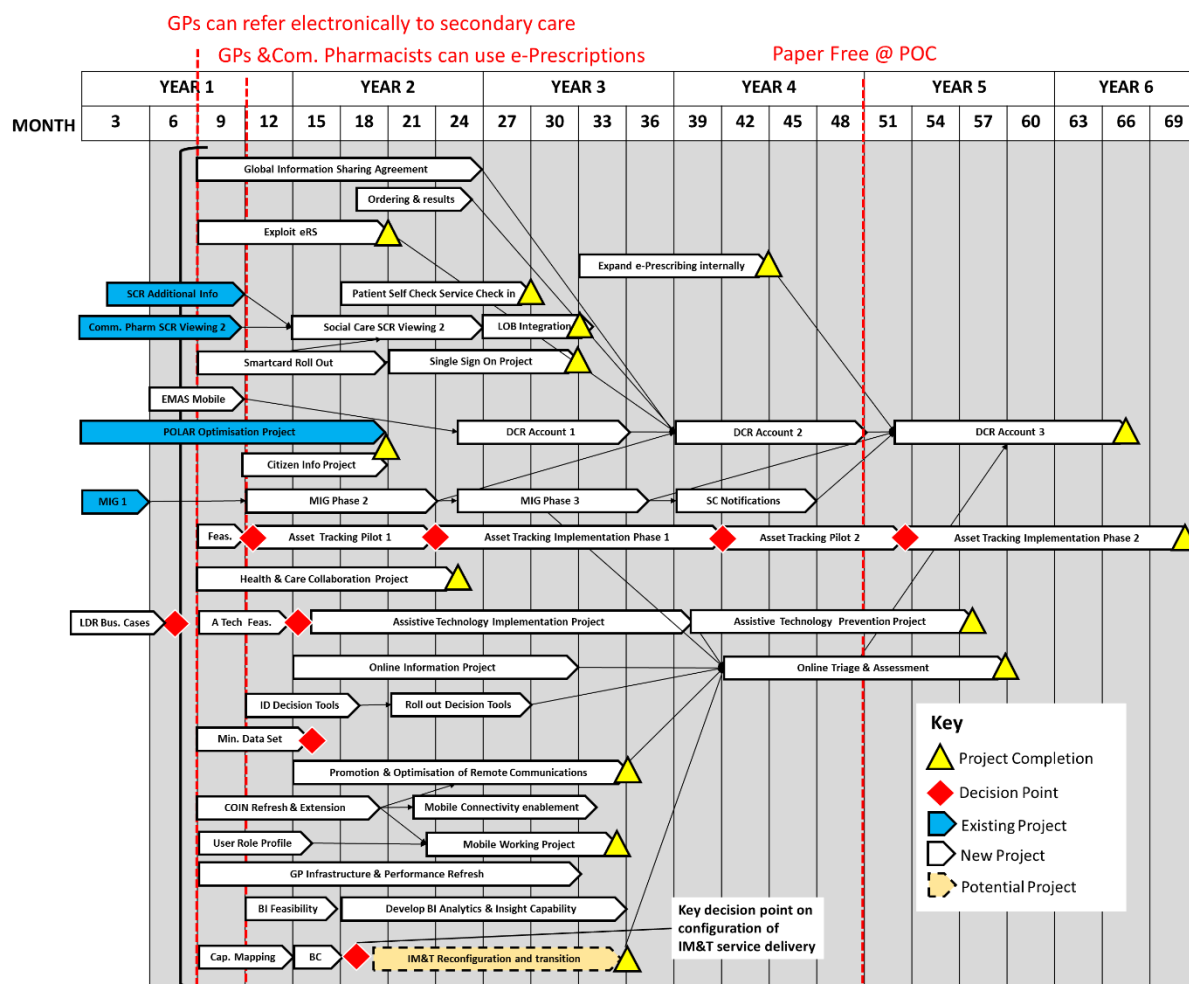
Figure 19 Derbyshire LDR Programme Plan Overview

Figure 6 sets out the high level programme of existing and proposed initiatives required to deliver the Derbyshire vision and Paper-free at the Point of Care and the sequence and dependencies between them. Details of how the individual projects deliver against the LDR priorities and the estimated duration, cost, resources and rationale for each of the individual initiatives are detailed in table 7 below. It is important to note that for new projects in dossier, the cost estimates represent a requirement for additional funding within Derbyshire and that projects required further definition.

7.1 Digital Capability Deployment Plan

The table below sets out the projects and initiatives designed to deliver the LDR capability priorities.

Capability	Ref	Initiative	Description	Notes
Records, Assessments and Plans **Capture information electronically for use by me and share it with other professionals through the Integrated Digital Care Record**	**Exploit Derbyshire Summary Care Record Expand viewing access and increase information available to patients and health and care profession**			
	1	POLAR Optimisation Project	Designed to increase patient update of online access to records & transactions	
	2	Info Sharing Agreement Project	Local global information sharing agreement to be developed in the absence of the national ISA.	
	3	Smartcard Rollout Project	Extend SCR access to other providers	
	4	SCR Viewing 2 Project	Roll out SCR access to Social Care professionals	• SCRa access only • Requirement to provide technical integration to CRHFT and DHCSFT
	5	SCR Viewing integration into LOB applications	This designed to support technical integration of SCR into key Line of Business applications to support adoption.	• Includes intergration with social care
	6	Citizen Information Project	Raise awareness of POLAR with a publicity campaign	
	Develop Digital Care Record Create editable, patient owned DCR containing all relevant records and information accessible by patients, carers and health and care professionals			
	7	Digital Care Record Account Project 1	Provide a single patient owned DCR Editable and accessible by patients, carers and health and care professionals (GP IT Systems)	
	8	Digital Care Record Account Project 2	Populate DCR with all info (E-Prescribing, Orders & results, all Health & Care Data)	• Dependency on MIG Phase 2
	9	Digital Care Record Account Project 3	Extend the record access to include other public services (3rd Sector, Voluntary, Care Providers, Private Health etc.)	
	10	Information and Data Quality Standard	Ensuring that information and data integrity is maintained to support effective use of information across a number of capabilities	
	Deliver Interoperability Provide real-time information for DCR with bi-directional updates between DCR and source systems accessible by patients and care professionals			
	11	MIG Phase 1: Roll out to GPs	Phase 1 implementation and roll out to GPs	
	12	MIG Phase 2: Roll out to other partners	Roll out to other providers and add EoL module and additional information (orders and diagnostics etc.)	• Additional Providers: Offender Health, Hospice, 3rd Sector, Private Health
	13	MIG Phase 3: Multi-direction Integration	Multi-directional integration with relevant health and care applications to aggregate and expose data via LOB Applications and DCR	

Medicines Management and Optimisation **Ensure people receive the right combination of medicines every time**	**Expand E-Prescribing ensuring all prescribing is electronic across all settings**
	14	**Provider e-Prescribing Projects.**	Health Providers expand e-Prescribing internally and ensuring that information is recorded digitally to enable sharing of medication records and information with patients and professionals	- Both Derbyshire acute trusts have e-Prescribing in place - DCHSFT are deploying e-prescribing - DHCSFT have existing functionality - Out of hours (OOH) provider will be in scope - Ambulance Service – administers medicines, but don't prescribe
Asset & Resource Optimisation **Increase efficiency to significantly improve the quality and safety of care**	**Introduce joined up asset tracking and management use GS1 for optimal visibility and common tracking of high value assets across Derbyshire**
	15	**Asset Tracking Feasibility Project: Project.**	Investigate the value of using common asset tracking across the footprint building on DTH GS1	
	16	**Pilot Project 1 with multiple organisations within physical premises boundaries**	Pilot using a common solution to multiple organisations to use in premise based setting	
	17	**Roll out common asset tracking solution**	Roll out to remaining organisations	
	18	**Pilot beyond physical premises for non-premise based assets**	Pilot using a common solution with multiple organisations for use with non-premise based assets	
	19	**Roll out common asset tracking solution for beyond physical premises for non-premise based assets**	Roll out to remaining organisations	
	Give professionals the technology and tools to support them to fulfil their roles effectively
	20	**Collaboration Project:**	Online document share and collaboration between health and care professionals in mobile organisations	Non-clinical/business requirements
	21	**Patient Practice Self Service**	Self-check-in and queue management	Based on the exploitation of existing functionality:
	22	**Alternative Methods of Communication**	Implementation in health and care settings to ensure compliance with Accessible Information Standards	Legal requirement
	23	**Single Sign on Project (Based on Smartcard roll out)**	Single sign on project to enable health and care professional to access the systems they need with one set of credentials	
Remote Care **Use remote, mobile and assistive**	**Promote assistive technology to support self and remote monitoring by health and care professionals**
	24	**Assistive Technology Feasibility Project:**	Investigation of joined up Derbyshire wide approach to telehealth and care in community.	Long Term Conditions focused (Population size 210k - 5% +15%)
	25	**Assistive Technology Implementation Project: Proactive Care for Intensive Case Management and Condition**	Implementation of joined up Derbyshire health and care wide telehealth and care strategy.	

