Newcastle Gateshead
Local Digital Roadmap
# Table of contents

Table of contents .................................................................................................................. 2

1 Introduction and Context .................................................................................................. 4
   1.1 Context ......................................................................................................................... 5

2 Vision ................................................................................................................................. 6
   2.1 Our digital vision ........................................................................................................... 6
   2.2 Three national challenges .......................................................................................... 6
   2.3 Regional vision - The Great North Care Record ......................................................... 8

3 Baseline position .............................................................................................................. 9
   3.1 Overview of digital maturity ....................................................................................... 9
      3.1.1 Primary care ......................................................................................................... 9
      3.1.2 Secondary care .................................................................................................... 10
      3.1.3 Social care .......................................................................................................... 11
   3.2 Key achievements ....................................................................................................... 13
   3.3 Rate limiting factors .................................................................................................... 13

4 Readiness assessment ...................................................................................................... 15
   4.1 Leadership, clinical engagement and governance ...................................................... 15
      Governance arrangements ............................................................................................ 15
   4.2 Working together to develop a roadmap .................................................................... 17
   4.3 Change management processes ................................................................................ 18
   4.4 Benefits management and measurement ................................................................... 18
   4.5 Investment .................................................................................................................. 19
   4.6 Programme and project structure .............................................................................. 20
   4.7 Use of resources ....................................................................................................... 21

5 Capability deployment .................................................................................................... 22
   5.1 Records, assessments and plans ................................................................................ 22
   5.2 Transfers of care ....................................................................................................... 23
   5.3 Orders and results management ............................................................................... 24
   5.4 Medicines management and optimisation .................................................................. 24
   5.5 Decision support ....................................................................................................... 25
   5.6 Remote care ............................................................................................................... 25
   5.7 Asset and resource optimisation .............................................................................. 26
1 Introduction and Context

Newcastle Gateshead Clinical Commissioning Group is proud to present this Local Digital Roadmap (LDR), whilst acknowledging that this represents only a small proportion of delivering a local vision towards integrated care.

Placing the Patient at the Centre
Our local vision places the citizen at the heart of its delivery. Accurate and timely information is key to enabling professionals to offer the highest quality care and enable patients\(^1\) to make informed decisions to improve their health and wellbeing. It is also the bedrock for local, regional and national health and care planning to best serve the local population in the most effective and efficient way possible.

Co-operation is a key strength within the area
Informatics underpins almost all health and care improvement projects, whether developing supporting resources such as templates to improve data collection or providing infrastructure improvements to enable working at scale. There is a risk therefore that, with so many individuals and organisations working on so many projects that integration suffers.

There is a long tradition of co-operation within the area. Starting from the humble beginnings of a group of local practices and the associated secondary care trust developing an information portal, two informatics fora have been established (one for Gateshead and one for Newcastle) to ensure co-ordination. This enables efficiencies to be gained by sharing resources on common projects and to learn from each other, either directly from related projects or indirectly by drawing from the decades of clinical, health informatics and commercial IT experience shared by the group.

These fora do not work in isolation. The cross fertilisation that occurs by providers naturally engaging in similar conversations with neighbours ensures that the progress within Newcastle and Gateshead will both inform and be informed by projects in other areas. Members of the group also actively engage in subregional, regional and national informatics projects, ensuring that our vision dovetails with the wider picture and will ultimately integrate.

Similarly, delivering on informatics projects has to be guided by local needs. Therefore, this document is informed by the local Sustainability and Transformation Plan (STP) and aligns with other local clinical and informatics delivery plans.

There is a history of delivery
This co-operation has already led to progress towards our common vision, laying the foundation for future work, for example:

- Our local digital roadmap includes defining a structure of discharge letters from Gateshead NHS Foundation Trust. However, this belies the fact that Gateshead was the first in the region to deliver electronic discharges within 24 hours, predating any contractual requirements to deliver on national standards.
- A long standing project to standardise referral forms locally has improved the quality of information provided by primary care. A refresh of the project in the light of the publication of AoMRC standards has presented the opportunity to collaborate with local areas and regional networks to reduce the waste from duplication of work.
- Experience from a local limited roll out of the Medical Interoperability Gateway (MIG) solution between practices and out of hours providers enabled lessons to be learned and transferred to

\(^1\) The term “citizen” is used to imply all people within the local population whether they are actively accessing services or not. “Patients” and “Service Users” are terms used interchangeably to infer active access to health and care services; whilst “patients” is the term historically used by health and “service users” by care services, no implication should be made that their use in any context of an exclusivity to either health or care services.
a more widespread roll out, with Northumberland Tyne and Wear NHS foundation trust (NTW) leading and delivering an information governance framework.

These are just examples to demonstrate that the local area will deliver on its vision, though a co-operative approach.

1.1 Context

The agenda for digital care operates on several footprints which are referenced throughout this document:

1. Newcastle Gateshead – the footprint for the LDR, with a focus on local stakeholder joint working initiatives. Well-established areas of work with demonstrated history of delivering improvements
2. Northumberland, Tyne and Wear and North Durham – the footprint for the Sustainability and Transformation Plan. This grouping offers opportunities for the CCGs to work together and agree priorities and share good practice
3. North East and Cumbria – a grouping of a significant number of organisations who formed a digital care programme in 2015. The focus at this footprint is agreeing large scale change across multiple providers and CCGs. There is an agreement to develop information sharing at scale with an initiative called the Great North Care Record (GNCR)
2 Vision

2.1 Our digital vision

The CCG has well established stakeholder networks who come together regularly to discuss the paperless and interoperability agenda. These groups began their work by agreeing a joint vision across the local health economy. This vision is to deliver the best seamless care by ensuring:

- Secure real time access to agreed relevant health and social data is available to the practitioner wherever and whenever they are legitimately involved with the service user
- Rapid, efficient and effective transfer of relevant information relating to service users across organisations
- Easy electronic access to organisational support materials/resources for professionals (including resources to be able to signpost service users)
- Patients, their families and / or their carers or other patient proxy have access, where appropriate, to their records

2.2 Three national challenges

As part of developing the Sustainability and Transformation Plan across the Northumberland, Tyne and Wear and North Durham footprint, clear aims have been identified to address the three gaps in care identified in the Five Year Forward view. Better use of data and technology has a key part to play to address the challenges faced by our local health economy.

Understanding our three gaps

<table>
<thead>
<tr>
<th>GAPS</th>
<th>HEALTH and wellbeing</th>
<th>CARE and quality</th>
<th>FUNDING and finance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health and wellbeing</strong></td>
<td>Deprivation and broader social determinants set the foundation for poor health across the STP</td>
<td>Unwarranted variation in quality of care and experience of people using health and care services.</td>
<td>System efficiency and finance challenges:</td>
</tr>
<tr>
<td><strong>27%</strong></td>
<td>27% of population live in the 10% most deprived areas in England</td>
<td>Cancer; mental health; learning disabilities; maternity services; dementia care; MI, urgent and emergency care; prevention of specialist services.</td>
<td>£641m gap across health by 2021</td>
</tr>
<tr>
<td><strong>16%</strong></td>
<td>16% women smoking at time of delivery (11% in England)</td>
<td>Children are not always given the ‘Best Start in Life’</td>
<td>a figure as high as</td>
</tr>
<tr>
<td><strong>68%</strong></td>
<td>68% absent or unresponsive adults (55% in England)</td>
<td>High prevalence of risk factors that lead to potentially preventable illnesses, e.g. smoking attributable hospital admissions over 10% higher than across England - nearly 25,000 admissions per year.</td>
<td>£904m</td>
</tr>
<tr>
<td><strong>6.7%</strong></td>
<td>6.7% of adults are averse to receiving care (6.9% in England)</td>
<td>High levels of early mortality from cancer, respiratory disease, and cardiovascular disease.</td>
<td>Clinically sustainable services whilst maintaining high levels of care and quality</td>
</tr>
<tr>
<td><strong>20% higher</strong></td>
<td>20% higher early death rate in NYPWD due to cancer than across England</td>
<td>Growing older population with associated increases in frailty and multiple morbidities.</td>
<td>Capacity and resilience of community care and community services.</td>
</tr>
<tr>
<td><strong>59.6 years</strong></td>
<td>59.6 years Healthy life expectancy in NYPWD (48 years in England)</td>
<td>Unavailability of seven day services and mental health advice.</td>
<td>Infrastructure and workforce required to deliver fully integrated health and care services outside of hospital.</td>
</tr>
</tbody>
</table>

* NSE: JSNA(s), CCG Outcomes, PH Outcomes

Better health and wellbeing of our population

**Objective:** Improve the physical and mental health of people across the life course, reduce inequity and help people live longer and healthier lives.

**Approach:** By prioritising positive development from early childhood, embedding health improvement interventions in all contacts, and enabling healthier behaviours through individual support and engineering environments that positively promote health. We will adopt asset-based and community centred approaches. We recognise the role that ill health prevention and secondary prevention play in health pathways as a cost-effective use of programme budgets. We are committed to work closely with the North East Combined Authority around changing the wider determinants of health.

How will the digital roadmap help address this gap?

Technology will support self-care with patients being able to contribute to their records. Telehealth solutions will become increasingly used, focusing on supporting self-management of illnesses.

Information from across the system will be connected and analysed to support population health management, planning and research.

---

Improving care and quality of services

**Objective:** Explore and develop alternative service models that improve productivity and reduce the demand burden.

**Approach:** Working together as health and care systems will allow us: to build upon transformation and sustainability plans underway in each Local Health Economy (LHE); shape services based on need and opportunity and reduce organisational silos and barriers to ensure we are well placed to deliver personalised and high quality care.

How will the digital roadmap help address this gap?

Care services will be underpinned by access to digital, real-time, comprehensive patient information. This will provide care professionals with the information they need to deliver high quality services, leading to safer and more seamless services.

Digital technology will support the delivery of new care models and barriers will be broken down, with organisations being able to share and collaborate with more connected information and infrastructure.

---

Improving productivity and closing the local financial gap

**Objective:** Drive up quality as well as improve financial efficiency, whilst delivering sustainable services.

**Approach:** Identify priority areas of action which are clinically robust and allow us to drive up quality as well as improve financial efficiency across each LHE and NTW as a whole.

How will the digital roadmap help address this gap?

Professionals will have access to the latest information about a patient in real time, reducing the need to repeat diagnostic tests, while enhancing patient experience.

Across all parts of the system, technology will be used in ways which allow frontline staff to spend more time delivering care. For example through provision of mobile working, time catching up on paperwork will be reduced.

Local organisations will be able to track their patients through the system. This will avoid situations where appointments are missed or time is wasted trying to locate a patient (a recent audit of community matrons across Gateshead highlighted that 35 days of nursing time per year were wasted through not being notified of admissions / discharges).

Costs of using paper, including postage costs, will be drastically reduced.
2.3 Regional vision - The Great North Care Record

The Great North Care Record represents a network of organisations across the North East and Cumbria. It is a diverse group of organisations united by a common purpose and a common vision.

