

Hampshire and Isle of Wight Digital Roadmap 2016 - 2021

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Preface

I am delighted to be introducing the Local Digital Roadmap (LDR) for Hampshire and the Isle of Wight (HIOW). It represents almost a year of hard work from a dedicated portfolio team and over 40 partner organisations who have given their time, resource and ideas. I am proud to be associated with such a large and complex footprint that has come together in this way.

The origins of the digital aspiration of HIOW go back much further than 12 months however. For over a decade we have developed the Hampshire Health Record which holds 20 million documents and makes them available for the care of nearly 2 million people.

This capability has allowed our clinicians to do some really exciting things which we now want to do at scale. It puts us in an excellent starting position for cross system interoperability, for exploiting data further and for citing digital at the centre of our Sustainability & Transformation Plan (STP) transformation.

I have been a relatively recent convert to the digital cause. My time as Senior Responsible Owner (SRO) and Chair of the Digital Transformation Portfolio Board has opened my eyes to the potential but also the hard work we have in front of us to achieve our goals. As the lead for the HIOW STP I hope I have been successful in ensuring that digital is 'baked in' to our future direction of travel as a system.

Consequentially this LDR is not really about Information Sharing and Information Governance (IG) – although we do need to improve that. Neither is it about technology per se.

Instead its main focus is addressing our digital maturity so that we can implement integrated team working, population health, care coordination and decision support at the point of care and make a real impact on the wellbeing of our citizens.

Richard Samuel

Programme Lead for STP & Chair of Digital Transformation Portfolio Board

June 2016

A Executive summary

Introduction

- A1.1 NHS England's Five Year Forward View (5YFV) sets the context for the transformation of health and care service delivery in England. In response, local commissioning footprints have been asked to develop five-year Sustainability & Transformation Plans (STPs) to describe how they will deliver the required transformation across local systems. Many of the changes envisaged in the 5YFV and local STPs are critically dependent on the transformative power of information and technology.
- A1.2 In addition, the National Information Board (NIB) has identified a set of national 'Paper Free at the Point of Care' (PF@POC) targets for uplifting the digital maturity of local health and care systems by 2020.
- A1.3 To support the delivery of local STPs, and to set out local plans for achieving PF@POC targets, local commissioning footprints have been asked to develop Local Digital Roadmaps (LDRs) which map out the requirements, priorities and timeline for digital transformation across each footprint.
- A1.4 LDRs will support local access to national investment funding for technology-enabled transformation. Progress in delivering the commitments and aspirations set out in these LDRs is expected to become part of commissioner and provider assurance, assessment and inspection regimes.
- A1.5 The health and care system covering Hampshire and the Isle of Wight (HIOW), comprising of eight CCGs, four Local Authorities and a range of provider organisations, has come together to develop both an STP and LDR for this geographical footprint. This represents one of the largest systems in the country.
- A1.6 The HIOW LDR partners have established a joint Digital Transformation Portfolio Board to bring together thinking from across the footprint and provide collaborative leadership for developing and agreeing the local digital ambitions and roadmap for delivery.
- A1.7 This is the first LDR for HIOW. As such, it is not necessarily comprehensive and will need to be refined and expanded in subsequent iterations. Further iterations will go through a governance and sign off process through the Digital Transformation Portfolio Board
- A1.8 The Portfolio Board is supported by a Design Authority, a Procurement Sub-group and five locality-based Sub-portfolio Boards responsible for developing local plans for digital transformation and co-ordinating inputs to the LDR across the five localities.
- A1.9 This process has involved significant stakeholder engagement, and during the LDR development process we have held 6 Portfolio Board sessions, 26 Sub Portfolio Board sessions and over 100 one on one stakeholder interviews.
- A1.10 In May 2016 including a Digital Transformation event with over 170 clinical, patient representatives, provider and commissioning staff invited representing over 40 organisations. This was the first time all stakeholders from HIOW had come together to discuss digital transformation and was their opportunity to review and provide further input into the roadmap.