technologies to help me provide care		**Management**		
	26	**Assistive Technology Implementation Project: Avoiding Citizens moving into the category above**	Implementation of joined up Derbyshire health and care wide Telehealth and care strategy.	
		Increase remote communications and consultations to enable citizens and health and care professionals to communicate more efficiently and conveniently		
	27	**Remote Communications Project:**	Investigation and implementation of commodity communications technology – for remote consultation. Devices and connection for other setting (e.g Care homes)	• Based on the exploitation of existing functionality:
	28	**Patient Telephony Access Improvement**	Introduction of interactive telephony to support patient access, triage and transactional services (Self Care repeat prescriptions & bookings)	
	29	**Online Information Project:**	Consolidation and improvement of Derbyshire Information, Advice and Guidance (IAAG), including directory of services.	
	30	**Online Assessment & Triage Project:**	Create a common assessment platform that tailors information for self-care and refers to appropriate service and setting.	
Transfers of Care **Use technology to seamlessly transfer patient information at discharge, admission or referral**		**Increase electronic transfers and integrate with online services including all referrals, transfers (any to any), discharge and correspondence with history and records included in DCR**		
	31	**Enable Social Care Notification Project:**	Provide notification into Social Care systems of interactions with shared individuals within health	
	32	**DCCx2 CPIS Implementation Project:**	Child Protection Flags in SCR	
	33	**DCCx2 eWhiteboard Integration Project**	Integrate notifications directly into Social Care Systems	
	34	**Messaging Format (Minimum Data Set) Project:**	Define standard message format for all transfers	
	35	**Exploit National eRS pre- referral Advice and Guidance Functionality Project**	Exploit existing functionality for professional to professional pre-referral advice.	
Orders & Results Management **Use technology to support the ordering of diagnostics and sharing of test results**		**Increase electronic orders and results requests in real time, published online through DCR , with alerts to citizens and health and care professionals and integrated into clinical system**		
	36	**Ordering and results management Project**	Move all orders and results requests online. Includes extension of order comms/ test requesting to neighbouring footprints	

Decision Support **Receive automatic alerts and notifications to help me make the right decisions**	**Increase access to information tools and alerts to support decision making**
	37	**Identify Decision Support Tools:**	investigate the tools and systems available to support decision making.	• Based on the exploitation of existing functionality:
	38	**Roll out Decision Support Tools:**	Derbyshire wide deployment and implementation of selected tools.	
Mobile Working Infrastructure **To support Place-Based Care in Derbyshire**	**Enable mobile health and care professionals to work anywhere connectivity at partner and citizen settings and offline working where internet access is unavailable**
	39	**EMAS Mobile Device Refresh:**	Refresh end of life devices with new devices.	• Subject to commissioner agreement
	40	**EMAS ECS Replacement**		• Subject to commissioner agreement
	41	**User Role Profile Assessment Project**	Define role profile and technology requirements for Derbyshire Health & Care workforce.	
	42	**Mobile Working at Place Level**	Promotion and support health and care professionals to adapt to new ways of working.	
Collaborative Working and Shared Infrastructure **Supporting a modern Integrated Health and social care system**	**Increase sharing of common technology infrastructure, making it easier to collaborate, reducing cost and taking advantage of local economies of scales**
	43	**Capability Mapping Project:**	Identify opportunities for technology and informatics service sharing across Derbyshire.	
	44	**Improve GP Practice infrastructure and performance**	Connectivity and hardware upgrades. Key enabler for Place based STP model	• Interim to until HSCN is delivered
	Explore sharing of common ICT and Business Services to reduce cost and improve outcomes
	45	**Extended Shared Service Feasibility Study:**	Feasibly study and Business Case development exploring the value of increasing shared services.	
	46	**COIN Refresh and Extension across Derbyshire**	Renewal and extension of the network infrastructure	• Includes migration from N3 to HSCN
	47	**Mobile connectivity Enablement**	Provision of consolidated mobile network internet coverage to support mobile working	
	48	**Clinical System Harmonisation**	DCHS and DHcFT investment to support clinical system harmonisation.	
Data Analysis and Insight Capability **To deliver system-wide intelligence**	**Develop the Derbyshire wide Business Intelligence capability, pulling data from all available systems and providing tools for analytics and insight**
	49	**Business Analytics and Insight Capability Feasibility Study**	Feasibly study and Business Case development to identify Business Analytics solution	
	50	**Develop Business Analytics and Insight Capability**	Including risk stratification tooling	

		LDR Programme Management Team		
LDR Capability **To deliver an ambitious programme of work**	51	**LDR Programme Management Team**	LDR Programme Director, Programme Manager, Change and Benefits Manager, Technical Architecture/Enterprise Architect and Project Support Officer	• Necessary to deliver the whole programme of LDR projects and activities

Table 15: LDR Project Dossier

7.2 Capability Deployment Schedule

The Capability Deployment Schedule details how the LDR capability delivery programme plan will deploy the capabilities to organisations and health and care professionals across the Derbyshire footprint.

7.3 Capability Deployment Trajectory

The Capability Deployment Trajectory provides a view of how the LDR capability delivery programme plan and existing organisational initiatives support the upwards trajectory of digital maturity across the Derbyshire footprint. At time of submission only three of the 6 provider organisations had been able to provide a view of their expected trajectory. These organisations digital maturity trajectories will be incorporated as they become available. The chart below demonstrated the target trajectory over the next three years.
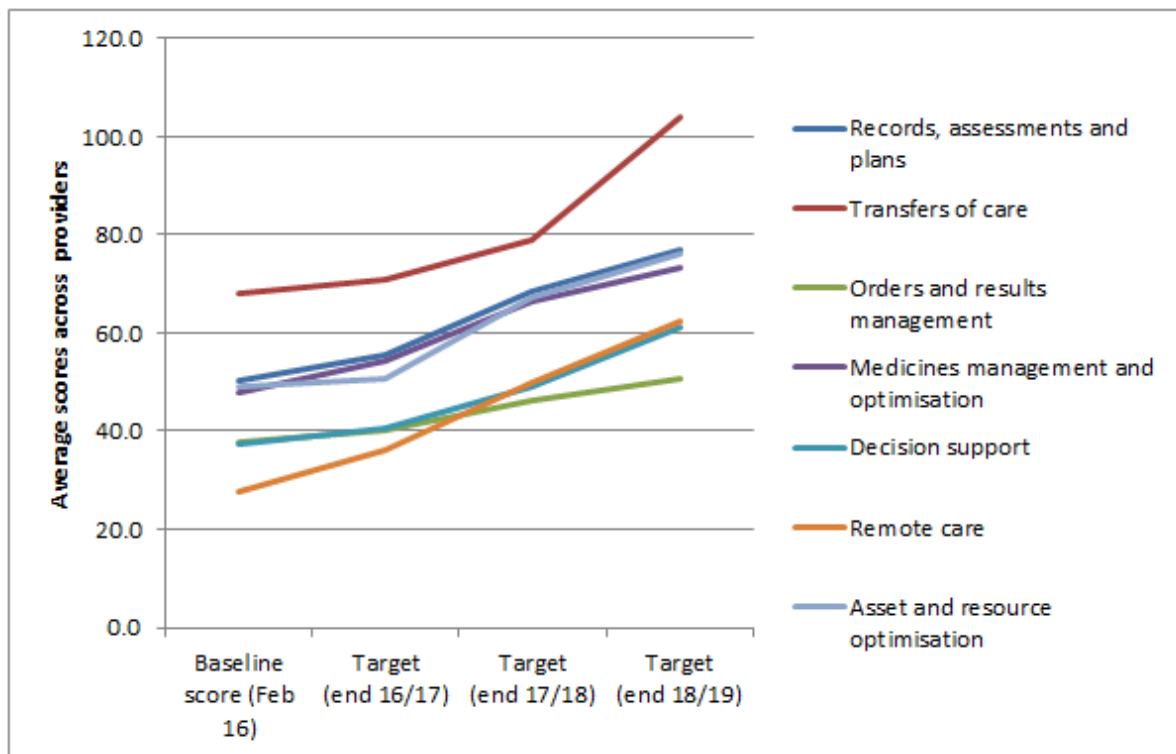

Figure 20: Derbyshire capability deployment trajectory

7.4 Universal Capabilities Delivery Plan

This section sets out in more detail the Derbyshire's baseline, key achievements and ambition for delivery of the Universal Capabilities. This table provides an overview of current plans.