The common purpose is to serve the 3.6 million people in the North East and North Cumbria by meeting their need for health care and social care. Our common vision is that, by sharing information securely and effectively, we will make a lasting contribution to the health, well-being and opportunity of our population.

This vision is matched by a commitment: to keep working together until the vision has been made a reality.

The goal is to share information, not data, to improve outcomes, not processes, to connect people, not computers.

In the next three years, the Connected Health Cities Great North Care Record programme will make lasting changes to our experience of health and social care.

The population (the patients, customers and citizens we serve) will be safer, more in control, and more involved in decision-making. They will have a well-founded confidence that the professionals who are listening to their story have the whole picture, in so far as they have chosen to share it. Health outcomes and measures of wellbeing will improve. The Great North Care Record will accelerate the diffusion and implementation of solutions, particularly those which enable people to interact with their own records and manage their own care.

The staff (the health and social care practitioners employed in health and care organisations) will have more efficient and enjoyable working lives. They will be able to make decisions with more certainty and less risk. Because record keeping will be more productive, they will spend less time on administration and paper-work, and more time offering care. Job satisfaction will increase and frustration will decrease. Time will be better spent. The people who lead and organise services (managers) will see value for money improve and waste reduce. This will happen because process costs will fall, in the same way as they have in other industries. It will be easier to launch new services, because the information needed to operate safely will already be available.

Commissioners (the people who plan and fund services) will be able to target services with more precision at the people who need them. Because information moves safely and securely across organisational boundaries, transfers of care are safer and more seamless. Because interoperability is built in from the start, reconfiguration of services is quicker, cheaper and safer. Use of expensive, disruptive, stressful and risky unplanned care will decrease. Over time, commissioners will develop an increasingly rich understanding of the way in which their populations access and interact with services. And because The Great North Care Record offers a holistic picture of services, it is a tool for understanding how changes and interventions interact and combine to alter outcomes.

The Great North Care Record is able to achieve this because it is:
1. Embedding technology and changing the way we work together to plan and deliver care
2. Commissioning shared information and technology solutions
3. Creating the The Great North Care Record programme to help us co-ordinate the changes and measure what we are achieving
4. Working to agree how information is shared and kept safe so that it does more good and less harm
3 Baseline position

3.1 Overview of digital maturity
There have been recent assessments of digital maturity across primary care, secondary care and social care, the results of which are summarised below. These results demonstrate some real progress in building the foundations needed to deliver the paperless agenda, and demonstrate a degree of readiness across the LHE to take the next steps to deliver the roadmap.

During the summer of 2016/17, the CCG is also undertaking a digital maturity assessment of care homes, as part of the care homes vanguard programme.

3.1.1 Primary care

The Primary Care Digital Maturity Index scores are collected by collating data from secondary care, primary care, CCG and national data sets. The data was taken from sources already captured or where necessary by asking additional questions of GP practices and the CCG.

The overall compliance for Primary Care is split across the following 3 domains: Core GP IT and Centrally Mandated Requirements; Enhanced Primary Care IT and Transformation in Primary Care. Newcastle Gateshead CCG currently has 83.76% overall compliance and is 5th highest out of the 11 CCGs that make up the Cumbria and North East.

When looking at the scores for the individual elements of compliance it shows that for Core IT compliance the CCG reaches 92.27% (3rd out of 11) but for Enhanced Primary Care IT and Transformation in Primary Care the compliance drops to 55.4% and 43.33% (9th and 7th of 11) respectively.

The results show that the CCG and its constituent practices have good overall GP IT core services and access to core GP IT service support such as an accredited support desk and access to training. There has been a focus on rollout of national projects and robust hosted systems. All practices have hosted clinical systems and utilise the GP2GP capability where available. They all have up to date compliant IG toolkits and use the NHS number as the primary patient identifier.
All practices have enabled Summary Care Record and the Patient Online services encompassing online appointment booking, ordering repeat prescriptions and patient access to their medical records. Electronic Prescribing is used in all practices and community pharmacies where possible. Practices are using the e-referral system routinely to refer patients to secondary care services, and are utilising other electronic referral systems for other community based services where available. They are all enabled to receive electronic transfers of care from acute trusts.

The focus for the future of primary care IT is to increase utilisation of systems such as online services and to roll out SMS text messaging services and Wi-Fi access for both staff and patients. The introduction of Wi-Fi will help with access to clinical records across sites, building on current work to ensure a consistent local data sharing and consent model, and will help deliver with the extended primary care agenda.

Primary care IT infrastructure currently operates in silos which could hamper efforts to deliver extended primary care services. Connecting the infrastructure is a key enabler for delivery and plans are in place to commence this work in 2016/17.

3.1.2 Secondary care

Local secondary care trusts have completed the Digital Maturity Assessment (DMA) which was collated in February 2016. The results are summarised below:

**Readiness Factors**

**Consistently Strong**
Scores amongst the five “Readiness” sections:
- Leadership,
- Strategic Alignment,
- Governance,
- Information Governance and
- Resourcing

were mostly positive across participating providers, indicating that providers feel the presence and performance of the policies and processes required to efficiently make digital initiatives work were generally satisfactory, as indicated by the sections of the adjacent chart 1 highlighted in green.

**Medicines Management, Decision Support and Remote Care Offer Room for Growth**
The lowest scoring categories in terms of section-level performance were Medicines Management, Decision Support and Remote Care. The sections of the above chart 1 highlighted in orange illuminate the need to advance the capabilities of participating providers in these areas.

**Usability Issues of Systems and Sign-On Procedures Limit Use of Digital Records**
The assessment of capabilities in the area of Records, Assessments and Plans places it mid-field amongst the remaining capabilities sections, despite the efforts and investments made by participating providers in this area over recent years.

In the context of patient records, the DMA reveals further need for improvement; whilst some efforts to improve the sharing of patient files amongst providers have come to fruition, there is still some way to go, with scores for inter-organisation data access (especially for inbound information but also for outbound information, highlighted in chart 3 in purple and orange, respectively) consistently lower than 50%.

In the area of patient access, Chart 3 (relevant bar highlighted in red) illustrates that there is still progress to be made in order to allow patients access to their medical files.

**Medicines Management and Electronic Prescribing (Intermittent)**

One of the fundamental questions asked in the Medicines Management & Administration section concerned Healthcare Professionals’ use of digital systems to get a complete view of patient medications. Whilst the overall score for this question suggests that this is more work to do to make this function available, the distribution of answers shows variety between participating providers.

**Adoption of Patient Bar Coding Technology (Low)**

Comparing responses to the DMA survey from the Orders & Results Management and Medicines Administration sections, it becomes clear the contact points between patient identity and provider workflows remain predominantly manual; both the process of identifying patients in the context of collecting lab samples as well as identifying patients in a medicines administration context have yet to universally benefit from barcoding technology.

**Adoption of NHS Number (Strong)**

With a score of nearly 90%, results from the DMA suggest that adoption of the NHS number as the main patient identifier in communication and documentation is strong. It is noteworthy that a significant share of responses fell within the “96% – 100%” adoption bracket, indicating successful integration of the NHS number into local systems.

### 3.1.3 Social care

Across the Newcastle Gateshead Local Health Economy there are two social care providers; Gateshead Council and Newcastle Council.

**Gateshead**’s digital maturity assessment is broadly in line with Local Authorities nationally. The readiness themes scoring highly include Governance, Information Management and Data Quality, Data Security and Cyber Security. Recording of service user’s NHS number is maintained to a high level - with work progressing to increase this further via a monthly process of matching and checking records -
giving a good foundation to build on readiness for information sharing with partners. Gateshead’s Information Governance Toolkit for 2015/16 was scored at 92%, significantly higher than the national average of 73.2%.

Child Protection Information Sharing is beginning to progress, with work underway to implement a solution by the autumn of 2016. Work on sharing social care information with health, including electronic discharge and a shared patient record is still in its early stages however steps are being taken to scope these projects and gain a better understanding of the resources required.

**Newcastle**’s digital maturity assessment is broadly in line with that for Local Authorities nationally. Many of the readiness conditions score highly – strategic alignment, leadership, information governance and management. Newcastle has some areas of good practice, such as electronic record management, social worker laptop devices enabling practitioners to access and record in systems remotely, data warehouse development offering social workers greater insights to inform their practice, and the maintenance of a high percentage of service user NHS numbers as a key identifier in the electronic care management system (a prerequisite to meaningful data sharing with partners).

However progress still needs to be made in areas such as transfers of care and decision support where paper based/ fax practices are still common between partners. Work is ongoing to greatly improve this position over the next 12 months, including the implementation of the MESH e-messaging system, and implementation of the MIG data viewer between health and social care partners.

National responses summarised as follows:

**Overall Headlines Across Self-Assessment**

[Chart showing readiness sections with a note: Readiness sections were answered more positively than capabilities sections]

[Legend: Readiness Sections, Capabilities Sections, Infrastructure. Please note: Transfers of Care Section excludes some questions around how information is exchanged (further analysis required).]
3.2 Key achievements

There has been significant progress across Gateshead and Newcastle in the last few years, with many initiatives already being delivered. The focus has been to standardise the information systems and processes, improve handovers of care and to begin exploring options for creating greater interoperability of clinical records.

- Gateshead was the first in the region to deliver electronic discharges within 24 hours, predating any contractual requirements to deliver or national standards. This is now embedded practice, with future focus being on adapting to meet national standards and reviewing ways the information is sent to adopt more structured information.
- A long standing project to standardise referral forms locally has improved the quality of information provided by primary care. A refresh of the project in the light of the publication of AoMRC standards, has presented the opportunity to collaborate with local areas and regional networks to reduce the waste from duplication of work.

In 2014 the CCG implemented a project to allow the GP Out of Hours provider to see a detailed summary of the GP medical record using a solution called the Medical Interoperability Gateway (MIG). Since this time, there has been a regionwide agreement to implement this solution more widely. Local implementations currently include:

- Northumberland, Tyne and Wear NHS foundation trust are implementing the system to allow clinicians delivering mental health care to view the record. This is established for all Gateshead practices and being implemented in Newcastle practices currently. The trust is developing a reciprocal view.
- Gateshead Health NHS foundation trust and Newcastle upon Tyne Hospitals NHS foundation trust are developing the technology within their systems to be able to view the record using the MIG.
- The next steps will be to roll this solution out more widely to include social care.

These are just examples, will a full summary of recent achievements and current initiatives mapped in section 5.