Strategic context

- A1.11 The draft STP for the HIOW footprint sets out an ambition to help HIOW citizens to lead healthier lives, by promoting wellness in addition to treating illness, and supporting people to take responsibility for their own health. It aims to ensure that HIOW citizens have access to high quality care 24/7, as close to home as possible.

A1.12 The STP recognises that significant investment in digital services and technology infrastructure is critical to successful delivery of the future health and care system and new ways of working.

A1.13 Linked to local transformation requirements are the national ambitions for PF@POC by 2020. NHS England has identified seven capability areas and ten universal capabilities (see Figure 8) for which local health and care systems are expected to make early progress on, demonstrating clear momentum in 16/17 and 17/18.

Our ambition and priorities

A1.14 In response to these strategic drivers, our ambition is to *empower the public, patients, care providers and commissioners to improve the health and care of people in the HIOW region through digital transformation.*

A1.15 We will achieve this by delivering five digital transformation priorities over the next five years. We will:

1. Provide an integrated digital health & care record;
2. Unlock the power of data to inform decision making at point of care;
3. Deliver the technology to shift care closer to home;
4. Establish a platform to manage population health; and
5. Drive up digital participation of service users.

A1.16 Our LDR ambition and priorities underpin delivery of both the HIOW STP transformation priorities and the national PF@POC ambitions, which both ultimately contribute to local delivery of the national vision set out in the 5YFV.

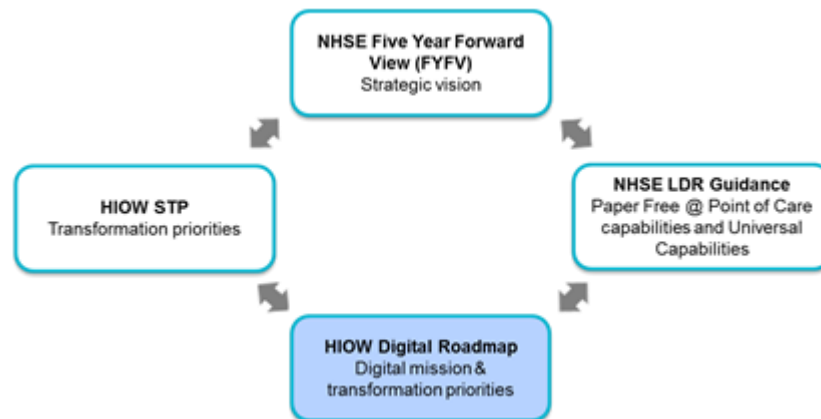


Figure 1: HIOW LDR Strategic Alignment

Current situation

A1.17 As a local health and care system, HIOW is recognised nationally as one of the more digitally developed footprints, with significant system level achievements such as the Hampshire Health Record, as well as many local achievements. This gives us a great platform for which to build upon and maximise future investments faster and easier.

A1.18 Across primary care, all the local CCGs are promoting take-up and utilisation of national strategic systems, and there are established protocols for sharing digital patient information (point-to-point).

- A1.19 For social care, all four Local Authority partners have IM&T strategies and programmes of work underway to improve digital maturity.
- A1.20 According to the recent digital maturity assessment, digital maturity for secondary care across the HIOW footprint is broadly in line with the national average, and better than average in four of the seven PF@POC capability areas.
- A1.21 Progress to date has been constrained locally by a number of factors, such as investment funding, capacity and capability.
- A1.22 The LDR must have a dual focus on putting in place strategic system-wide building blocks and enablers, and supporting different localities and providers to deliver their local requirements for improving digital maturity.

Delivery roadmap

- A1.23 Development and deployment of digital and technology infrastructure capabilities will be achieved through a combination of strategic system-wide initiatives, such as the HIOW Interoperability Programme, and locality-based or organisational change projects and programmes.
- A1.24 Building on the identified digital transformation priorities, a roadmap for the delivery of system-wide transformation has been developed.