No.	Universal Capability	Ambition	Activities	Evidencing Progress
1	**Professionals across care settings can access GP-held information on GP-prescribed medications, patient allergies and adverse reactions**	▪ Continue roll out of SCR viewing to Community Pharmacies and Social Care ▪ Extend SCR access to other public service partners (Health & Justice, Private and 3rd Sector Care Providers ▪ Enable other health & care providers to add to the SCR ▪ Add more additional data to the SCR ▪ MIG provides a platform for accessing patient information within the footprint ▪ Patients are able to add information to their SCR records – (Dependant on changes to GP IT systems)	▪ Project to roll out SCR viewing to community pharmacy and Social Care scheduled to complete end 16/17 ▪ Increase uptake of Smartcards to increase viewing ▪ SCR viewing extended to Prisons in the footprint. Roll out to other Health & Justice settings July 2016 ▪ Discussions underway with HSCIC about other health & care providers adding to the SCR ▪ MIG Roll out in the Erewash CCG area scheduled to commence Jun 2016 ▪ Roll out to other CCG areas by end 16/17	▪ SCR Viewing data and case study ▪ Project Progress Reporting
2	**Clinicians in urgent and emergency care settings can access key GP-held information for those patients previously**	▪ Add more additional data detailed in the Electronic Unified Health & Care Plan to the SCR ▪ MIG provides a platform for accessing patient information within the footprint ▪ Add additional information to the MIG ▪ Patients are able to add information to their SCR records – (Dependant on changes to GP IT systems)	▪ MIG Roll out in the Erewash CCG area scheduled to commence Jun 2016 ▪ Roll out to other CCG areas by end 16/17 ▪ Roll out of Electronic Unified Health & Care Plan ▪ Roll out of MIG EoL and additional modules	▪ SCR Viewing data and case study ▪ Project Progress Reporting

No.	Universal Capability	Ambition	Activities	Evidencing Progress
	identified by GPs as most likely to present (in U&EC)			
3	**Patients can access their GP record**	▪ Increase the number of Patients who access their records online	POLAR Optimisation Project (Commenced April 2016): ▪ Promotional activities to increase patient awareness and encourage uptake ▪ Focused promotion to patients with Long term conditions and complex needs	▪ Review of national data on online patient record access ▪ Practise uptake remote monitoring by project team ▪ Project Progress Reporting
4	**GPs can refer electronically to secondary care – 80% by Sept 2017**	▪ Extend e-referral across other relevant care settings (For example Social Care) ▪ Utilise the national e-referral service (e-RS) enhancements as they become available ▪ Extent monitoring of e-referrals to include proprietary vendor referral functionality (SystmOne referrals)	▪ Investigate referral pathways within the footprint to identify opportunities for extending e-referral	▪ Review of national data on e-referrals ▪ Review of local data on non- e-RS referrals ▪ NHS Digital – ERS management information pack - monthly
5	**GPs receive timely electronic discharge summaries from secondary care**	▪ Ensure wider roll out of electronic discharge summaries across all Trust departments to achieve 100% ▪ Align format of Discharge Summaries with Academy of Medical Royal Colleges guidance	Individual trusts have internal projects to roll out of electronic discharge summaries across departments	▪ Future DMA assessments ▪ Local monitoring

No.	Universal Capability	Ambition	Activities	Evidencing Progress
6	**Social care receive timely electronic Assessment, Discharge and Withdrawal Notices from acute care**	▪ Email notification of service user admission to acute hospital ▪ To have automated electronic notification integrated into Social Care systems ▪ Dependency on Derbyshire County Social Care System planned procurement and implementation over the next 18 months	▪ e-Whiteboard enhancement planned to email notification to Social Care upon admission of service user to Derby Royal Hospital ▪ Define a common discharge and withdrawal notification specification ▪ Social Care notification project to be initiated to develop. Commission a solution for automated notification into social care systems	Project progress reporting
7	**Clinicians in unscheduled care settings can access child protection information with social care professionals notified accordingly**	▪ To provide clinicians in unscheduled care setting with child protection information and relevant social care contact details for children in Derbyshire ▪ Ensure provision is in place for information to be made available for children in boarding footprints ▪ Key Dependency NHS no. recording in Children's Social Care ▪ Dependency on Derbyshire County Council Social Care System planned procurement and	▪ Initiate a Derbyshire Child Protection Information System Project ▪ Deliver the solution for both Derbyshire local authorities	National and local tracking of project progress
8	**Professionals across care settings made aware of end-of-life preference**	▪ Provide professionals with access to information on patients end of life preference information across Derbyshire	▪ Completion of SCR viewing roll out to community pharmacy ▪ Roll out additional Smartcards to encourage access ▪ Completion of SCR view PoC for Social Care ▪ Roll out MIG access to all CCG Areas	▪ SCR Viewing figures – continue to monitor and collate case studies and promotion of SCR and MIG usage to Derbyshire footprint. ▪ Project Progress Reporting: ▪ MIG Implementation ▪ Electronic Unified Health & Social Care

No.	Universal Capability	Ambition	Activities	Evidencing Progress
	information		- MIG deployment pending – for local and border area (Nott, Leicester) consumption - Roll out additional SCR information from the Unified Health & Social Care Plan	Plan - Smartcard Rollout - SCR roll out to Social Care
9	**GPs and community pharmacists can utilise electronic prescriptions – 80% by March 2017**	100% EPS R2 roll out achievement (non-Dispensing)	- Encourage Dispensing practice uptake - Continue to Lobby National team regarding Dispending Practice EPS R2 Solution	Requires utilisation stats from the national team – validate with local data
10	**Patients can book appointments and order repeat prescriptions from their GP practice – 10% uptake by March 2017**	- Consolidate uptake in current GP practises and build on current success - Achieve at least 10% utilisation per practice	Continue operation of POLAR Optimisation Project to: - Targeted promotion of online patient services to those practices current below the 10% threshold - Patient education to encourage uptake for those registered for online services - Promotion of patient online services to public	- Review of national and local data on patient use of online transactional services - Project progress reporting

Table 16:Universal capabilities ambition, activities and evidence matrix

8 Infrastructure - System Wide

8.1 Access to Systems

Infrastructure standardisation and compliance and best practice within Derbyshire Health and Care economy is driven through Derbyshire Information Technology Managers and is currently looking at a number of community wide technical work packages including items such as cross domain authentication and core infrastructure improvements. Derbyshire's approach is to use best of breed technology and national standards wherever possible. Where these aren't available the use of existing standards developed in other communities are considered and only as a last resort are local standards created. This is in line with the work with out of area LDR leads across the Midlands to support the Midlands Accord.

8.2 Community of Interest Networks (COIN)

The use and application of COIN within Derbyshire has fostered collaborative and mobile working across the health and social economy. With improvement in speed (latency) and capacity (bandwidth) from these new networks and consideration of the new changing data sharing requirements it is anticipated that the COIN, provided by N3, will migrate to HSCN network contracts and service provision from 2017 onwards. An initiative has been identified and is included in our LDR Roadmap to refresh and extend the CPIN throughout Derbyshire to provide a shared infrastructure platform to enable collaboration and mobile working. In addition to this, a second initiative has been identified which builds on this to enable mobile connectivity throughout the locality.

8.3 Wireless access

Approximately 500 sites are now live with federated Wi-Fi across Derbyshire work is underway to improve the coverage and speed of this key infrastructure. Plans are in hand to extend federated Wi-Fi across the community for staff to access outside their office building to provide an agile and mobile approach.

Provision of Federated Wi-Fi enabled:

- Reduction in staff travel time due to lack of IT connectivity.
- Effective mobile and collaborative working, enabled by seamless access to online resources.
- Staff access to their organisational IT systems when working from numerous sites across Health and Social Care including home working.
- Access to networks is now closer to the patients and citizens' homes for care staff who need to synchronise patient notes/caseloads
- Support for the move to paper-light/paper less ways of working

Public Wi-Fi is in place in all GP Practices and across a number of providers including, CRHFT, DTHFT, DHFT, and we understand a number of neighbouring footprint Providers and Trusts. This level of access is perceived to benefit patients who regularly visit health and care environments as well as to

deliver messages to inform them of key activities e.g. flu vaccinations and other useful information to promote healthy lifestyle and close the health and wellbeing gap.

8.4 Mobile working

Community Mobile Working has deployed more than 1,000 mobile working devices in community services. Through the Nurse Technology fund and local provider investment, Community staff now have access to digital resources wherever they work. Local authorities are also progressing with this work with both Derby City and Derbyshire County Councils having enabled its staff for mobile working. Other providers have plans to deliver this capability in the coming years. In summary, the Derbyshire Footprint has programmes in 'in train' to support mobile working.

There does remain further work to do with GP mobile still in deployment. The focus of this being for clinicians to use on visits to patient's homes and care/nursing homes.