3.3 Rate limiting factors

The vision to deliver this roadmap is wide ranging, and difficult choices have had to be made to prioritise the projects, generally to those that provide the best improvements to the care of the local population, or enable infrastructure improvements. Resources are limited, both in terms of finances, but even more so the time of those with the expertise to deliver. Co-operation can mitigate some of this, but without additional funding, full delivery of this plan will not be possible. Within all initiatives, risks are clearly identified at an early stage and mitigations put in place wherever possible. In summary:

- **Financial**
  Delivery of the roadmap will require investment of financial resources, without which there is a significant risk to being able to deliver. To mitigate this, there will be continued re-evaluation of this roadmap and projects will be prioritised. Robust project planning and co-ordination with local partners where needed will avoid duplication and ensure that value for money is achieved.
• **System Suppliers**
  There is a reliance on system suppliers for implementation of digital initiatives. Suppliers are dealing with multiple customers and are slow to react to a single customer's requests, especially when already within a long term contract. System suppliers are often unable to interoperate and developments can be lengthy and complex (for example SystmOne and EMIS direct interoperability)
  The ability and willingness of system suppliers to move in unison to an integrated open API solution approach has not been clearly demonstrated. This together with requirements through central solution controls, e.g. GPSOC must be in alignment.

• **Infrastructure**
  Systems already in place are often focused on delivering an individual organisation's needs, so may not be able to meet the demands of a more connected health and care system. Therefore, there may be a need to focus on augmenting systems with other products in the short to medium term, and replacement or bespoke developments considered in the longer term.
  In addition, on-going investment is needed in Infrastructure to ensure reliability and availability of core systems.

• **Staff resource**
  Personnel are a key resource to ensure that the roadmap is implemented. Within the partner organisations, it is recognised that there are competing calls on the time of staff. This risks failure to deliver elements of the roadmap or stalling of individual projects.
  Careful management of staff time will be needed to ensure that they are not pulled in too many directions. Again, programmes will need to be prioritised and staff resource will be factored into the delivery costs of any project prior to initiation.
  A key factor is the willingness and ability for frontline health and social care staff to adopt the changes which come with an increasing use of technology. Careful planning will be needed to ensure changes are not overwhelming and that staff are supported by their employer with training.

• **Partner Involvement**
  It has to be recognised that our partners have their own strategies and priorities. Therefore, ongoing engagement with patient groups, practices, local health and social care organisations and the voluntary sector will be necessary to ensure alignment wherever possible with buy-in to the aims of this roadmap.

• **Evolving strategies and landscape**
  Every effort is made to ensure that the plans included in this roadmap are sufficiently robust and flexible to meet the ever changing health and care landscape. However we should accept that technology, strategies and organisations continually change and evolve. In light of this the plans will need to be regularly reviewed and may be subject to change. The risk to delivery will be mitigated by having an open dialogue and active involvement in local, regional and where appropriate national strategic groups.
  Central solutions must have a defined roadmap, budget and schedule to ensure any LDR is developed in alignment with national system enhancements.

• **Information Governance (IG)**
  Information governance is an essential foundation to gaining the confidence and trust of staff and patients as we move to a fully digital future. Current IG practices will need to be fully reviewed and to a degree automated to provide continued assurance to the all providers, partners and patients.
4 Readiness assessment

4.1 Leadership, clinical engagement and governance

The delivery of this roadmap will rely on the strong local networks and relationships with stakeholders. Crucial to delivery of the plans are:

- GP practices and federations
- Clinical Commissioning Group
- Local Authorities (Gateshead and Newcastle)
- Acute Trusts who deliver secondary care, mental health, ambulance and community services
- Community and Practice Pharmacists
- North of England Commissioning Support (NECS) who are commissioned by the CCG to deliver IT and business information services
- Voluntary sector and patient representatives

The development of plans and delivery of priorities is led by frontline clinicians to make best use of their expertise and ensure the focus is on improvements to patient care.

Governance arrangements
Stakeholder networks have been established to bring together frontline/clinical representatives and technology experts from local organisations:

- Newcastle Information Network (NIN)
- Gateshead Information Network (GIN)
- Joint Newcastle Gateshead Information Network (NGiN)

The stakeholder board responsible for delivery of the Local Digital Roadmap is the Newcastle Gateshead Information Network (NGiN). This joint meeting will retain strategic oversight of LDR delivery, and will include wider representation from the stakeholder organisations (including broader executive level membership).

There continues to be GIN and NIN meetings, which retain a local focus on delivery of initiatives included in the LDR.

These networks have been instrumental to delivery of the initiatives outlined already outlined. The networks meet monthly and offer a forum for sharing of ideas and an opportunity to discuss and resolve issues. A full list of membership can be found in Appendix One. There are regular updates given from these networks to frontline staff and opportunities for feedback are regularly sought and fed into the group.

The CCG acts as co-ordinator for the workstream. The CCG has appointed a clinical lead / Chief Clinical Information Officer to steer this work, who also chairs the NIN, GIN and NGiN meetings. Dedicated management support is in place to support the co-ordination of the informatics agenda. The CCG chair acts as executive level sponsor of the informatics workstream.

The NIN, GIN and NGiN groups are pivotal to the LDR governance arrangements. The members of this group:

- Represent the views of their organisation and its staff
- Hold a degree of delegated authority, as most are senior members
- Feed back to their colleagues and into their respective organisational governance structures

As stakeholder networks, these groups exist to to provide a forum for organisations to discuss issues related to the delivery of the agreed vision and find opportunities for digital technology to improve patient care. The remit of these groups will include the oversight and delivery of the Local Digital Roadmap. A clear line of sight exists between the work of the NGiN and the executive directors of CCGs, local authorities and key providers.

This group feeds into various meetings:

- The Integrated Care Programme Board – a stakeholder group containing senior level membership from CCG, Councils, foundation trusts, Healthwatch and many others. This group provides direction to ensure the digital agenda is aligned with plans across Newcastle Gateshead.
- STP Development and Delivery Group – provides a key link to emerging STP across Northumberland, Tyne and Wear
- Individual governance arrangements within member organisations
### 4.2 Working together to develop a roadmap

The journey to develop a plan for delivering a paper free local health and care system began in 2012 when a 2 day stakeholder event was held in Gateshead to develop a joint vision and 5 year plan.

This work was expanded with improvement events across Newcastle and Gateshead in 2015. The purpose of these events was to invite clinicians, frontline staff and digital experts to understand where patient care could be improved by adopting paper free processes. These meetings used lean methodologies to undertake mapping of patient journeys and information flows. The events achieved a clear focus and an agreement of a Newcastle Gateshead vision outlined earlier in this document. It was agreed to deliver this agenda through Newcastle and Gateshead Information networks. These groups are now well-established stakeholder groups with a clear joint vision and work programme and have been crucial to developing this Local Digital Roadmap.

The process for developing this document can be summarised as follows:

- **Newcastle Gateshead**
  
  Upon publication of the guidance for the developing the roadmap there has been regular discussion at the monthly Newcastle and Gateshead Information Networks. All meetings have been open to members of both Gateshead and Newcastle members. These meetings offered the opportunity for discussion and agreement to our timeline for delivering the roadmap. Between meetings there has been regular discussion, with individual organisations submitting relevant content to the CCG who have collated it into this joint roadmap. There have also been one on one discussions between stakeholder organisations as required. Stakeholder organisations have received weekly progress reports and been encouraged to share the roadmap as it develops within their organisations/boards.

  In order to ensure wider input into the process, there has been regular update and discussion at various fora across the Newcastle Gateshead area, including at individual organisation boards/meetings, the Integrated Health Programme Board and Health and Wellbeing Boards.

  We have actively engaged with stakeholders from many local organisations to ensure this roadmap is a shared view from across Newcastle and Gateshead LHE. Senior representatives from key providers (councils and health trusts) have heavily contributed to and endorsed this roadmap, with delegated authority from their organisations and boards. Formal approval at CCG governing bodies and trust boards will be undertaken throughout July 2016.

- **Northumberland, Tyne and Wear**
  
  At the STP footprint level, there has been engagement and discussion between the leads for the LDR to ensure a consistent approach across the footprint. The STP leads have held discussions with the LDR leads within individual organisations and in group discussion to ensure the LDR is fully aligned with the proposals for the STP.

- **North East and Cumbria**
  
  At a regional level, leads from commissioners and providers have been meeting together as part of the regional Digital Care Programme since late 2015. Discussions at quarterly events have been instrumental to developing the proposals included in the roadmap. Representatives from
Newcastle Gateshead are members of this regional programme, with the CCG chair (Dr Mark Dornan) acting as the strategic director for the regional digital programme. At this level the focus has been on developing a regional vision, approach to information sharing and establishing the proposal for the Great North Care Record. The Connected Health Cities programme leads co-ordinated a meeting of LDR stakeholders in May 2016 to share learning across the region.

4.3 Change management processes

All organisations involved in delivery of this roadmap use change management processes which are consistent with each other and with the NHS Change Model.

These include:
- PRINCE 2 project management methodology
- North East Transformation System (NETS)\(^3\)
- Agile methodologies

4.4 Benefits management and measurement

Benefits of any initiatives undertaken within the digital roadmap are clearly and succinctly defined and aligned with programme/project objectives and the universal capabilities within the LDR universal capabilities.

Following a robust methodology and utilising best practice which aligns to LDR requirements the organisations involved will identify, measure, track and report on benefits.

The project delivery leads will ensure that benefits and the lessons learned are shared to ensure that there is a clear understanding of the potential of digital solutions. Benefits realisation plans will be developed to identify who will be responsible for the delivery of those benefits, and to ensure benefits are realised and sustained after the end of the project.

The plan will ensure all the foundations for benefits realisation are in place. It will:
- Identify and make a record of the desired benefits, discussing anticipated benefits with stakeholders.
- Identify the stakeholders that will be affected by each identified benefit
- Identify the outcomes and enablers required for each benefit realisation
- Determine success metrics for each benefit, base-lining performance and quality before the project starts, and using this as a benchmark to determine realisation of the anticipated benefit.
- Allocate responsibility for delivery of these benefits
- Output responsibility charts, benefits maps, outcome maps to instill a common understanding of goals and roles.
- Sustain project momentum
- Prioritise the benefits so that the most important always has the most focus. This ensures that the project makes the greatest impact
- Identify and make a record of the desired benefits.
- Ensure patient outcomes are improved

\(^3\) [http://www.nelean.nhs.uk](http://www.nelean.nhs.uk)
At a regional level, The Great North Care Record project has identified how it will achieve measurable benefits at different levels:
- across the whole system of health and social care
- in specific services, pathways and populations
- in the individual lives of patients, customers and practitioners

Whole system benefits can be evaluated using established metrics relating to different areas of system performance:
- financial balance and financial resilience in the face of rising demand
- patient, customer and staff satisfaction scores
- hospital length of stay and admission rates for ambulatory conditions
- patient outcomes

Outcomes such as these are by their nature the result of our behaviours and choices across the whole economy, including in some cases wider determinants of health and wellbeing. Nevertheless, it is our ambition that The Great North Care Record will make a decisive contribution to these and related measures.