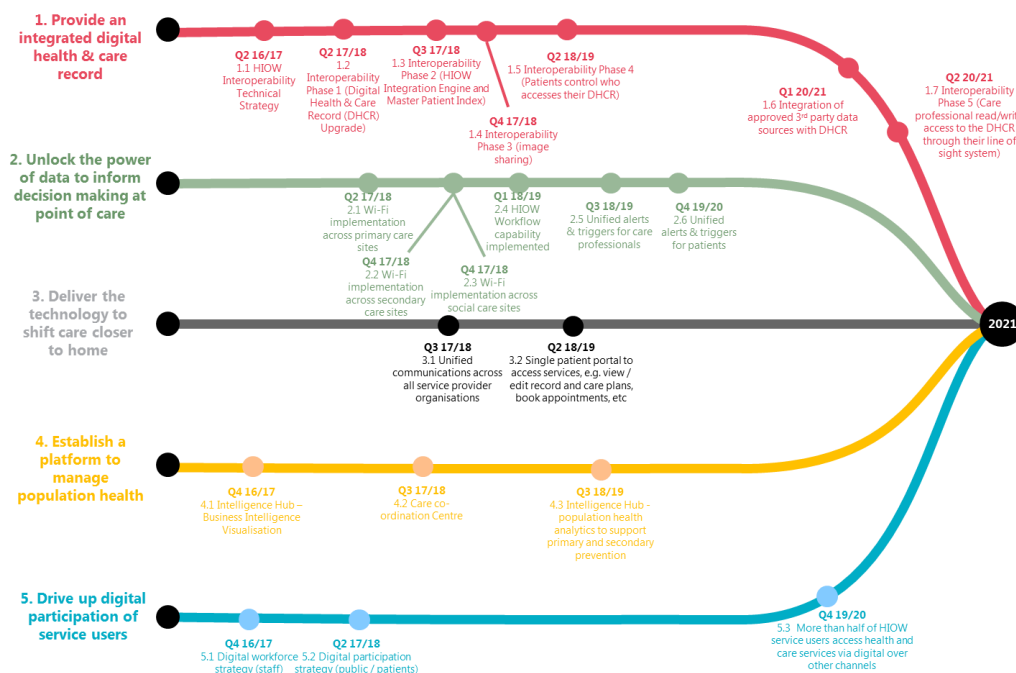


Figure 2: System-wide delivery priorities and milestones

- A1.25 This system level roadmap is underpinned by local delivery plans for achieving identified digital maturity trajectories and enabling infrastructure requirements and plans.

Organising to deliver

- A1.26 At a HIOW level, central shared resources will be required to co-ordinate delivery of the LDR, develop, deliver and drive adoption of HIOW-level strategy, and provide the governance and portfolio management support function to the HIOW Digital Transformation Portfolio Board.
- A1.27 Locally, resource will be required to lead local implementation of HIOW-wide programmes, as well as developing and delivering local change projects and programmes to uplift digital maturity.

- A1.28 To deliver the transformation defined in the STP and LDR, we must ensure adequate time and resource is invested in embedding the changes at the frontline of service delivery. For change to be effective, it requires a balance of leadership and change management techniques and we will use a framework for change that is based on best practice methodologies.
- A1.29 For us to achieve the vision set out in STP and LDR, we will establish a robust benefits identification and management approach to ensure the investments we are making are the right ones and will achieve real value. Realisation of benefits will be pro-actively managed at the change delivery level where the benefits are expected to accrue.
- A1.30 The scale and complexity of the HIOW footprint together with the size of the ambition and required pace of transformation means that significant investment in digital and technology will be required to achieve the desired outcomes and benefits.
- A1.31 Early analysis indicated capital investment of c.£35M and revenue implications of c.£10M per annum would be required to achieve our digital ambition. Focus on this analysis was on the system wide initiatives such as the interoperability and population health programmes with limited funds assigned to individual organisations maturity ambitions.
- A1.32 Without further work to assess detailed bids the total value of additional investment to achieve partner trajectories for digital maturity is in excess of £100m.
- A1.33 Given the level of maturity across the HIOW system around digital information sharing, co-ordinated investment in digital and technology is expected to see rapid advances in capability deployment and the associated benefits' realisation.
- A1.34 As the HIOW STP leadership team determines how best to organise to deliver system-wide transformation, the LDR arrangements, some of which are already in place, will be revisited to ensure full alignment with the overall STP delivery approach.
- A1.35 Funding sources have yet to be confirmed, but we anticipate these will be a combination of local and national sources including local IM&T budgets, local Vanguard programme budgets, the national Sustainability & Transformation Fund, the national Estates and Technology Transformation Fund (ETTF), and the national Driving Digital Maturity Investment Fund (as referenced in the LDR guidance).