The remaining mobile enablement will focus on supporting staff in Mental Health and in hospital to ensure they have access to the right information at the bedside. Although good progress has been made on this there is more to complete.

The purposed shift back to paper from the Emergency Care Solution for the Ambulance service, EMAS is a significant retrograde step to plans for Derbyshire and the wider neighbouring footprints. Discussions to date have resulted in a 6 month extension to the existing contract and negotiations are on-going to secure a long term solution to ensure that paramedics and their teams are both digitally enabled and mobile.
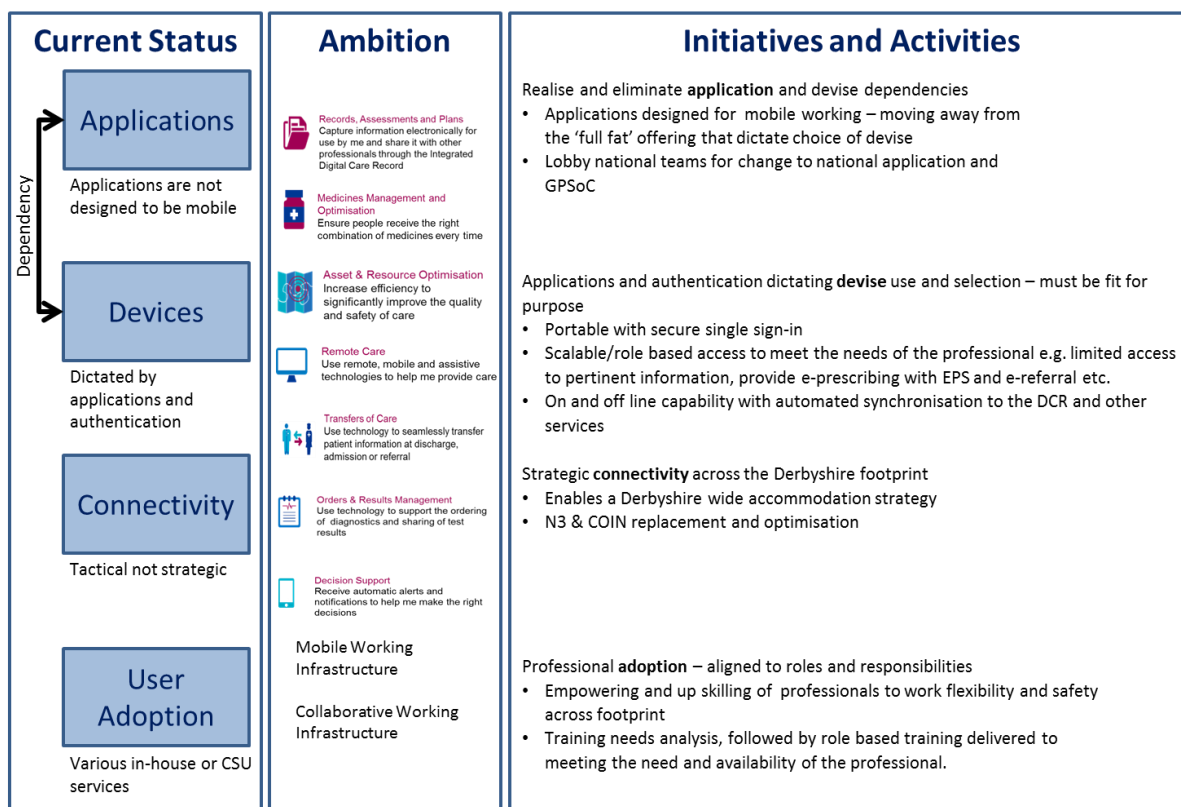
Current Status	Ambition	Initiatives and Activities
Applications Applications are not designed to be mobile **Devices** Dictated by applications and authentication **Connectivity** Tactical not strategic **User Adoption** Various in-house or CSU services	**Records, Assessments and Plans** Capture information electronically for use by me and share it with other professionals through the Integrated Digital Care Record **Medicines Management and Optimisation** Ensure people receive the right combination of medicines every time **Asset & Resource Optimisation** Increase efficiency to significantly improve the quality and safety of care **Remote Care** Use remote, mobile and assistive technologies to help me provide care **Transfers of Care** Use technology to seamlessly transfer patient information at discharge, admission or referral **Orders & Results Management** Use technology to support the ordering of diagnostics and sharing of test results **Decision Support** Receive automatic alerts and notifications to help me make the right decisions Mobile Working Infrastructure Collaborative Working Infrastructure	Realise and eliminate **application** and devise dependencies • Applications designed for mobile working – moving away from the 'full fat' offering that dictate choice of devise • Lobby national teams for change to national application and GPSoC Applications and authentication dictating **devise** use and selection – must be fit for purpose • Portable with secure single sign-in • Scalable/role based access to meet the needs of the professional e.g. limited access to pertinent information, provide e-prescribing with EPS and e-referral etc. • On and off line capability with automated synchronisation to the DCR and other services Strategic **connectivity** across the Derbyshire footprint • Enables a Derbyshire wide accommodation strategy • N3 & COIN replacement and optimisation Professional **adoption** – aligned to roles and responsibilities • Empowering and up skilling of professionals to work flexibility and safety across footprint • Training needs analysis, followed by role based training delivered to meeting the need and availability of the professional.

Figure 21: Mobile Working Infrastructure Stack Diagram

8.5 Data Centres

Collectively, Derbyshire has several data centres/computer rooms and there are plans review these arrangements in 2016/17 to better understand what efficiency, quality, resilience, security, access, speed and scalability improvements can be gained through rationalisation and closer working. In 2017/18 the reviewed outcomes from this work will deliver the agreed actions.

8.6 Virtual Desktop

Several organisations have implemented Virtual Desktop infrastructure across Derbyshire. Plans to roll this out further are in place and include support for transforming General Practice. There remains an investment gap to deliver at the desired pace but improvements are being achieved using an agile approach.

8.7 Communication

Modern digital messaging systems are replacing facsimile and sending of paper documents within health and social care. There is agreement across all partners in Derbyshire to move to fully ITK/CDA messaging for transitions of care in support of the national standard and the Midlands Accord. It is recognised that this will likely take two years locally and possibly longer for out of area messaging. In order to support this other methods of communication will be need to support the transition from old ways of communicating within the care providers and with citizens/patients.

8.7.1 NHS mail 2

There is a plan to migrate most health providers to NHSmail2 with one organisation providing local accredited services that will be linked to NHSmail2. The local authorities are using PSN compliant mail systems meaning that from 2017 care professionals will be able to communicate securely across health and care.

8.7.2 Unified Communication

Derbyshire already have unified communications capability across most organisations. These individual organisational systems are linked across telephony, building on a long term existing arrangement for call plans and integration of call systems. Shared video infrastructure is already available for clinical MDT and shared care pathways such as Cancer and Stroke as well as back office functions and they have demonstrated the value of this kind of technology.

Moving forward, the plan is to further integrate these platforms to include video and presence. This will be primarily built on the Microsoft platform with the use of federated Microsoft Lync a key component to provide video, voice and chat capability to support communication in the digital space. It is envisaged that these digitally enabled communities will be built around the developing new multidisciplinary teams need for communication for example; GP Federated Groups, Prism Teams, Care Co-ordination teams etc.

8.8 Cyber Security

Health and Care information is amongst the most sensitive categories of personal information that exists, and it is essential that citizens have absolute confidence that their confidentiality is assured. Therefore Cyber security is seen as a vital very important consideration in all technology enabled projects. Connected Derbyshire adopts robust processes in information governance, data security and IT security. Standard project documentation requires projects to complete Privacy Impact Assessments (PIA), Quality Impact Assessments (QIA), Equality Impact Assessment (EIA) and RAID logs recording risks and issues including those relating to cyber security. The Cyber Security checklist is used as a tool to assess readiness and compliance with best practice. All providers involved in the Connected Derbyshire work have achieved a minimum level of IG toolkit compliance (including partners) and several pieces of additional assurance work have taken part, related to shared information tools, in the last 12 months.

Derbyshire include a wide range of representation on project boards including clinical, IG, patient representative and data quality. Derbyshire is also engaged with accredited independent third party suppliers procured conduct exercises such as PEN/Vulnerability testing when delivering or changing technical infrastructure. All these embedded processes ensure Derbyshire are well placed to work to ensure NHS Digital CERT requirements are met.

Whilst good progress has been made in this area it is recognised that as we move into more whole system information systems, additional capabilities and resources will be needed to ensure that the existing high levels of cyber security are maintained and even improved.

9 Readiness

This section outlines the Derbyshire footprint's readiness to deliver the LDR.