While it is certainly difficult to attribute changes in these whole system performance indicators to the effects of one programme or intervention, we expect to see positive changes. This is because the ways of working targeted in The Great North Care Record are aligned with our strategic direction. We will achieve greater precision when we target measures in specific pathways and with specific populations. At this scale, changes can be introduced using an improvement methodology and project disciplines. In this case, the projects themselves will devise their own metrics, and following delivery, these will be used to track benefits. The bulk of the programme’s benefits will be tracked in this way.

The specific impact of The Great North Care Record on individual working practices can be gauged by investigating the way health and social care users interact with the shared care record, and other applications and interfaces as they become available. Such interactions will be tracked using user statistics such as: number of distinct users, frequency of logons, and transactions executed at the expense of the older processes replaced by The Great North Care Record.

4.5 Investment

Known sources of investment to support delivery of this roadmap include:

- Primary care IT funding, including GP IT Capital funding and GP Systems of Choice
  This funding will focus on delivery of ‘Core GP IT services’. Where there is the opportunity, this funding will be used to deliver transformation elements to support delivery of the LDR.
- IT running cost budgets within each partner organisation
- Vanguard for Care Homes across Newcastle and Gateshead
  The Vanguard programme has funding attached, some of which are dedicated to delivery of digital projects such as Telehealth into Care Homes and mobile working for GPs in Care Homes.
- Vanguard for Urgent and Emergency Care across the North East
- The Connected Cities project running across the North East and North Cumbria (which includes the Great North Care Record)
- Local Government Association have allocated some funding to Newcastle Council to support implementation of the MIG

Opportunities for investment include:

- Estates and Technology Transformation Fund for primary care, with bids for technology initiatives being submitted in June 2016. Bids submitted into the fund include:
  - Telehealth project to further embed a Florence solution, with a focus on extending its use to primary care
  - Enabling infrastructure to support implementation of video conferencing in primary care
  - Referrals forms initiative to standardise and make fully digital the processes available at point of referral
  - Digitisation of records to begin migration of large volume of paper records still within the system, and free up space for delivery of patient care
  - Establishing a single domain structure to enable common resource availability and access to services in different configurations, with further step being to implement Virtual Desktop Interface

- One Public Estate review of estates to identify efficiencies in ways of working across all public bodies in Newcastle and Gateshead with a view to co-locating services and looking at technological solutions.

- Non-recurrent funding opportunities

- Improvement and quality schemes
  - CQUIN schemes
  - CCG’s Practice Engagement Project which can include levers to support implementation of initiatives such as use of e-referral (included in the 2016/17 scheme)

- Sustainability and Transformation Plans / Transformation area funding

4.6 Programme and project structure

There is a high degree of confidence that the current governance structure will be able to deliver the ambitions outlined in this roadmap. The development of the roadmap will be led by our information networks, spearheaded by clinical leadership and enabled by project management. Newcastle Gateshead has already demonstrated the ability to use the governance structures to deliver real change, for example by being among the first in the north east to implement the Medical Interoperability Gateway (MIG), and the partnership working with Northumberland Tyne and Wear Mental Health trust to implement the Information Sharing Gateway.

The Newcastle and Gateshead Information Networks already had established work programmes in place, and upon submission of the Local Digital Roadmap, the work programme will be reviewed and restructured to align with the seven paper free at point of care capabilities, beginning with a stakeholder meeting in July 2016. This will ensure clear alignment between the LDR and the delivery plans.
4.7 Use of resources

It is already recognised that by working together as a Local Health Economy we can be more efficient. There have been some recent examples which have demonstrated this:

- Northumberland Tyne and Wear NHS Foundation Trust were the first trust to implement the MIG within an acute trust environment. The learning from their work has been shared with the other trusts who are yet to implement which has avoided duplication of effort and will lead to more efficient rollouts to others.

- The IG gateway portal was originally implemented in Cumbria, who shared their success and lessons learned with local organisations who were then able to adopt the same solution.

- Both councils currently use the same social care database and are therefore able to share learning. Newcastle Council is going to introduce information sharing using the MIG first, and lessons will be learned before Gateshead implements to create efficiencies.

- North East Pathology Network, standardising laboratory messaging services. Which has also developed into NPEX (National Pathology Exchange) allowing cross referral laboratory investigations through the region.

- From the 2014 technology fund, a joint Northern Collaborative was developed to enable more effective communication of appropriate patient centred information, real time across the health and social care community in the North of Tyne region through, the use of technology. This was led by Northumbria Healthcare NHS Foundation Trust, with a focus on developing electronic discharge.

Local Health Economies are making progress at different paces with different priorities, for example Gateshead has made significant progress with standardisation of electronic referrals the use of which is now being broadened widely. North of the region, there has been more focus on electronic discharge and their work is now being shared. Without this approach to sharing and learning from each other, we will all struggle to deliver this ambitious agenda.

The North East Digital Care programme provides a framework to enable this joint working and sharing. The North East and Cumbria organisations from health and social care now meet together quarterly to discuss progress with digital care. A key purpose of these meetings is to provide an opportunity to share learning across the region, but also includes regular attendance from sites across the country to share best practice.
5 Capability deployment

A full list of recent achievements outlined in section 3.2 demonstrates the progress made so far in relation to the 7 Paper Free Point of Care capabilities. As summary of maturity in these areas, our key achievements and current initiatives underway are as follows:

5.1 Records, assessments and plans

Records are almost entirely held electronically in primary care, and recorded in real time by clinicians. Secondary care have large scale use of digital records, but this is variable with often different systems in place across the trusts. There is little sharing of digital information in real time between organisations, but some pockets of good practice have emerged, such as with the GP out of hours in Gateshead.

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary Care Record (SCR) fully implemented by primary care, all practices now sharing their summary record</td>
<td>Enabling acute trusts to access to patient SCR at point of care (for local and out of area patients)</td>
</tr>
<tr>
<td>Implementation of the Medical Interoperability Gateway (MIG) to Gateshead Out of Hours</td>
<td>Improved access to key information about patients attending the Gateshead out of hours service</td>
</tr>
<tr>
<td>GP2GP implemented in primary care</td>
<td>Provide faster access to a patient’s health record, as opposed to awaiting delivery of paper records.</td>
</tr>
<tr>
<td>Acute trust Electronic Patient Records (EPR)</td>
<td>Moving towards paper free systems</td>
</tr>
<tr>
<td>• Maternity paperless Electronic Patient Record into Gateshead and Newcastle Acute Trusts</td>
<td></td>
</tr>
<tr>
<td>• Piloting capture of clinical notes electronically, with minor A&amp;E being already paperless and expansion to majors currently underway (Gateshead NHS Foundation Trust)</td>
<td></td>
</tr>
<tr>
<td>• Northumberland Tyne and Wear NHS Trust have implemented a full EPR across the trust, which is one of the largest Mental Health EPR implementations in England. The system records over 5 million progress notes (contemporaneous note keeping) per annum or 9.5 notes every minute of the day.</td>
<td></td>
</tr>
<tr>
<td>Sharing of electronic records between Newcastle Social Care and Mental Health trust using overnight file transfer (expansion to Gateshead Social Care is planned)</td>
<td>Information readily available to both mental health and social care staff held on their respective systems which reduces transaction costs / time involved in accessing useful / important information and improves the quality of interventions.</td>
</tr>
</tbody>
</table>

Current initiatives

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of view of Summary Care Record into Community Pharmacies</td>
<td>View of medicines information and allergies available to pharmacists</td>
</tr>
<tr>
<td>Expanded view of the GP record within Mental Health Trust</td>
<td>Clinicians can access information securely, quickly, and from anywhere without needing to access a separate system, and without needing to search for the patient, as it launches “in context” and shows the record for the current patient.</td>
</tr>
</tbody>
</table>
NTW has led the introduction of this solution in Gateshead, and worked collaboratively with other organisations to share learning to spread the solution, which is currently being implemented in Newcastle. This solution is now being used to accelerate information sharing across numerous health partners in the NTW area. The system was introduced late in 2015, and has now been rolled out to 3 Trust CCG areas (Gateshead, Northumberland and North Tyneside). Based on GP list sizes, currently 665,245 patient records are potentially viewable via the one click view in RiO.

| Shared records between Gateshead practices and community nurses | Rollout of nursing staff to EMIS clinical system will allow mutual viewing of full records and robust system for referral and electronic communication |

### 5.2 Transfers of care

Elective referrals happen routinely using electronic means (e-referral) Discharge information is sent electronically from acute providers to primary care. Outpatient clinic letters are generally sent using paper. Paper, fax and phone calls are the most common way of communicating between health and social care.

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key achievements</strong></td>
<td></td>
</tr>
<tr>
<td>E-referral deployment</td>
<td>Referrers can identify services with shortest waiting times through service selection. Patients are able to choose the time and date of their appointment reducing DNA rates. Reduced admin resource for practices and trusts</td>
</tr>
<tr>
<td>Standardised referral documentation</td>
<td>Speedier process for referring clinician and receiving organisation gets the right information to support referral</td>
</tr>
<tr>
<td>Newcastle Gateshead have led work to create standardised referral form documentation which integrates into clinical systems.</td>
<td></td>
</tr>
<tr>
<td>GP Handover forms / Discharge information sent electronically from Gateshead Health NHS Foundation Trust and Newcastle Hospitals NHS Foundation Trusts</td>
<td>Information available quickly to primary care to provide best available support to patients after discharge</td>
</tr>
<tr>
<td>Standardising the Transfer of Care documentation to conform to the Royal College of Physicians document headings standards.</td>
<td>Information following agreed quality standards common across providers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current initiatives</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changing the way information is sent to move from unstructured messages to structured documentation to flow via MESH</td>
<td>Smoother flow of information, reduced need to manually extract information from documents, reduced risk of errors</td>
</tr>
<tr>
<td>Distribution of electronic clinic letters from outpatients to GP practices in a standard format</td>
<td>Clearer communications on follow up arrangements and medication changes will lead to safer follow up care</td>
</tr>
</tbody>
</table>
5.3 Orders and results management

Requests for blood, x-ray, ultrasound, pathology are all made electronically. Some requests for consultation, such as to Physiotherapy or Occupational Therapists are still made using paper, fax and phone calls.