B Introduction

B1 Background

- B1.1 NHS England's Five Year Forward View (5YFV, October 2014) sets the context for transformation of healthcare delivery. Many of the changes envisaged are critically dependent on the transformative power of information and technology (summarised as information management and technology (IM&T) throughout this document). One key commitment is that, by 2020, there will be "fully interoperable electronic health records so that patient's records are largely paperless".
- B1.2 In response to the 5YFV, the National Information Board (NIB) has identified a set of IM&T priorities for delivery (in Personalised Health and Care 2020. Using Data and Technology to Transform Outcomes for Patients and Citizens. A Framework for Action, (November 2014)). Amongst its recommendation, the NIB identified the need for "development of local roadmaps for digital interoperability to be published in 2016". Commissioners have been tasked with coordinating the development of LDRs, which form a core component of local STPs.
- B1.3 The health and care system covering Hampshire and Isle of Wight (HIOW) has come together to develop both an STP and LDR for this geographical footprint, representing one of the largest systems in the country – this LDR therefore covers a population of over 2 million people, which equates to c. 3% of the national footprint.
- B1.4 A signed-off LDR is a requirement for accessing national investment funding for technology-enabled transformation. Progress in delivering the commitments and aspirations set out in LDRs will become part of commissioner and provider assurance, assessment and inspection regimes.

B2 Purpose of this document

- B2.1 The purpose of the LDR is to set out the strategic roadmap for digital transformation across HIOW.
- B2.2 Successful delivery of the HIOW STP is critically dependent on the design, implementation and wide-scale adoption of digital and technology solutions for health and care services, and therefore the LDR must align with and be central to the overarching STP.
- B2.3 The LDR is also the vehicle for driving co-ordinated improvement in digital maturity at a local level, so that the HIOW health and care system becomes 'paper-free at the point of care' and achieves the delivery ambitions set out by NHS England.
- B2.4 The LDR focuses on the common themes across the footprint where collaboration is either desirable (e.g. to achieve economies of scale, to share scarce resources, to share best practice) or essential (e.g. cross-organisational data sharing and interoperability), and provides a framework for prioritising investment at a footprint level to maximise the benefits of technology-enabled transformation, whilst also supporting the delivery of existing organisational IM&T strategies and plans.

B3 LDR Scope

- B3.1 The HIOW LDR footprint includes the following partner organisations:

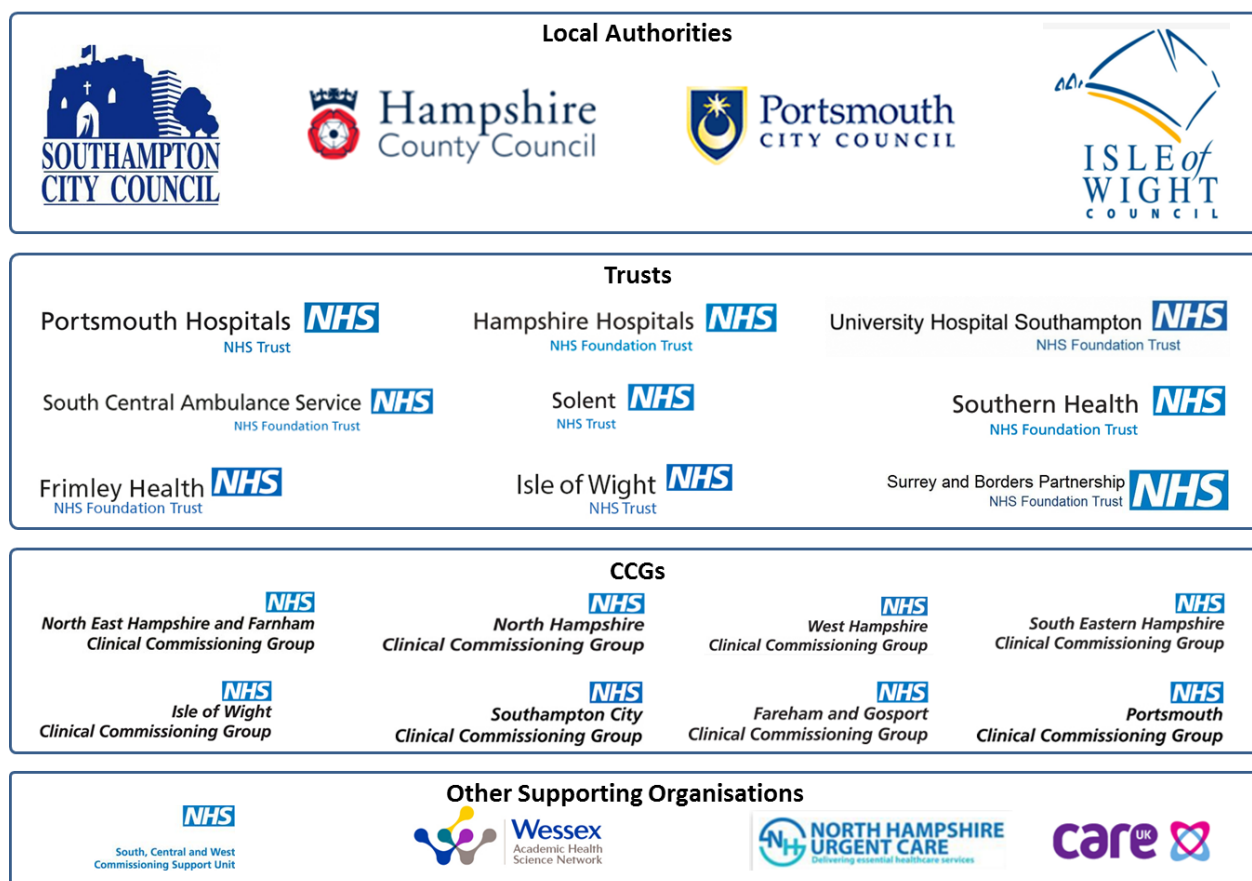


Figure 3: HIOW Partner Organisations

- B3.2 These partner organisations have come together to provide collective leadership for digital transformation across HIOW, achieved through a joint HIOW Digital Transformation Portfolio Board. Representatives of partner organisations on the Portfolio Board are detailed in Annex 9.
- B3.3 In addition to the partner organisations, a wide range of stakeholder groups and representatives have been engaged and provided inputs to the development of this LDR, including voluntary organisations and other service providers, amongst others.
- B3.4 It should be noted that, whilst building on pre-existing IM&T strategies and plans, this is the first LDR for HIOW. As such, it is not necessarily comprehensive and will need to be refined and expanded in subsequent iterations.

B4 Our approach to developing the LDR

- B4.1 The HIOW Digital Transformation Portfolio Board have been responsible for bringing together thinking from across the footprint and provide collaborative leadership for developing and agreeing the local digital ambitions and roadmap for delivery.
- B4.2 The Portfolio Board is supported by a Design Authority, a Procurement Sub-group and five Sub-portfolio Boards responsible for developing locality plans for digital transformation and co-ordinating inputs to the LDR across five localities:
- Isle of Wight
 - North Hampshire

- North East Hampshire & Farnham
- South East Hampshire
- West / South West Hampshire

B4.3 Figure 4 shows the high level process we have been through to develop the LDR.