9.1 Leadership and Governance

The current IM&T governance architecture has evolved in line with the development of the CCG role and emergence of collaborative initiatives within the local health and care economy. Whilst ultimate authority and accountability for IM&T rests with the partner organisations' governing Bodies, Boards and Cabinet the IM&T governance architecture is composed of the following structure:

> **Derbyshire Informatics Delivery Board**
> To provide leadership of IM&T Strategy and Local Digital Roadmap development

The Board, previously known as the Local Implementation Board (LIB), was established in 2007 to support local implementation of the national IM&T programme. It has since continued to provide a forum for organisations involved in delivery and commissioning of care to the population of Derbyshire, to discuss IM&T programmes which support that delivery/commissioning. With the advent the Sustainability and Transformation Plan and the LDR, the Board has and taken on responsibility for the development of the LDR.

The relationship between the Board and the STP governance architecture is maintained by the Chairman of the Derbyshire Informatics Delivery Board who is also a member of the STP Chiefs Group**.**
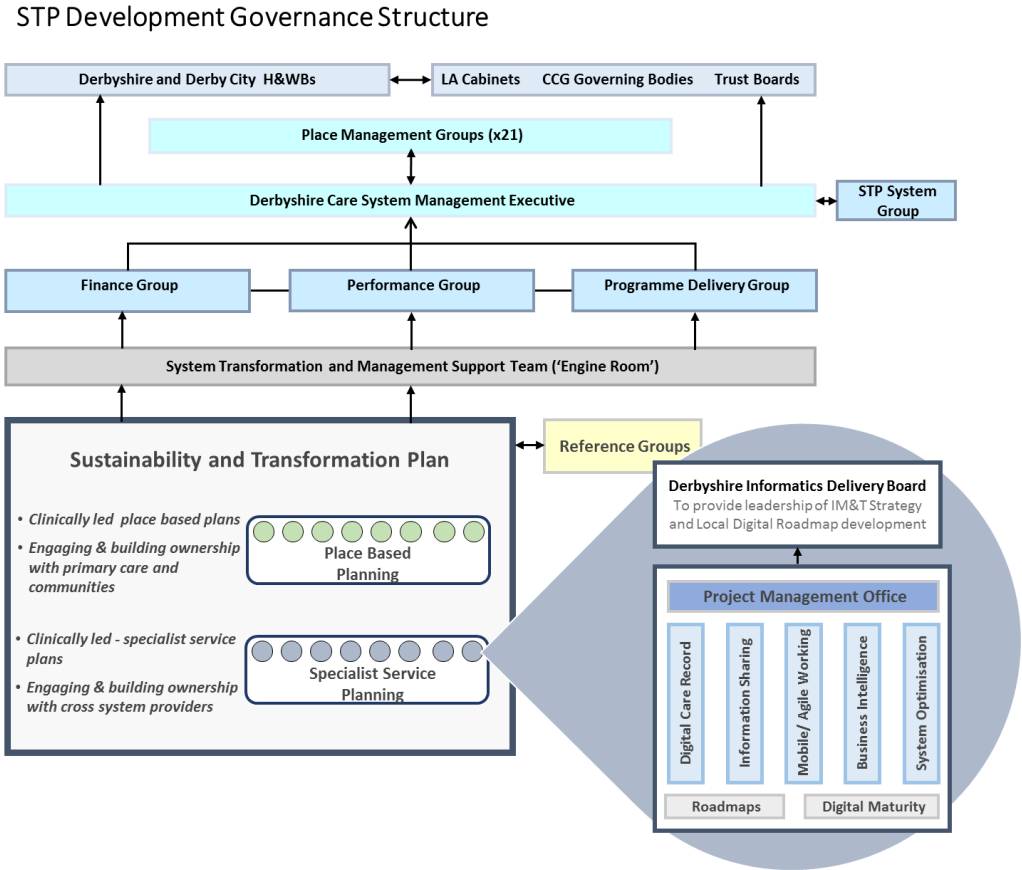

Figure 22: Derbyshire STP and LDR Governance Architecture

9.2 Clinical Engagement

Clinicians are represented on the DIDB and are also represented in the STP. Clinicians have and will continue to be engaged using these existing channels and in addition clinical the STP 'Reference Groups' will provide the Subject Matter Expert and Clinical View to further enhance local plans both LDR & STP.

9.2.1 Chief Clinical Information Officer

NHS Organisations are encouraged to appoint Chief Clinical Information Officers (CCIO) or equivalent accountable officers who will provide leadership for the development of local digital strategy. CCIOs will ensure effective provision of Informatics services, across a Footprint and are an essential component in the delivery of LDRs and the wider Sustainability Transformation Plans.

The NHS Planning Guidance for 2016/17 – 2020/21, Delivering the Forward View means local health system (STPs) will increasingly be planning by 'place' for local populations. The CCIO role will be critical in providing clinical leadership in the development of local digital strategy that will support the integration of health and care, ensuring that digital strategy is closely aligned with and can enable effective delivery of STPs.

An understanding of national digital strategy is critical, including insight into how this can be developed locally to support the integration and transformation of care. Knowledge and understanding of information governance, consent and data security are also key aspects of this role.

CCIOs champion the development, deployment, use and optimisation of digital systems. Within the Derbyshire Footprint, this role harnesses existing expertise to through the adoption of a shared role that will see three key clinicians from different parts of the system provide strategic direction that is rooted in an holistic understanding of the system as a whole.

9.3 Patient Engagement

Patient engagement has been coordinated via the Head of Derbyshire Patient Engagement and has utilised existing engagement channels and the STP communications programme. The LDR team have developed communications designed to support patients to understand the opportunities implications for digital innovation and how this will impact on their health and care experience (see figure 5) .

9.4 Investment Sources – National and Local

In addition to local internal organisational funding and STP funds, a number of national investment sources have been identified in the LDR guidance material. These include:

Funding Source	Value	Details
NHS England Estates and Technology Transformation Fund	Capital investment programme. Derbyshire ETTF is estimated at £10.3m over 3 years (includes non-IT estates elements)	Multi-year capital investment programme commenced in 2015/16. **Current funding accessed:** All four CCGs applied for funding in October 2015 – successful funding award for £300k split between the following: ▪ Mobile working -DIDB Group Work stream 3 ▪ advanced telephony solutions to support patient electronic interaction DIDB Group Work stream 5 **Guidance to access future funding** Guidance on applications for further funding has been published with expectations that **funding applications should be made by June 2016** **ETTF and LDR Capability Mapping** In development
GP IT Operating Model	GP IT R £2.6m PA GP IT C £1m (TBC) PA	GP IT Revenue £2.6m circa with a bid for GP IT Capital £1m submitted. This does not represent new investment as the funding is already committed to existing GP IT services and priorities.
Better Care Fund	£17,894,000	Derby County Council has been allocated funds by the Better Care Fund for 2016/17 to support the delivery of the Derbyshire Better Care Plan
STP Funds	£35.2 m	It is understood that anew funding will flow through the STP Footprints which will be ring fenced to support LDR Delivery
Vanguard Value Proposition Funding	£2.1m	Erewash Wellbeing MCP - All vanguards have access to the bulk of the £200 million Transformation Fund. Each vanguard has been given the opportunity to submit value propositions demonstrating delivery against the 10 triple aims of the programme. Efficiency requirements are core to this, and vanguards are demonstrating through these propositions how they will deliver the requirements of additional efficiencies by the end of 2017/18.

Table 17: LDR Funding Sources

9.5 Resource Utilisation Plan

The Derbyshire LDR capability delivery programme combines a considerable number of initiatives that combine with and extend the Derbyshire Informatics Delivery Board current work programme. The new individual projects and initiatives identified in the plan are designed to be resourced separately on a per project basis, by project specific dedicated costed resources, sourced separately, either externally or in combination with staff from footprint organisations.

In order to support, coordinate and drive through the combined LDR work programme it is anticipated that the current, PMO will need to grow to reflect the additional scope of activity and complexity of the work.