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key achievements</td>
<td></td>
</tr>
<tr>
<td>Digital sharing of Radiology images and reports to Acute Trusts in the region</td>
<td>Avoiding need to repeat investigations, speed of access to imaging</td>
</tr>
<tr>
<td>Accessibility to all lab results done at any lab within the Northern region using OpenNet (part of the ICE system)</td>
<td>Reduced operating costs</td>
</tr>
<tr>
<td>Standardisation of pathology on single Laboratory Information Management System for Gateshead, South Tyneside and Sunderland</td>
<td>Ability to track sample from patient to the lab in the community</td>
</tr>
<tr>
<td>Pilot of use of RDIF tagging of blood bottles in the community (the world’s first pilot for this system in this setting)</td>
<td>Increased speed of requests and results</td>
</tr>
<tr>
<td>Functionality is available for all requests for blood, x-ray, ultrasound, pathology to be made electronically</td>
<td>Avoiding need to repeat additional tests</td>
</tr>
<tr>
<td>Within primary care a warning flag is raised if a blood test is repeated within a certain length of time (with time being dependent on the test itself)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current initiatives</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Community electronic ordering of investigations from mobile technology</td>
<td>Safer and quicker process for requesting by District Nurses and Community Matrons</td>
</tr>
<tr>
<td>Ability to send results to the individual who requested them, even if they are in a different organisation i.e. if GP carries out test directed by a consultant, the results can be sent direct to consultant</td>
<td>Reduction in additional paper transfers of information (currently this would be faxed from GP), saving time and cost</td>
</tr>
</tbody>
</table>

5.4 Medicines management and optimisation

Electronic prescribing is now fully implemented in primary care, however utilisation rates could be improved. Viewing of a full list of real time medicines information at the point of care is not widespread and relies on information held by each organisation. Plans to improve records sharing will allow this information to be made available, with the next step to be full reconciliation of medicines information.

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key achievements</td>
<td></td>
</tr>
<tr>
<td>Electronic prescribing fully implemented in Primary Care</td>
<td>Patients able to order prescriptions online and collect from their nominated pharmacy All practices able to send routine single and repeat prescriptions electronically</td>
</tr>
<tr>
<td>Chemotherapy e-Prescribing delivered across 5 trusts in the North East region</td>
<td>Improved patient safety</td>
</tr>
<tr>
<td>Implementation of Scriptswitch software to advise prescribers in primary care of preferred alternatives to medication</td>
<td>More standardised prescribing in line with local formulary, with more cost-effective prescribing</td>
</tr>
<tr>
<td>Implementation of an electronic incident reporting system</td>
<td>Ability to aggregate issues from across</td>
</tr>
</tbody>
</table>
5.5 Decision support
Some progress made, for example with Special Patient Notes, but systems are imperfect as not able to offer direct interoperability so are not used to their full potential. Primary Care decision making is supported with technology, such as standardised templates.

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of information portals for frontline health and social care professionals to access key information about local services</td>
<td>All guidelines and relevant documents in one place to support delivery of care</td>
</tr>
<tr>
<td>Use of risk stratification tools to support identification of high risk patients by primary care, supported by standard coding guidance</td>
<td>Identification of vulnerable and high risk patients to allow targeted support</td>
</tr>
<tr>
<td>Special Patient Notes system implemented for primary care to share notes with urgent and emergency care services</td>
<td>Key notes available to out of hours, 111 and ambulance service</td>
</tr>
<tr>
<td>‘Master Template’ in Gateshead developed by GP federation to provide a single tool for use in clinical consultation, including prompts and guidance</td>
<td>Standard tool to support high quality consultations in primary care</td>
</tr>
<tr>
<td>Added standardised fields to the lab ordering system (ICE) to ensure patients receive standard high quality care, dependent on their diagnosis</td>
<td>Patient receives the correct blood test at the correct time</td>
</tr>
</tbody>
</table>

5.6 Remote care
Some opportunities have been explored to implement Telehealth solutions but this is not widespread. The introduction of video conferencing between professionals to support Multi-Disciplinary Team working has commenced, but little developed to allow patients to participate in their care remotely.

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advice and Guidance’ added to Electronic Referral System to introduce ability to request advice from consultants</td>
<td>Avoiding need for unnecessary referrals, best quality care given closer to home</td>
</tr>
<tr>
<td>Introduction of Video Conferencing as a standard component</td>
<td>More efficient use of resources, more</td>
</tr>
</tbody>
</table>
of Multi-Disciplinary Teams (MDTs) in several acute trusts | engagement in MDT meetings meaning patients will receive the best possible care

Remote Acute Trust services across the region such as remote Foetal Diagnostics and remote Mammogram Screening delivered into Cumbria (Newcastle Hospitals) | Patients able to access services closer to home

**Current initiatives**

Introduction / piloting of videoconferencing in primary care, exploring software and purchasing hardware (web cameras) | Potential to expand access to primary care and offer patients their preferred method of consultation

## 5.7 Asset and resource optimisation

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key achievements</strong></td>
<td></td>
</tr>
<tr>
<td>Development of home visiting service as part of Prime Minister’s Challenge Fund, supported by integration with clinical system to allow appointment requests and tracking of progress</td>
<td>Reduced admin burden, allowing a quick responsive service for patients</td>
</tr>
</tbody>
</table>

| Current initiatives | |
| Developing interoperability of primary care clinical systems and 111 systems to allow the 111 service to book appointments for patients with their GP practice | A key initiative of the urgent and emergency care workstream, patients who have accessed |

## 5.8 Digitally enabled self-care

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key achievements</strong></td>
<td></td>
</tr>
<tr>
<td>Supporting the implementation of the British Heart Foundation’s ‘Year of care’ with provision of standard coding and clinical templates</td>
<td>Clinicians able to produce resources quickly so they can focus on patient conversation about supported self-care</td>
</tr>
</tbody>
</table>

| Roll out of the Florence Telehealth solution across Primary and Secondary Care settings | Increased patient motivation for self-care, ability to contribute their own information, e.g. within gestational diabetes pathway |

| Self-help support from Northumberland Tyne and Wear NHS Foundation Trust - produced a web site holding electronic versions of these leaflets (in different accessible formats). Building on this is the development of a self-help app for Android and Apple devices to again improve access to the material. The leaflets and apps can be found here [http://www.ntw.nhs.uk/pic/selfhelp/](http://www.ntw.nhs.uk/pic/selfhelp/) | Improved ability for patients to self-manage |

| Provision of other apps such as an animated child friendly app called “Poo goes to Pooland”, which received a lot of positive press ([http://www.chroniclelive.co.uk/news/north-east-news/north-east-nhs-developers-create-9301659](http://www.chroniclelive.co.uk/news/north-east-news/north-east-nhs-developers-create-9301659)) | |

| Our Gateshead website developed to develop a directory of local groups and activities, to support ‘social prescribing’ initiatives | Allow people to proactively find groups and activities to engage in, in order to support their wellbeing |

<p>| Current initiatives | |
| Introduction of a mobile application for parents to provide advice and guidance about common ailments | To give parents the best advice on managing ailments and ensure children are accessing |</p>
<table>
<thead>
<tr>
<th>Service/Program</th>
<th>Description</th>
<th>Improved information and monitoring about patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of telehealth into care home setting</td>
<td>To allow care home staff to record the National Early Warning Score (NEWS) onto tablet devices.</td>
<td></td>
</tr>
<tr>
<td>MyEquipmentNewcastle</td>
<td>A digital channel that enables citizens to self-assess for items of equipment and adaptations.</td>
<td>Citizens are able to perform various assessments around their mobility and activities of daily living needs using this digital channel. This allow for more timely assessment, at a time that is convenient to the citizen and or their carer/s, and allows for equipment to be readily purchased and delivered to the person home.</td>
</tr>
<tr>
<td>MyCareNewcastle: A Portal</td>
<td>To provide online information and advice, a service directory, portal to enable self-directed support and self-service.</td>
<td>Provided a simple to navigate portal for citizens to access information on and around the topic of Social Care, view service provider information and perform an number of actions using digital channels at a time convenient for the citizen and / or their carer/s</td>
</tr>
<tr>
<td>Keep in Touch (KiT)</td>
<td>Patient access to the Internet on inpatient wards (Northumberland Tyne and Wear NHS Foundation Trust) By May 2016 the service is available on 65% of wards, with rollout to other wards ongoing.</td>
<td>To help patients keep in touch with friends and relatives whilst staying on inpatient wards.</td>
</tr>
</tbody>
</table>

Further opportunities to enable self-care with digital technology will be explored, including:

- How to implement reporting of personal health record data generated by wearables and related mobile apps
- Connecting valuable information from telehealth and telecare solutions into primary care / acute systems, such as elderly falls records captured by telecare alarm services, which could be shared with concerned GPs for any preventive/corrective action (change in medication etc.)
- Exploration of video telephony service and the potential this would hold in providing remote care in care homes.

Opportunities will be explored to use digital technology to engage and work with our patients in new and innovative ways. We will adopt co-design approaches to improving services, with digital platforms being a key enabler.
### 5.9 Capability deployment schedule
A schedule of capabilities has been agreed by stakeholders across the Local Health Economy, as follows (see Appendix Two for a visual representation of our roadmap)

<table>
<thead>
<tr>
<th>Who</th>
<th>What</th>
<th>Date</th>
<th>Capability group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2016/17</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community pharmacists</td>
<td>Will have access to summary of primary care record (following rollout of the Summary Care Record)</td>
<td>December 2016</td>
<td>Records, assessments and plans</td>
</tr>
<tr>
<td>Community Nurses</td>
<td>Will have access to full primary care medical records</td>
<td>March 2017</td>
<td>Records, assessments and plans</td>
</tr>
<tr>
<td>Staff and patients within GP practices</td>
<td>Are able to access Wi-Fi across all GP practice premises</td>
<td>March 2017</td>
<td>Remote care</td>
</tr>
<tr>
<td><strong>2017/18</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End of life professionals</td>
<td>Have access to GP end of life preference information</td>
<td>June 2017</td>
<td>Decision support</td>
</tr>
<tr>
<td>GP practices</td>
<td>Make all routine referrals to secondary care electronically</td>
<td>September 2017</td>
<td>Transfers of care</td>
</tr>
<tr>
<td>A&amp;E, Ambulance and 111</td>
<td>Have access to GP held information for the cohort of patients likely to present</td>
<td>March 2018</td>
<td>Records, assessments and plans</td>
</tr>
<tr>
<td>All relevant care professionals</td>
<td>Will be able to access and contribute to a shared care plan</td>
<td>March 2018</td>
<td>Decision support</td>
</tr>
<tr>
<td>Clinicians in unscheduled care settings</td>
<td>Have access to child protection information and social care are notified</td>
<td>March 2018</td>
<td>Decision support</td>
</tr>
<tr>
<td>Acute providers</td>
<td>Send all assessment, discharge and withdrawal notices electronically to social care</td>
<td>March 2018</td>
<td>Transfers of care</td>
</tr>
<tr>
<td>All health and care staff</td>
<td>Are able to access Wi-Fi across appropriate health and care buildings</td>
<td>March 2018</td>
<td>Remote care</td>
</tr>
<tr>
<td>Social care professionals</td>
<td>Can access a summary of the GP record</td>
<td>March 2018</td>
<td>Records, assessments and plans</td>
</tr>
<tr>
<td>Acute providers</td>
<td>Send all transfer of care correspondence from outpatients electronically</td>
<td>March 2018</td>
<td>Transfers of care</td>
</tr>
<tr>
<td><strong>2018/19</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GP practices</td>
<td>Create and transfer all non-routine referrals electronically to secondary care</td>
<td>September 2018</td>
<td>Transfers of care</td>
</tr>
<tr>
<td>All providers</td>
<td>Will be able to send coded medicines information between systems electronically</td>
<td>March 2019</td>
<td>Medicines management</td>
</tr>
<tr>
<td>Patients</td>
<td>Can control who accesses their record through an online portal</td>
<td>March 2019</td>
<td>Records, assessments and plans</td>
</tr>
<tr>
<td>All health and</td>
<td>Are able to view a shared patient record</td>
<td>March 2019</td>
<td>Records,</td>
</tr>
<tr>
<td>All health and care professionals</td>
<td>Will make requests for all consultation electronically</td>
<td>December 2019</td>
<td>Orders and results management</td>
</tr>
<tr>
<td>All health and care organisations</td>
<td>Send correspondence electronically which is structured and coded</td>
<td>March 2020</td>
<td>Transfers of care</td>
</tr>
<tr>
<td>All health and care professionals</td>
<td>Are able to view and contribute to a single shared patient record</td>
<td>March 2020</td>
<td>Records, assessments and plans</td>
</tr>
<tr>
<td>Patients</td>
<td>Can use a single portal to view and contribute to their record</td>
<td>March 2020</td>
<td>Records, assessments and plans</td>
</tr>
<tr>
<td>All health and care professionals</td>
<td>Can track patients through the system and receive notifications at key stages</td>
<td>March 2020</td>
<td>Asset and resource optimisation</td>
</tr>
</tbody>
</table>
5.10 Capability deployment trajectory (secondary care)