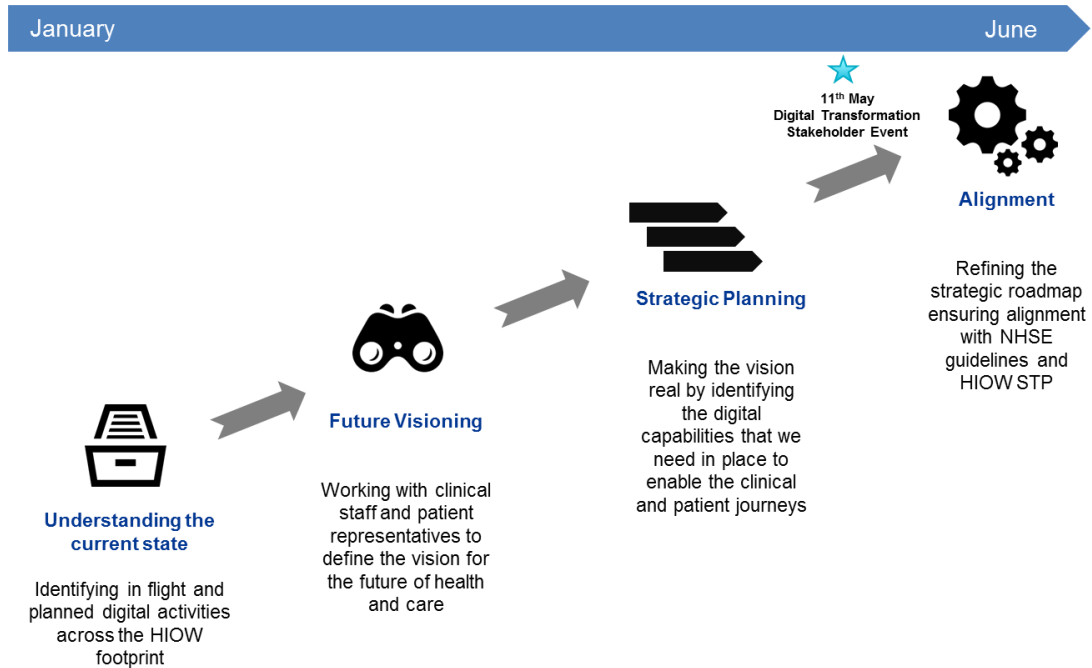


Figure 4: LDR Development Process

B4.4 We have followed a four stage process:

1. **Understanding the current state:** through engaging with sub portfolios, we have established a view of where organisations are on their digital journey, their current priorities and aspirations for change;
2. **Future visioning:** we have worked with our stakeholders to identify and agree our 5 year ambition for digital within HIOW including, at a high level, our priorities for delivering this;
3. **Strategic planning:** through the use of workshops and meetings with our stakeholders we defined a strategic roadmap detailing the key digital capabilities required over the five year period to achieve our vision; and
4. **Alignment:** throughout the development of the LDR we were engaged with the STP team and NHSE to ensure alignment of key priorities. Time was also spent pre final submission to ensure key points had been captured.

B4.5 This process has involved significant stakeholder engagement, and during the LDR development process we have held six Portfolio Board sessions, 26 Sub Portfolio Board sessions and over 100 one on one stakeholder interviews.

B4.6 In May 2016 we held a Digital Transformation event with over 170 clinical, patient representatives, provider and commissioning staff invited representing over 40 organisations. This was the first time all stakeholders from HIOW had come together to discuss digital transformation and was their opportunity to review and provide further input into the roadmap.

C Strategic Context

C1 LDR Strategic Alignment

- C1.1 The HIOW LDR brings together the emerging thinking from the STP as well as the capabilities that have been prioritised within the national guidelines.
- C1.2 Figure 5 shows how the LDR links into the transformation priorities coming out of the STP as well as the PF@POC capabilities, both of which align to the NHSE FYFV.