Given the complex technical nature of many of these work streams and initiative, maintaining the establishment of a Technical Design Authority (TDA) with the Derbyshire footprint is key to ensuring that technical designs and decision making is coherent and remains aligned with the LDR. Therefore, the PMO has been extended to include a specific Technical Architect role to establish and maintain the TDA, providing technical governance and oversight across all technical components of the Roadmap.
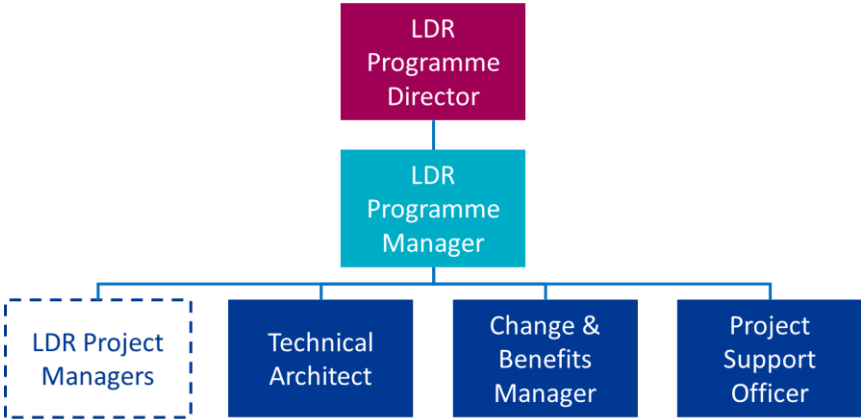

Figure 23: LDR Programme Management Team

9.6 Change Management Approach

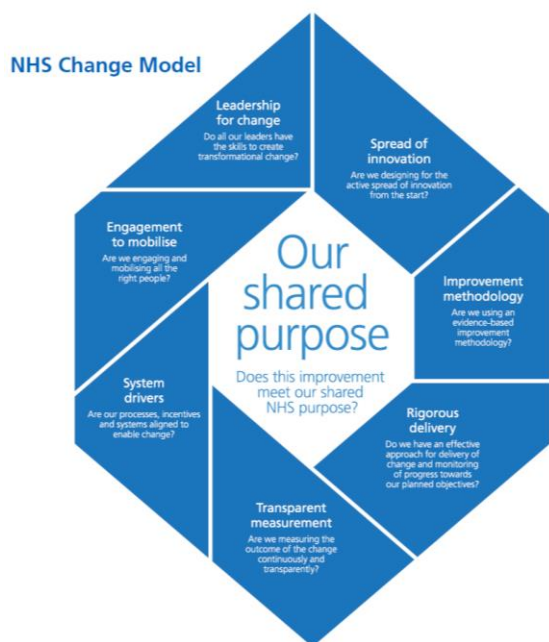The NHS Change Model can provide the necessary change management frame work for this transformation.

Figure 24: NHS Change Model

Leadership for change

Do all our leaders have the skills to create transformational change?

Spread of innovation

Are we designing for active spread of innovation from the start?

Improvement methodology

Are we using evidence-based improvement methodology?

Rigorous delivery

Do we have an effective approach for delivery of the change and monitoring of progress towards planned objectives?

Transparent measurement

Are we measuring the outcome of the change continuously and transparently?

System drivers

Are our processes, incentives and system aligned to enable change?

Engagement to mobilise

Are we engaging and mobilising all the right people?

9.7 Benefits Management Approach

Benefits management is an integral part of the NHS Change Model - beginning before the transformation and running beyond the end of the transformation into business as usual. The process of identification and review it critical to the success or failure of the change. Two simple approaches to fit seamlessly into governance structure:

Five benefits categories to guide the identification and capturing of benefits -
- Patient Safety
- Patient Empowerment/Experience
- Quality of Patient Care
- Empowering Health Professionals
- Efficiency & Effectiveness

Captured benefits will require refinement, estimation, prioritisation, measurement and regular monitoring of expected outcomes/efficiencies: -

9.8 Integration across footprint areas

Derbyshire Health and Care STP and LDR footprint are acutely aware of the need for links and collaboration with neighbouring health and care STP and LDR footprints. It is recognised geographical and economic boundaries which are strategically important are crossed frequently and freely by citizens during the course of their treatment and care with health and care professionals and services.

Derbyshire and its neighbouring footprints have recognised the need to reinforce these already well-established links to ensure that citizens are not in any way disadvantaged in their care or their experience is not compromised as a result of new digital boundaries that may be inadvertently created between neighbouring footprints that have not worked together as part of the LDR/STP planning process. There is an acknowledgment across the Footprints the extent of the relationships and agreement on a safe and effective way to support services and citizens is necessary. Transfers of care and information are paramount and should not be limited across geographical or economic areas.

Derbyshire's membership of the "Midlands Accord" is the initial statement of intent to work with neighbouring footprints and organisations to improve the lives of citizens they serve.

The focus of the "Midlands Accord" is to recognise each footprints individual approach to their STP/LDR ambitions, and initiatives, assess any impact this will have on cross boarder services and citizens as these ambitions mature and become operational. The network of individuals will provide insight and linkages to improve digital transformation not only in the local areas but also with the immediate neighbours.

10 Information Sharing

The Derbyshire Informatics Delivery Board (DIDB) has oversight of Information Governance across Derbyshire and in particular has played a key role in the approval and sign off of new approaches to information sharing. The DIDB is made up of representatives from CCGs, Community, Local Authority and the LMC, and is supported by various work streams including the IG work stream. The IG work stream is led by the local authority colleagues and is supported by information governance specialists across the footprint; it is responsible for developing guidance, communication materials and frameworks to support information sharing across organisations in Derbyshire.

The IG work stream has recently worked with colleagues from the Derbyshire Partnership forum to update and refresh the Derbyshire wide Information Sharing Protocol (ISP), to ensure that the framework underpinning information sharing across the footprint is compliant with privacy law and is fit for purpose. The ISP is further supported by a consent model for direct care, which has received approval from all partner organisations and supports a 'best practice' approach to information sharing across health and care organisations; ensuring that citizens receive quality care and clinicians have the right information to inform their decisions. The protocol sets out the principles and commitments that underpin the secure and confidential sharing of information between health and care organisations in Derbyshire.

As part of the local Derbyshire MIG deployment a full Privacy Impact Assessment (PIA) has been completed in order to identify any risks in relation to the deployment of the MIG and to enable interoperable sharing across the health and care community. A full programme of Information Governance work is currently underway to support the deployment of the MIG and as such an Information Sharing Agreement (ISA) has been developed and approved by the DIDB, this ISA and the consent model has been fully endorsed and is supported by the Derbyshire LMC who are assisting the Project Board in stakeholder engagement and sign up.

Figure 24 below provides an overview of the key digital capabilities and initiatives enabled by information sharing approach and protocol with Derbyshire.
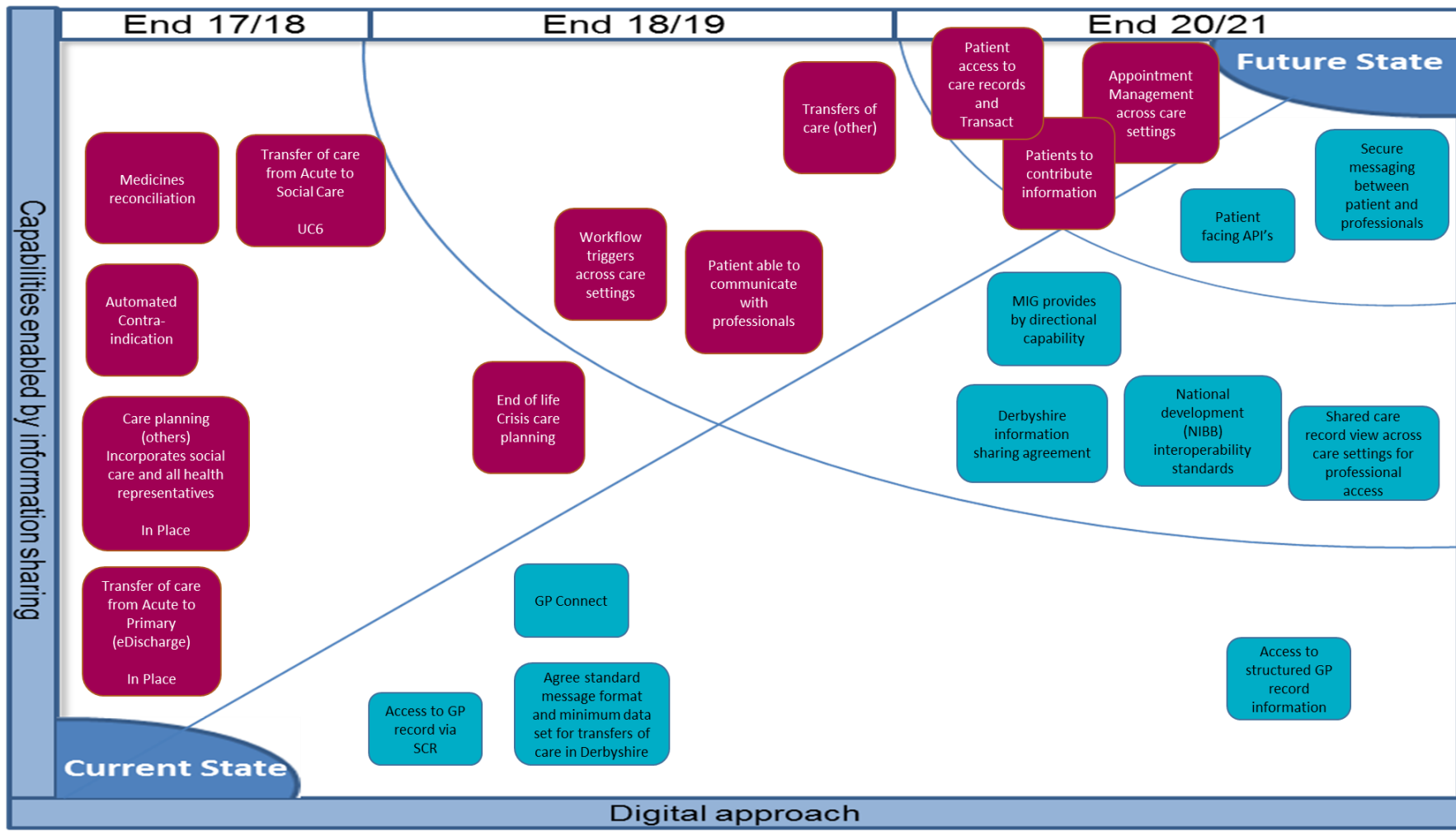
Figure 25 LDR Information Sharing Approach Diagram

10.1 Local Authority Citizen Survey Responses to Information Sharing Questions: -

A public engagement piece of work has recently been undertaken across Derbyshire to enable the health and social care community gain a greater understanding on the public's views on information sharing for their direct care.