Each local acute provider of acute, mental health or community services have assessed their current maturity, and have provided an assessment of their planned trajectory from 2016 – 2019. The supporting initiatives to deliver this increased trajectory have been mapped by individual providers.

![Graph showing capability deployment trajectory](image)

<table>
<thead>
<tr>
<th>Capability group</th>
<th>Baseline score (Feb 16)</th>
<th>Target (end 16/17)</th>
<th>Target (end 17/18)</th>
<th>Target (end 18/19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Records, assessments and plans</td>
<td>42.8</td>
<td>52.0</td>
<td>62.0</td>
<td>84.0</td>
</tr>
<tr>
<td>Transfers of care</td>
<td>61.2</td>
<td>71.2</td>
<td>80.0</td>
<td>93.6</td>
</tr>
<tr>
<td>Orders and results management</td>
<td>46.6</td>
<td>58.8</td>
<td>71.0</td>
<td>85.0</td>
</tr>
<tr>
<td>Medicines management and optimisation</td>
<td>27.2</td>
<td>47.0</td>
<td>60.0</td>
<td>85.0</td>
</tr>
<tr>
<td>Decision support</td>
<td>28.4</td>
<td>44.0</td>
<td>56.0</td>
<td>79.0</td>
</tr>
<tr>
<td>Remote care</td>
<td>33.4</td>
<td>36.4</td>
<td>51.0</td>
<td>70.0</td>
</tr>
<tr>
<td>Asset and resource optimisation</td>
<td>53.0</td>
<td>61.0</td>
<td>70.0</td>
<td>85.0</td>
</tr>
</tbody>
</table>
6 Universal capabilities delivery plans

Individual delivery plans for the ten universal capabilities below have been developed in partnership with local stakeholders.

<table>
<thead>
<tr>
<th>Universal capability</th>
<th>Aim for March 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Records, assessments and plans</strong></td>
<td></td>
</tr>
<tr>
<td>Professionals across care settings can access GP-held information on GP-prescribed medications, patient allergies and adverse reactions</td>
<td>Professionals across social care, urgent care settings, community services and acute trusts will be able to access a summary of GP record using SCR or MIG</td>
</tr>
<tr>
<td>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&amp;EC)</td>
<td></td>
</tr>
<tr>
<td>Patients can access their GP record</td>
<td>50% of the Newcastle Gateshead population will be enabled for online services</td>
</tr>
<tr>
<td><strong>Transfers of care</strong></td>
<td></td>
</tr>
<tr>
<td>GPs can refer electronically to secondary care</td>
<td>90% of elective referrals will be made electronically</td>
</tr>
<tr>
<td>GPs receive timely electronic discharge summaries from secondary care</td>
<td>All discharges to be sent electronically, with progress made towards implementation of fully structured messaging</td>
</tr>
<tr>
<td>Social care receive timely electronic Assessment, Discharge and Withdrawal Notices from acute care</td>
<td>All notifications to be sent electronically</td>
</tr>
<tr>
<td><strong>Medicines management and optimisation</strong></td>
<td></td>
</tr>
<tr>
<td>GPs and community pharmacists can utilise electronic prescriptions</td>
<td>50% of the Newcastle Gateshead population will be enabled for online services</td>
</tr>
<tr>
<td><strong>Decision support</strong></td>
<td></td>
</tr>
<tr>
<td>Clinicians in unscheduled care settings can access child protection information with social care professionals notified accordingly</td>
<td>100% of care professionals in unscheduled care settings will be able to see a flag upon accessing patient notes</td>
</tr>
<tr>
<td>Professionals across care settings made aware of end-of-life preference information</td>
<td>Record sharing in place across primary care, community services, secondary care (inc palliative care services) will allow sharing of end of life preference information</td>
</tr>
<tr>
<td><strong>Remote care</strong></td>
<td></td>
</tr>
<tr>
<td>Patients can book appointments and order repeat prescriptions from their GP practice</td>
<td>By March 2018 50% of the Newcastle Gateshead population will be enabled for online services</td>
</tr>
</tbody>
</table>
7 Information sharing

7.1 Plans for a common sharing agreement

To support implementation of records sharing initiatives, such as the MIG, a standard information sharing agreement has been agreed and an Information Sharing Gateway has begun to be implemented to enable organisations to manage their information sharing.

This solution is being introduced by Northumberland Tyne and Wear (NTW) NHS Foundation Trust, building on the system developed by Cumbria and Lancashire. This solution is now being used to accelerate information sharing across numerous health partners across the North East area.

The system was introduced late in 2015 into Gateshead by NTW working with colleagues in Cumbria. This has now been rolled out to 3 Trust CCG areas (Gateshead, Northumberland and North Tyneside). Colleagues in Northumbria took the lead on the rollout in Northumberland and North Tyneside and worked collaboratively with NTW to ensure the agreements were signed off as collective agreements saving time and effort. Newcastle is in the process of going live and this is being led by NTW and again, delivered as a collaborative project including other partners.

Using a collaborative approach, the rate of progress has been impressive as shown on the map above. Each dot represents a live GP practice. Future plans for 2016 include widening the number of NTW staff groups that can access the system, providing a reciprocal view of key information from the mental health trust to GPs and increasing the scale of information sharing in the region by working with the Great North Care Record project.

The Information Sharing Gateway will be implemented by December 2016 to all GP practices and healthcare providers. A single data sharing agreement will be in place for all health organisations by December 2016, incorporating Social Care by March 2017.

The information sharing agreement has been reviewed by Information Governance experts to ensure a legal basis for sharing of information. It includes the following providers:
- Gateshead Community Based Care (Out of Hours Provider)
- Gateshead Council
- Gateshead Health Foundation Trust
- Newcastle Upon Tyne Hospitals NHS Foundation Trust
- Newcastle Council
- Northern Doctors UK (Out of Hours Provider)
- North East Ambulance Service
- Northumberland, Tyne and Wear Foundation Trust
- South Tyneside Foundation Trust

7.2 Information sharing approach

Information sharing will rely on interoperability of systems to
- Share documents at transfer of care (referrals / discharge)
- Allow real time access to specific parts of the record
- Share information as part of a workflow, such as tasks or notifications

The below diagram demonstrated what information sharing approaches will be used to enable the delivery of the key capabilities identified in section 5.

### 7.3 NHS Number

All NHS organisations use the NHS Number as the main identifier, all organisations have processes in place to identify and fill gaps in NHS number. Usage of NHS number as the single identifier in Social Care is increasing. Results are summarised as follows:

<table>
<thead>
<tr>
<th></th>
<th>Gateshead Council</th>
<th>Newcastle Council</th>
</tr>
</thead>
<tbody>
<tr>
<td>What percentage of active social care clients is the NHS number matched and verified for?</td>
<td>90%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Plans to fill gaps in Social Care use of NHS number include mapping of business processes and working with frontline staff to promote everyday use.

Care Homes do not routinely use NHS number as an identifier, and there is an increasing need to share information with care home staff. As part of the Care Homes vanguard, the CCG has been
involved in national conversations about how to incorporate care homes into the information sharing initiatives, and encourage the rollout of NHS number as the standard identifier.

7.4 Plans and milestones for adopting information sharing standards

SNOMED-CT to support direct management of care

The timeline for SNOMED adoption in primary care is as follows:

- April 17 – GP Practices to start moving from READ codes to SNOMED-CT
- April 18 – Full SNOMED adoption in GP Practices

Discussions are underway to convert the current READ code directory to a SNOMED directory across primary and secondary care across the region, although this is at early stages. Throughout 2017/18, work will be undertaken to convert clinical templates and documents to use SNOMED-CT.

Secondary care is being encouraged to adopt SNOMED as the standard clinical terminology within its core clinical information systems.

Dictionary of Medicines and Devices (dm+d) to describe all medicines and devices

Digitising medicines management, using the NHS dictionary of medicines and devices, is being implemented to support the electronic transfer of information relating to medicines prescribing across different care settings and providers.

Accessible information standards

By 1 April 2016 all organisations that provide NHS or publicly funded adult social care must identify and record information and communication needs with service users:

- At the first interaction or registration with their service
- As part of on-going routine interaction with the service by existing service users.

By 31 July 2016 all organisations that provide NHS or publicly funded adult social care will have fully implemented and conform to the Accessible information Standard.

Referring organisations have received training on how to implement the accessible information standards and been provided with resources to support the implementation.
8 Infrastructure

8.1 Current status of mobile working infrastructure

To fully implement the capabilities outlined in the roadmap, professionals should be able to access information at the point they are delivering care, whether that be in their usual place of work, a patient's home, a care home or other organisation’s premises. To achieve this there are key enablers:

- **Availability of Wireless internet (Wi-Fi) across the environments where care is delivered**
  Some progress has been made, with Newcastle Hospitals NHS Foundation Trust and Gateshead Health NHS Foundation Trust both having public Wi-Fi. This is also accessible by professionals should they need it.
  Wi-Fi is being implemented across other acute trusts and across other key sites in the community, such as Primary Care Centres.

  By the end of March 2017, all GP practices will offer public Wi-Fi to patients and professionals. This will be a key enabler for staff working across the community to be able to access and update records, such as Community Midwives and District Nurses.

  As a LHE community, organisations have agreed to make Wi-Fi available across the most needed care settings to support access to Wi-Fi for all staff. To offer the greatest flexibility, individual organisations are providing 4G connections to mobile devices.