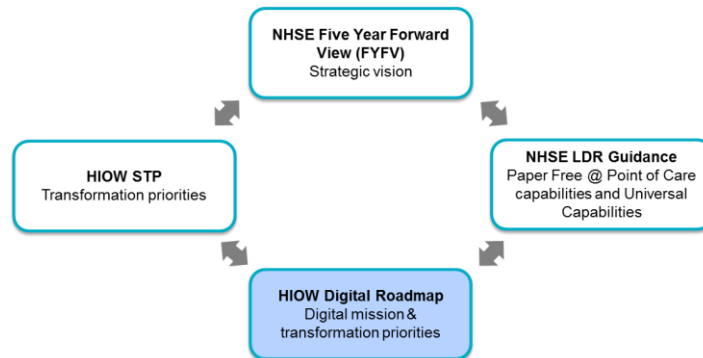


Figure 5: LDR Strategic Alignment

C2 HIOW Sustainability & Transformation Plan (STP)

- C2.1 All local health and care systems in England are required to produce a strategic Sustainability & Transformation Plan (STP), showing how local services will evolve and become sustainable over the next five years – ultimately delivering the 5YFV vision and addressing the identified gaps in care and quality, finance and efficiency, and health and wellbeing.
- C2.2 The draft STP for the HIOW footprint sets out an ambition to help HIOW citizens to lead healthier lives, by promoting wellness in addition to treating illness, and supporting people to take responsibility for their own health. It aims to ensure that HIOW citizens have access to high quality care 24/7, as close to home as possible.

The draft STP has identified key challenges that need to be addressed locally over the next five years. For detail, please see Figure 6.



Figure 6: HIOW Health & Care system challenges

C2.3 In response to these challenges the draft STP identifies five transformation priorities that the HIOW system will focus on over the next five years. These are summarised in Figure 7.

- 1 We will improve the health and wellbeing of our population by investing in infrastructure and people development, and focusing on targeted interventions to deliver **prevention** and **early identification** and to promote **self-management**.
- 2 We are accelerating the development of **new models of care** that are already being established in our communities to deliver care around the needs of the person as close to home as possible, and ensure the sustainability of primary care.
- 3 We will **simplify our acute services**, pulling specialists into our new models of care; reducing the unnecessary steps that people go through to access the right care in both community and hospital settings.
- 4 We will address the sustainability and quality issues of our secondary physical and mental health services by working collaboratively in an **alliance model** across acute care and mental health providers in HIOW.
- 5 We will **improve health and care services for people with learning disabilities**, empowering people to live fulfilling lives in the most independent setting possible.

Figure 7: STP transformation priorities

- C2.4 The STP proposes fundamental changes to the way the HIOW health and care system operates, including organisational changes. The business and operational landscape in five years' time will look very different, and will require different digital capabilities to support and enable this future vision.
- C2.5 The STP identifies four additional priorities for developing the core system-wide capabilities required to deliver and sustain these transformational changes:
- i. We will work as one HIOW system to manage our staffing, recruitment and retention, and to develop a one HIOW workforce strategy to ensure that we have the skills and capabilities necessary to support our goals;
 - ii. We will redesign the access points to health and care into a consolidated "front door" and care coordination centre that simplifies access to care and fosters a culture of self-management and self-care;
 - iii. We will invest in the digital services and technology infrastructure required to support our future health and care system and new ways of working; and
 - iv. We will transform commissioning to support our new models of care and reduce the complexity and cost of the way we currently commission services.
- C2.6 The STP therefore recognises that significant investment in digital and technology is critical to its successful delivery.
- C2.7 Section C4 sets out the HIOW digital ambition and strategic priorities that will underpin delivery of the STP transformation priorities.
- C2.8 Every effort has been made to align the digital ambition and strategic priorities with the current thinking emerging from the STP. As this thinking develops and the implications are further understood, the priorities and plans to achieve them will need to be revisited. As new models of care emerge, individual organisation digital ambitions may change and this will need to flow back through the LDR. As a specific example, early thinking around an acute alliance has prompted a commitment to work towards a common acute IM&T strategy.

C3 Paper Free at Point of Care (PF@PoC) Capabilities

- C3.1 NHS England has outlined an ambition to achieve Paper-free at Point of Care by 2020 and identified seven capabilities to deliver this:
- Records, Assessments and Plans
 - Transfers of Care
 - Decision Support
 - Orders and Results Management
 - Medicines Management and Optimisation
 - Remote Care
 - Asset and Resource Optimisation
- C3.2 Within these capability areas, NHS England has identified 10 universal capabilities, for which local health and care systems are expected to make early progress on, demonstrating clear momentum in 16/17 and 17/18.