Thinking about your own health and care needs and those of anyone for whom you are a carer, how important is it that information held by the NHS and Adult Care in the Council is readily available to those arranging your care to make sure you get the right care at the right time?

Very Important	Fairly Important	Not Very Important	Not Important at all	Don't Know
1634 (64%)	641 (25%)	43 (2%)	38 (1%)	214 (8%)

To support these results a public information campaign is due to take place in the coming months, which will utilise pre-existing forums within the community to allow communication and receipt of feedback from Derbyshire citizens, this will be further supported by leaflet and poster campaigns.

Going forward the vision is to further develop this approach to information sharing, in support of new technologies such as, clinical portals to enable one health and care record across Derbyshire. In addition to this further work will commence to examine new and existing data flows to understand how these could be exploited to support health and care community wide pathway analysis, risk stratification, and clinical audit.

The infrastructure work co-ordinated through the Derbyshire Informatics Delivery Board (DIDB) is supported by a number of other groups advisory and delivery groups, namely, the CCG Informatics Strategy Group (CCG ISG), the operational IM&T Working Group and other LHC wide Task & Finish/Reference Groups with steer, guidance and oversight provided by the Transformation Boards (JuC & 21C), with membership from across health and care providers.

The IM&T Working group, who are an operational advisory group to the CCG ISG, has wide membership across Health providers including CCG representation to support General Practice. With data quality a vital part of information sharing, the group and its terms of reference have recently been reviewed to ensure fitness for purpose which has resulted in the establishment of a wider 'virtual membership' to secure a more representative view is fed into locally developed initiatives.

The technologies that support information sharing currently are:

- MIG – this supports sharing across Out of Hours, Secondary Care, Community Services, GP Federation(s) and Mental Health Services using the Detail Care Record data set
- Multi-Disciplinary Teams access the national SCR platform to view Additional Information contained therein especially in relation to the data added via the locally developed Health & Social care Planning Template for use via GP Systems and update the SCR, for wider consumption by health and care professionals in support of integrated working.
- eDSM in TPP S1 sharing of GP and Community data is in use across many areas
- The Local Footprint leads have been conscious to build 'flexibility' into the system to ensure potential future solutions e.g.: Clinical Portal/Platforms remain a realistic possibility as part of the Local Digital Roadmap

- SCR v1 dataset has been uploaded to National Spine from GP systems across Derbyshire. Derbyshire viewing figures Jan – Sep 2016:-

Organisation	Viewing Figures								
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Chesterfield Royal Hospital NHS FT	1111	1220	1125	1034	1324	1312	1330	1213	1389
Derbyshire Health United	1711	1454	2408	2035	3637	4326	4842	4381	6313
Derby NHS Walk-in Centre	1069	655	603	656	748	892	982	946	1013
Derby Teaching Hospitals NHS FT	3331	3409	3100	3242	4280	4257	4474	3958	4171
Derbyshire Community Health Services NHS Trust	231	199	145	168	201	187	191	240	247
Derbyshire Healthcare Foundation Trust	143	146	106	117	155	150	206	336	172

In line with the impending implementation of the MIG, a parallel initiative has commenced to ensure optimum utility of the MIG following deployment to improve shares (via the Enhanced Data Sharing Model eDSM) with the aim of realising a critical mass of 60% of patient records available to be viewed via MIG. This work 'builds on' best practice and lessons learned from neighbouring footprints e.g. (Notts/Leicester) who have already deployed the MIG utilising this approach.

Again intelligence gained from neighbouring footprints (Notts/Leicester) EMAS and the Out of Hours Provider, DHU. Specifically, EMAS have stated the availability of the MIG has greatly improved their ambulance crews improved and informed decision making by having access to patients records at the point of need in an emergency.

The data and graphs below illustrate how MIG is being used across Nottinghamshire to support services such as: GP Federation, Out of Hours, East Midland Ambulance Service (EMAS), Community Services and Hospitals (Emergency Departments and Elective Care Services).
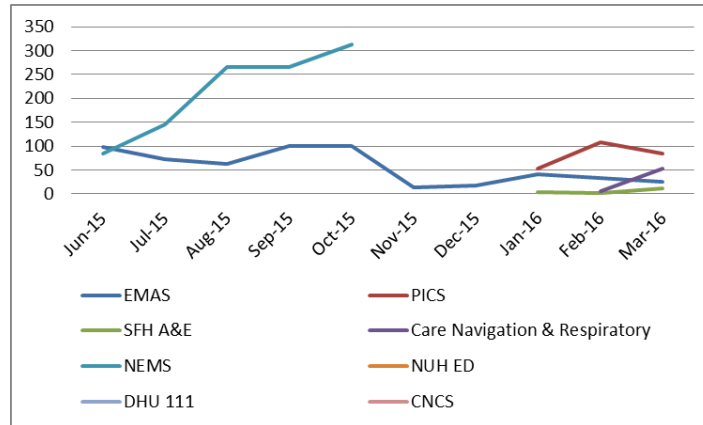
Figure 26: Nottinghamshire MIG viewing figures

The NIB Interoperability Strategy outlines the sharing of information within and across localities through open interfaces (open APIs) based on open standards. An initial step in the strategy is the opening up of primary care systems to support integrated workflow and access to records. Further information on this 'GP Connect' initiative will be released shortly. Derbyshire has been and continues to monitor developments in relation to both HSCIC and NHS England's API policy. These capabilities will be considered as part of our integration programmes/projects and future strategy.

10.2 Adoption of NHS Number

One of the initial projects within information sharing in Derbyshire is the NHS number enablement of social care records across children and adult services that provide synchronisation of health and social care data, to date the Local Authority achievement is as follows: -

Derbyshire County Council		
Current level of achievement	**Plan**	**Target date**
Adults – 77%	Following the recent installation of a NHS number search solution (DBS) the LA is now able to obtain NHS numbers for all clients both for Adult and Children's Services.	98%+ compliance by the end of 17/18
	An element of data cleansing is needed on the outstanding 23% of adults receiving packages of care where there is currently no match. This activity is being addressed by the LA administration team and though liaison with operational colleagues.	
	In order to ensure compliance an upgrade is planned for Autumn 2016 to the local authority case management system Framework-i. This will result in the NHS number being a validated field with restricted access and updated only by management information staff. Associated documents are scheduled for review in preparation for the upgrade.	Autumn 2016
Children – 5.5%	Derbyshire County Council currently hold the NHS number against 5.5% of the Social Care and Early Help cases for Children's Services within our Social Care system. (This is to support the direct work we have with health colleagues as	Autumn 2016

corporate parent for children in care).

The introduction of the CP-IS (Child Protection Information Sharing) initiative is a driver to increase the number of records with NHS number and plans are in place to routinely capture and record this to support this initiative.

Plans are also in place to record the NHS number within Derbyshire County Councils education system Synergy for special needs educational and disability (SEND) system cases.

Derby City Council		
Current level of achievement	Plan	Target date
Adults – 86.9%	Primary identifier for all LA citizens is the NHS number. The LA case management system Liquidlogic includes the NHS number as a primary identifier on the citizen record. There is a process in place for obtaining missing NHS numbers to ensure that standard system outputs (assessment/support plans/letters etc.) carry the NHS number with all ad hoc correspondence also to include the NHS number within the next 12 months.	Summer 2017
Children – 54%	There is an arrangement in place with a local healthcare trust to share NHS number data. The LA has an active programme of work in place to gather missing NHS numbers and is expecting a steady increase to be reflected in the case management system Liquidlogic during the next 12 months. In addition plans are in place to add NHS numbers to the main education system (Synergy) to enable tracking benefits of the children and young people who utilise the special needs educational and disability (SEND) system.	Summer 2017

Social care providers are collaborating with health providers to ensure that their IT systems are interoperable thereby ensuring a consistent digital footprint.