  Both Gateshead and Newcastle Councils are undertaking improvements to increase access to digital services for all, such as superfast Broadband Wi-Fi (e.g. www.godigitalnewcastle.co.uk).

- **Mobile equipment with remote access**

  GP practices will have access to remote working equipment by October 2016. This will be in the form of laptops with secure remote access to the N3 network.

  Plans are in place to allow Community Nurses across Newcastle and Gateshead to be able to access their clinical system from mobile devices (2017/18).

  Care homes mobile devices are being deployed in 2016/17 for care homes staff.

  Social Care teams are being issued with mobile devices as part of a project to deliver mobile solutions that enable practitioners to access and update client information.

  Northumberland Tyne and Wear NHS Foundation Trust has already invested in mobile technology and in 2012 commenced rolling out 3G/4G laptops to its clinical staff (over 2,000 laptops have been deployed to date). The next iteration of its secure remote access service has been developed based on a Microsoft technology called Direct Access. This allows fast and secure connection to the NTW network over any Internet connection. NTW are now planning to roll this out to all remote workers during the next 12 months. This compliments the work to extend partner Wi-Fi access to all NHS and council buildings, and will enable NTW staff to connect from any premise without expensive or additional links.
8.2 Improving collaboration with infrastructure

The following initiatives are planned to build a collaborative infrastructure to enable greater interoperability and delivery of this roadmap:

- Joint working with Newcastle Council and acute trusts
  Sharing of Council N3 connection to NTW network to allow access to NTW clinical system from council sites. Exploring option to use this N3 connection to allow staff from Newcastle Hospital to access their systems.
  Conversely, NTW will be supporting the agile working of council staff by making Wi-Fi available from their sites.

- Joint telephony solutions
  Due to the ability to deliver at scale, supported by the geographical area and number of organisations supported by the single network, NECS have now enabled free telephone calls between primary and secondary care and all other participating organisations. This provides real cost efficiencies for health care services.

- NHS Mail
  NHSmail is now fully deployed to CCGs and GPs in the North East. This footprint is now being extended to Local Authorities and Foundation Trust staff to support Vanguards, Digital Roadmaps and Collaboration. NHSmail 2 is due for delivery in June / July 2016. Opportunities to provide a secure interface between NHS mail and other NHS email addresses are being explored.

- EMIS rollout to secondary care – developing a single shared record across primary certain key departments of QE Gateshead, including Diabetes and Palliative Care.

- Allowing direct booking of appointments between the 111 service and GP practices by connecting information systems

8.3 Building Primary Care Infrastructure

In order to support the rapidly changing landscape of primary care the underpinning digital infrastructure, systems and services need to enable a range of key trends that are emerging;

- Integration and extended service scope requiring longer service availability and a mobile workforce
- More proactive care and continuity for complexity of patients requiring shared records and remote monitoring
- Increased access to services by patients using different methods
- More consistent clinical decision making through supporting clinical decision making software and access to other clinical advice
- Administrative efficiencies through scaled up organisations such as shared back office systems and services
- More patient empowerment through access to self-service access to transactional services and records and self-care / remote care

Standardising the infrastructure and support model will underpin the ability to alter the landscape and enable general practice to be delivered emerging organisational designs in response to the pressures being applied to the traditional model that are not sustainable.
A range of technologies need to be combined to deliver a single consolidated infrastructure that is fit for purpose, secure, scalable, enables agility and helps streamline support and administrative costs of managing a distributed estate.

- Establishing a single domain structure to enable common resource availability and access to services in different configurations
- Rationalising and reducing infrastructure within general practice buildings
- Virtualisation of the desktop estate (VDI)
- Single Sign on technology to remove barriers of multiple passwords for shared record platforms and common services

These technologies will deliver an improved service delivery and support model and lessen the requirements for capital investment in the primary care estate and ongoing revenue consequences of capital depreciation for the CCGs

**Enabling access to general practice**

There is a growing demand relating to patient contact with the NHS, (90% of which is with General Practice) The increasing complexity of illness managed out of hospital and the changing demographic of the population mean practices deal with a vast range of conditions and queries. Managing this using traditional methods of standard appointments booked over the telephone with administrative staff is no longer meeting demand and alternative methods supporting patients to access services is required. This project will establish a number of core capabilities that will help ease the pressure on general practice and enable innovative ways of delivering services. The key capabilities will be;

- Automated appointment booking and management solutions incorporating Interactive Voice Solutions, SMS and email solutions for appointment reminders along with key messages
- Technology supporting e-consultations for those appointments that do not require physical presence

**8.4 System wide mobile working initiatives**

Across the region there is a history of leveraging the benefits of scale. Four exiting networks have been re-procured and consolidated into a single modern and cost effective infrastructure. The new CoIN covers up to 500 sites across the North East of England including 10 CCGs, NECS and associated FTs with the option for AQPs to participate through the appropriate contractual and legal agreements.

Migration of the required sites will take up to 18 months once the network ‘core’ has been built, fully tested and accepted into service. This technical capability is seen as a key enabler for transforming how health and care operates and will deliver the following benefits;

- Supports the government agenda for increased interoperability across all public sector organisations through the use of a more standard common infrastructure.
- Creates a single contiguous network - a key factor in meeting the pan-public sector challenges of increasing volume and routing of confidential data, inevitable from the growing demands of the healthcare economy.
- Significantly reduced costs to the NHS over the contract 5 year term on the current costs of the existing CoIN arrangements.
- Providing the underpinning technology for interconnectivity with an adaptable design that supports multi-occupied/multi-tenanted/multi serviced networking that simplifies the use of shared facilities. NHS staff can be resident or part-resident in various non-clinical premises e.g. schools, council buildings, respite care sites. Equally enables local authority staff to have the same flexibility – resident or part-resident in NHS premises. Finally other qualified clinical providers can use NHS
premises to provide secure services. NHS shared occupancy includes multiple GPs per site, provider and GPs on same site all with securely separate data traffic across the network.

- Consequently creates a cohesive healthcare network that provides a fast and highly efficient data flow between primary and secondary healthcare organisations.
- Facilitates the joining up of VOIP (voice over IP) telephone systems so each organisation will benefit from free calls between.
- Every connected site benefits from high speed network links with a minimum of 10MB at every GP practice, replacing all the slower links in rural areas.
- Allows for the secure flow of data between participating organisations complying with strict information governance criteria.
- The solution is fully scalable and the size of the network links can be flexed at an organisation’s request.
- Fully managed service with established BTN3 incident and change management process and procedures for 24/7 cover designed to industry standard ITIL best practices and certified standards (ISO 20000).
9 Minimising risks arising from technology

9.1 Minimising risks

The data stored in information systems used by the Health and Social Care organisations represents an extremely valuable asset. With the increasing reliance on information technology for the delivery of care, it becomes necessary to ensure that these systems are developed, operated, used and maintained in a safe and secure fashion.

The increasing needs to transmit information across networks of computers renders data more vulnerable to accidental or deliberate unauthorised modification or disclosure. The use of computers in clinical care activities offers advantages to patients if handled securely, but could present serious hazards if security is inadequate.

All organisations proactively assess, monitor and manage the risks associated with their IT assets and information services. Users of all systems receive training to comply with current legislation regarding the use and retention of Patient information and use of computer systems. These include, but are not limited to:

e. The Human Rights Act 1998
f. Electronic Communications Act 2000
h. Freedom of Information Act 2000
i. Health & Social Care Act 2001

Maintaining Data security is embedded into all decisions around infrastructure and the technologies / platforms / software used for data exchange and internal security.

All staff receive training appropriate to their information security needs, and are fully trained in the use of the systems that they are required to operate. Staff, contractors and other agencies are fully aware of the organisation’s security requirements and have sufficient resources necessary to meet their obligations to those requirements.

All electronic systems will have an assessment carried out which covers:
- The security requirements of the individual system
- Asset security
- User access controls
- Use and sharing of personal data
- Data Quality

Where systems are being adopted across multiple organisations, a coherent approach will be adopted.

Anti-Virus and Security

Virus and malware protection software is in place, and configured to automatically update workstations and servers with virus definitions within one hour of being connected to the network. Daily checks are performed to check for compliance levels and that central updates are being received. In the event that
compliance levels fall below the threshold outlined within the Anti-Virus standard operating procedures, an incident is raised and monitored through to closure.

Business continuity and disaster recovery
All organisations have detailed Business Continuity and Disaster Recovery plans which with Disaster Recovery roles and responsibilities outlined. These plans protect the organisations from any threats to its continued provision of healthcare services arising from the effects of major failures of IT systems or other disasters.

Information Governance
All organisations that have access to patient data are compliant with the Information Governance toolkit. A network of information governance leads operates across the region and act as expert advisors to ensure this agenda is delivered in a way which complies with regulations.

As organisations increase the sharing of information, the complexities associated with information governance will increase significantly. There is the need for underpinning projects to enhance security and maintain public trust. Key underpinning projects include public communication and transparency relating to information sharing and the introduction of more sophisticated systems to enhance cyber security.

At a regional level, The Great North Care Record will develop our approach to information governance to strike the right balance between keeping people’s private information secure, and sharing information to promote wellbeing and protect from harm. Working at all times within the current legal frameworks, it work to harness the power of aggregated information which can help to make better decisions about how care is organised. Information sharing protocols will be developed which allow aggregated information to be used for commissioning and research purposes.

The Great North Care Record project aims to develop a patient driven consent model to allow patients to opt into information sharing for research, putting the patient fully in control of their information. This supports the GNCR aim to make the North East the safest place to receive care and the best place for research.

Data quality
As more and more information is shared the between organisations, the Newcastle and Gateshead Information Networks will agree initiatives to assess and improve quality of information. Feedback from frontline staff and clinicians will be shared with this group to identify priority areas to review, for example the summary reports from local incident reporting systems will provide intelligence about any issues arising in relation to data quality.

Some of the initiatives already developed include the provision of a standard Read Code directory for Primary Care and an Approved Abbreviations directory which is agreed across acute, primary and community care. It is intended that the members of this group will collate a SNOMED directory as this coding structure becomes adopted.

9.2 GS1

About GS1
GS1 is a global not-for-profit organisation dedicated to the design and implementation of standards that improve organisational efficiency. GS1 is a global organisation, with 110 regional offices serving over
one million member organisations across 150 countries. GS1 has been working with members for over forty years to define and deploy global standards across a range of sectors.

GS1 has defined standards and corresponding barcodes to enable clear identification of such things as patients, caregivers, locations, products, assets and records. Scanning of barcodes enables accurate management and tracking and tracing of medicines, medical devices and instruments throughout the supply chain through to the patient record. It also enables accurate location of equipment, assets and medical records within hospitals and other care settings.

All local acute trusts have:
- Undertaken a baseline assessment which has identified that progress has been made with recommendations for further implementation
- Produced a trust Board-approved GS1 adoption plan
- Nominated a GS1 lead, responsible for sponsoring a programme of change in their organisation to adopt the global GS1 standards in a number of use cases over the coming years.
- Identified senior managers to take day-to-day responsibility for creation of the local adoption plan, and to coordinate implementation across all aspects of the trust.
- Some examples of progress include a GS1 enabled stock management system being deployed for theatres and pharmacy in Gateshead Health NHS Foundation Trust
Appendix One: Meeting Representation and links

Newcastle and Gateshead Information Network representation includes the following organisations and representatives:

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateshead Council</td>
<td>Principal Management Information Systems Officer</td>
</tr>
<tr>
<td></td>
<td>Service Manager Care Wellbeing and Learning</td>
</tr>
<tr>
<td></td>
<td>Digital Programme Manager</td>
</tr>
<tr>
<td>Gateshead Health NHS Foundation Trust</td>
<td>Deputy Director of IT</td>
</tr>
<tr>
<td></td>
<td>Head of IT</td>
</tr>
<tr>
<td></td>
<td>Chief Clinical Information Officer</td>
</tr>
<tr>
<td>General Practices</td>
<td>Practice Manager</td>
</tr>
<tr>
<td></td>
<td>GP</td>
</tr>
<tr>
<td></td>
<td>LMC representative</td>
</tr>
<tr>
<td></td>
<td>GP federation</td>
</tr>
<tr>
<td></td>
<td>Gateshead Practice Pharmacists lead</td>
</tr>
<tr>
<td></td>
<td>GP, Primary Care Transformation Team</td>
</tr>
<tr>
<td>Housing</td>
<td>Telecare Lead, Your Homes Newcastle</td>
</tr>
<tr>
<td></td>
<td>Care Services Manager, Your Homes Newcastle</td>
</tr>
<tr>
<td>Local Pharmaceutical Committees</td>
<td>Gateshead representative</td>
</tr>
<tr>
<td></td>
<td>Newcastle representative</td>
</tr>
<tr>
<td>Newcastle Gateshead Clinical Commissioning Group</td>
<td>Chief Clinical Information Officer</td>
</tr>
<tr>
<td></td>
<td>CCG Chair / Strategic Director for Informatics</td>
</tr>
<tr>
<td></td>
<td>Delivery Leads</td>
</tr>
<tr>
<td></td>
<td>Patient Experience Lead</td>
</tr>
<tr>
<td></td>
<td>Medicines Optimisation Lead</td>
</tr>
<tr>
<td>Newcastle Upon Tyne Hospitals NHS Foundation Trust</td>
<td>Enterprise Architect</td>
</tr>
<tr>
<td></td>
<td>Chief Information Officer</td>
</tr>
<tr>
<td></td>
<td>Clinical Director of Medical Informatics</td>
</tr>
<tr>
<td>Newcastle Council</td>
<td>Lead Specialist Core Systems</td>
</tr>
<tr>
<td></td>
<td>Commissioning Programme Manager</td>
</tr>
<tr>
<td></td>
<td>Lead Performance Manager</td>
</tr>
<tr>
<td></td>
<td>Public Health Intelligence Specialist</td>
</tr>
<tr>
<td>Newcastle University</td>
<td>Professor of Information Systems Management</td>
</tr>
<tr>
<td></td>
<td>Chief Information Officer for Connected Health Cities</td>
</tr>
<tr>
<td>North East Ambulance Service</td>
<td>Assistant Director of IM&amp;T</td>
</tr>
<tr>
<td>Northumberland, Tyne and Wear NHS Foundation Trust</td>
<td>Chief Clinical Information Officer</td>
</tr>
<tr>
<td></td>
<td>Director of Informatics</td>
</tr>
<tr>
<td></td>
<td>Project Manager</td>
</tr>
<tr>
<td>South Tyneside NHS Foundation Trust</td>
<td>Director of Information Services</td>
</tr>
<tr>
<td></td>
<td>Head of Information Systems &amp; Development</td>
</tr>
<tr>
<td>Voluntary Sector / Charitable organisation</td>
<td>Group IT Manager, Mental Health Concern Group</td>
</tr>
<tr>
<td></td>
<td>Business Change and Systems Analyst, St Oswalds Hospice</td>
</tr>
<tr>
<td>Patient representatives</td>
<td></td>
</tr>
</tbody>
</table>
The below summarises the meeting purpose and membership of meetings linked to LDR oversight and delivery:

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Meeting purpose</th>
<th>Summary of membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newcastle Gateshead Information Network (NGIN)</td>
<td>This is the board which holds strategic oversight and responsibility for the development and delivery of the Newcastle Gateshead LDR.</td>
<td>Senior level membership from stakeholder organisations (CCIO / CIO level). Regular attendance from frontline practicing clinicians including GPs, practice and community pharmacists and secondary care consultants.</td>
</tr>
<tr>
<td>Newcastle Information Network (NIN)</td>
<td>Reviews detail of the initiatives included in LDR with a focus on issue resolution and delivery. Retains a focus on Newcastle based initiatives.</td>
<td>Senior level membership from stakeholder organisations (CCIO / CIO level). Regular attendance from frontline practicing clinicians including GPs, practice and community pharmacists and secondary care consultants.</td>
</tr>
<tr>
<td>Gateshead Information Network (GIN)</td>
<td>Reviews detail of the initiatives included in LDR, with a focus on issue resolution and delivery. Retains a focus on Gateshead based initiatives.</td>
<td>Senior level membership from stakeholder organisations (CCIO / CIO level). Regular attendance from frontline practicing clinicians including GPs, practice and community pharmacists and secondary care consultants.</td>
</tr>
<tr>
<td>The Integrated Care Programme Board</td>
<td>This group provides direction to ensure the digital agenda is aligned with plans across Newcastle Gateshead and provides a clear line of sight to the Health and Wellbeing Boards.</td>
<td>A stakeholder group containing senior level membership from CCG, Councils, foundation trusts, Healthwatch and many others.</td>
</tr>
<tr>
<td>STP Informatics Group</td>
<td>Formed in October 2016 to begin discussions on how to align the delivery of the LDRs across the STP footprint</td>
<td>Initially this group includes CIO / CCIO leads from each CCG and acute trusts. The first meeting is being held on 20th October 2016 where ongoing meeting arrangements, terms of reference and membership will be discussed.</td>
</tr>
</tbody>
</table>
Appendix Two: Digital roadmap

Newcastle Gateshead digital roadmap 2016-2020

- By March 2016: Patients are able to give verbal consent to their information being shared and opt out at GP practices
- By March 2016: Patients are enabled to have online access to their detailed coded GP record
- By December 2016: A single information sharing agreement in place which includes primary care, acute care and community services
- By March 2017: Wi-Fi access available to service users and professionals in GP practice buildings
- By March 2017: Acute providers send all discharge summaries electronically to the GP within 24 hours
- By March 2017: Community nurses are able to view GP record

April 2016
- All patients can book appointments and order repeat prescriptions from their GP online
- All GPs and community pharmacists utilise electronic prescriptions
- Community and acute pharmacies have access to a summary of GP-held information

April 2018
- By March 2018: Social care professionals can access a summary of the GP record
- By March 2018: Acute providers send all transfer of care correspondence from outpatients electronically
- By March 2018: All GPs create and transfer all non-routine referrals electronically to secondary care
- By March 2018: Wi-Fi access available to service users and professionals in all appropriate health and care buildings
- By March 2018: Acute providers send all transfer of care correspondence from outpatients electronically
- By March 2018: A&Es, Ambulance and 111 have access to GP-held information for the cohort of patients likely to present
- June 2017: All local end of life care professionals have access to GP-held end of life preference information

April 2019
- By March 2019: Electronic communications between providers will allow coded medications information to be sent between systems
- By March 2019: Patients are offered the opportunity for remote consultation when appropriate
- By March 2019: Health and care professionals are able to view a shared patient record
- By December 2019: All requests for consultation will be electronic and all results will be shared electronically
- By March 2020: All electronic correspondence from acute trusts, general practice and social care is structured and coded
- By March 2020: Health and care professionals are able to view and contribute to a shared patient record
- By March 2020: A single patient portal exists for patients to view and update their health and care record
- By March 2020: Professionals can track patients through the system and receive notifications at key stages

2020
- September 2017: GPs create and transfer all routine referrals to secondary care
- By December 2019: All patients are able to control who accesses their record through an online portal

KEY:
- Paper free at point of care capability
- Records, Assessments and Plans
- Orders and results management
- Decision Support
- Asset and resources optimisation
- Transfers of care
- Medicines Management
- Remote Care
### Appendix Three: Glossary of terms and acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AoMRC</td>
<td>Academy of Medical Royal Colleges</td>
</tr>
<tr>
<td>API</td>
<td>Application Programme Interface</td>
</tr>
<tr>
<td>CCG</td>
<td>Clinical Commissioning Group</td>
</tr>
<tr>
<td>CDA</td>
<td>Clinical Document Architecture</td>
</tr>
<tr>
<td>DMA</td>
<td>Digital Maturity Assessment</td>
</tr>
<tr>
<td>DNA</td>
<td>Did Not Attend</td>
</tr>
<tr>
<td>DTS</td>
<td>Data Transfer Service</td>
</tr>
<tr>
<td>EPR</td>
<td>Electronic Patient Record</td>
</tr>
<tr>
<td>EPSr2</td>
<td>Electronic Prescription Service, the system which allows prescribers to send prescriptions electronically to a dispenser</td>
</tr>
<tr>
<td>GP2GP</td>
<td>GP to GP (electronic transfer of GP records at point of registration or transfer to another GP practice)</td>
</tr>
<tr>
<td>GPSOC</td>
<td>GP Systems of Choice</td>
</tr>
<tr>
<td>ICE</td>
<td>Integrated Clinical Environment</td>
</tr>
<tr>
<td>IG</td>
<td>Information Governance</td>
</tr>
<tr>
<td>INR</td>
<td>International Normalised Ratio (laboratory test for effects of oral anticoagulants)</td>
</tr>
<tr>
<td>LDR</td>
<td>Local Digital Roadmap</td>
</tr>
<tr>
<td>LHE</td>
<td>Local Health Economy</td>
</tr>
<tr>
<td>MESH</td>
<td>Messaging Exchange for Social Care and Health</td>
</tr>
<tr>
<td>MIG</td>
<td>Medical Interoperability Gateway</td>
</tr>
<tr>
<td>NECS</td>
<td>North of England Commissioning Support, the</td>
</tr>
<tr>
<td>NTW</td>
<td>Northumberland Tyne and Wear (the footprint covered by the STP)</td>
</tr>
<tr>
<td>SCR</td>
<td>Summary Care Record</td>
</tr>
<tr>
<td>SMS</td>
<td>Short Messaging Service (text messaging)</td>
</tr>
<tr>
<td>STP</td>
<td>Sustainability and Transformation Plans</td>
</tr>
</tbody>
</table>