10.3 Adoption of SNOMED CT

SNOMED-CT to support direct management of care. The National Information Board (NIB) has specified that SNOMED CT is to be used as the single terminology in all care settings in England in order to support a single common terminology in electronic integrated care records from April 2018. Derbyshire has commissioned a data quality exercise across Derbyshire (currently in progress) to highlight what the current position is in relation to data quality and record management, recommendations for areas requiring improvement and what work is required in order to be ready for the adoption of SNOMED from April 2018. This activity falls within the DIDB Work stream 5 activities.

Dictionary of Medicines and Devices (dm+d) to describe all medicines and devices. There are currently a variety of medicines and devices descriptions used in prescribing and dispensing systems. Until now there has been no common way of describing and coding medicines and devices in clinical

systems. The NHS Dictionary of Medicines and Devices (dm+d) has been developed for use throughout the NHS to address this lack of standardisation. The dictionary contains textual descriptions (terms) with associated coded identifiers (codes) for a full range of medicines and devices. In line with the SNOMED CT exercise described above Derbyshire has commissioned a data quality exercise across the footprint) to highlight what our current position is in relation to data quality and record management, recommendations for areas requiring improvement and what work is required in order to be ready to adopt a unified Dictionary of Medicines and Devices.

Organisation	System /Supplier	SNOMED CT Target Date	DM&D Target Date
GP Practices	EMIS - WEB	December 2017	Complete
GP Practices	TPP - SystmOne	December 2017	Complete
Chesterfield Royal Hospital NHS Foundation Trust (Acute)	System C – Medway CareCentric	2019/20	2019/20
Derby Teaching Hospitals NHS Foundation Trust (Acute)	CSC - Lorenzo	2019/20	2019/20
Derbyshire Community Health Services NHS Foundation Trust	TPP – SystmOne Community	2018	Complete
Derbyshire Healthcare NHS Foundation Trust (Mental Health)	Civica - PARIS	2019/20	2019/20
East Midlands Ambulance Service	Electronic Care System (ECS) – Electronic Patient Report Form (EPRF)	Unknown	Unknown
Derbyshire Health United	Advanced Computers - Adastra	2018/19	2018/19
Derbyshire County Council	Servelec-Corelogic – Framework I	Included in Supplier Roadmaps but with no specific date allocated	Included in Supplier Roadmaps but with no specific date allocated
Derby City Council	System C – Liquid Logic	Included in Supplier Roadmaps but with	Included in Supplier

Organisation	System /Supplier	SNOMED CT Target Date	DM&D Target Date
		no specific date allocated	Roadmaps but with no specific date allocated

10.4 GS1 Adoption

Within the Derbyshire LDR footprint Derby Teaching Hospitals NHS Foundation Trust is leading on a national GS1 pilot project. The progress of this pilot is being shared at the Derbyshire Informatics Delivery Board and other partners within the LDR footprint are awaiting completion of the project and analysis of benefits and lessons learnt to inform the planning of a footprint wide GS1 initiative.
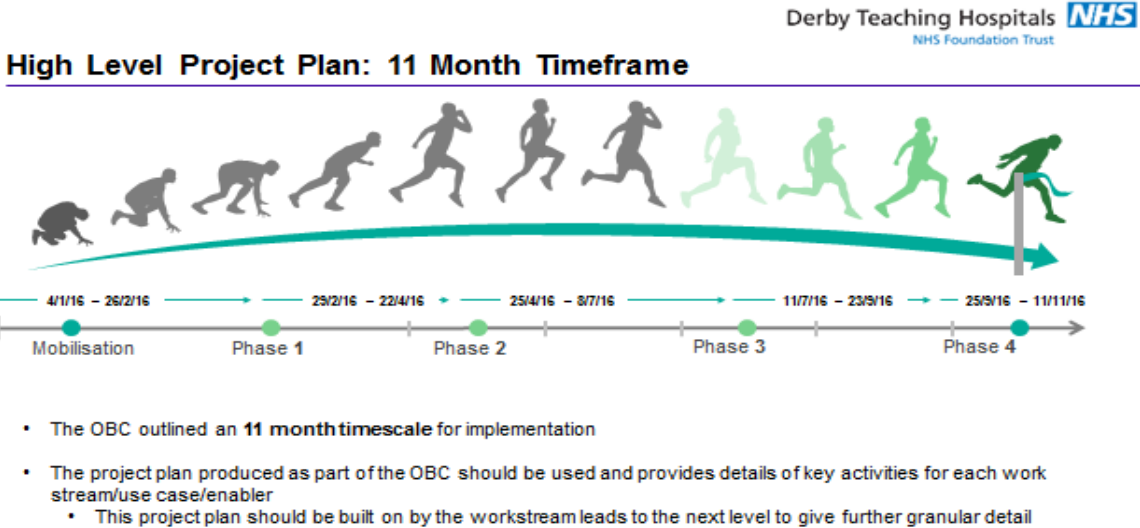
Figure 9: GS1 High-level project Plan

11 Risk Management

The LDR Programme Management Office will coordinate risk management activities, ensuring that all risks will be managed in accordance with the NHS risk management methodology.

11.1 Risks and Rate Limiting Factors

The table below sets out a summary of risks to the Local Digital Roadmap and rate limiting factors.

Factor	Description	Impact	RAG
Digital literacy of Staff	Ensuring that staff have the necessary skills and capability to take advantage of available technologies and information	• Without appropriate level of skills they will not be able to use the tool available benefits will be reduced • Reduce in patient take up of digital offer as staff will not be able to support/ guide them	
Workforce (LDR)	Recruitment of senior and specialist professionals resource to fill critical posts	• Central coordination would be limited is expertise was not available. This could increase financial investment with the reliance on contract staff • Lower priority project would be degraded	
Digital capability of Population	The capacity and opportunity for patients to take advantage of digital technologies available	• Citizens don't have the digital skills necessary to access the digital offer • Citizens don't have the connectivity or devices to enable them to engage with the digital offer	
Cultural change required for professionals and citizens	• Understanding the working culture and practice changes required to implement and embed successful change • Citizens willingness to engage using digital channels	• Reduction in the usage of digital channels and tools by citizens and professionals leading to reduction in level benefits achieved	
Digital tools are inadequately designed for effective use in health and care settings	• Technologies, system and devices are not seamless integrated within the health and social care system	• Tools are not optimally used by health and care professionals reducing the benefits available • Reduction in the usage of digital tools by H&C	
EMAS – move back to paper	• EMAS are moving away from use of mobile devices due to budget deficits. This moves in the opposite direction of PF@PC	• Inhibits ability to achieve PF@PC by 2020 • Reduction in information sharing • Increased risk and reduction quality of care for citizens due to inability to access information at the point of care • Potential exposure to risk of litigation	

Factor	Description	Impact	RAG
Availability of investment to support LDR	• Insufficient funding available for LDR	• Inhibits ability to achieve PF@PC by 2020	
Governance and coordination of LDR delivery	Sufficient level of authority delegated to DIDB to enable successful LDR delivery	• Insufficient level of delegated authority inhibit the ability to enact the LDR	
Level of business change required to delivery LDR	The level of business change required is likely to be significant. The level of business change required may exceed the capacity of the footprint implement within the required timeframe	• Without effective planning and coordination LDR delivery will be inhibited • Impacts on the ability to delivery BAU and care quality	

11.2 Minimising Risks arising from Technology

Derbyshire has very mature approach to minimising the risks arising from technology. The table below demonstrates that the individual organisations within the footprint have appropriate policies, procedures and governance in place to effectively minimise these risks:

Organisation	Data security	Clinical safety	Data quality	Data protection and privacy	Accessible information standards	Business continuity and disaster recovery
Chesterfield Royal Hospital NHS Foundation Trust (Acute)	✓	✓	✓	✓	✓	✓
Derby Teaching Hospitals NHS Foundation Trust (Acute)	✓	✓	✓	✓	✓	✓
Derbyshire Community Health Services NHS Foundation Trust	✓	✓	✓	✓	✓	✓
Derbyshire Healthcare NHS Foundation Trust (Mental Health)	✓	✓	✓	✓	✓	✓
Derbyshire Health United/ OOH Provider (Nat)	✓	✓	✓	✓	✓	✓
East Midlands Ambulance Service	✓	✓	✓	✓	✓	✓
Derbyshire County Council	✓	N/A	✓	✓	✓	✓
Derby City Council	✓	N/A	✓	✓	✓	✓