PF@POC Capabilities	Universal capabilities (16/17 and 17/18 delivery priorities)		
Records, Assessments and Plans	Professionals across care settings can access GP-held information on GP-prescribed medications, patient allergies and adverse reactions	Clinicians in urgent and emergency care settings can access key GP-held information for those patients previously identified by GPs as most likely to present (in U&EC)	Patients can access their GP record
Transfers of Care	GPs can refer electronically to secondary care	GPs receive timely electronic discharge summaries from secondary care	Social care receive timely electronic Assessment, Discharge and Withdrawal Notices from acute care
Decision Support	Clinicians in unscheduled care settings can access child protection information with social care professionals notified accordingly	Professionals across care settings made aware of end-of-life preference information	
Medicines Management and Optimisation	GPs and community pharmacists can utilise electronic prescriptions		
Remote Care	Patients can book appointments and order repeat prescriptions from their GP practice		
Orders and Results Management	None defined		
Asset and Resource Optimisation	None defined		

Figure 8: Alignment of PF@POC Capabilities and Universal Capabilities

- C3.3 These universal capabilities form a core component of the digital transformation priorities and, in most cases, align with and underpin the delivery of the system-wide digital and technology requirements needed to deliver the HIOW STP transformation priorities.
- C3.4 Development and deployment of each capability across the HIOW health and care system will be achieved through a combination of strategic system-wide initiatives, such as the HIOW Interoperability Programme, and locality-based or organisational change projects and programmes.
- C3.5 Different localities and organisations within the HIOW health and care system are at different stages of digital maturity in terms of deployment of these capabilities (see Section D).
- C3.6 Therefore, local delivery plans that feed into the overall LDR will vary in scope and sequence depending on baseline maturity positions and the scale and pace of change required to achieve national and local ambitions (see Section E).

C4 Our LDR ambition and digital transformation priorities

- C4.1 The HIOW digital ambition is to *empower the public, patients, care providers and commissioners to improve the health and care of people in the HIOW region through digital transformation*
- C4.2 We will achieve this by delivering five digital transformation priorities over the next five years:



Figure 9: HIOW LDR digital transformation priorities

- C4.3 By delivering these digital transformation priorities we will support and enable delivery of the HIOW STP, underpinned by the development and deployment of the PF@POC capabilities at a local level across the HIOW footprint.

D Current situation

D1 Digital maturity

- D1.1 Over the past 6 months, there has been a national drive to better understand the digital maturity of health and care systems in England across a range of digital and technology capabilities.
- D1.2 There is a direct correlation between digital maturity and the performance of organisations. A boost in digital maturity will inevitably increase organisations' ability to deliver better health and care.
- D1.3 This section summarises the key findings of the digital maturity assessments (DMA) completed for primary, secondary and social care across the HIOW footprint.

Primary Care

- D1.4 All of the CCGs within our footprint are promoting the take up and utilisation of national strategic systems such as Summary Care Record (SCR), e-Referrals, GP2GP, Electronic Prescription Service (EPS2) and Patient Online, to enable more integrated care across all care settings and achieve operational benefits for patients and clinicians.

- D1.5 The Wi-Fi network currently deployed is limited and not connected to the practice network. It is our ambition to upgrade this network to enable Wi-Fi access for patients and NHS staff (visiting and non-visiting) and safe connectivity of third party systems.
- D1.6 All national systems (EMIS, TPP, EPS, GP2GP) are hosted in TIER3 data centres and some central services have been hosted from facilities at St James Hospital and the Royal South Hants Hospital. However, local files are still hosted at the surgeries for personal and practice shared folders.
- D1.7 All local GPs and providers of health & social care sharing patient digital information have agreed to a consistent information sharing model (including common consent protocols).

Social Care

- D1.8 All four of the local authorities within the HIOW footprint completed and submitted a response to the digital maturity assessment (DMA). There is a large amount of work underway within the authorities, with digital strategies being established and implemented. Our ambition within HIOW is to increase collaboration with the Local Authorities and deliver health and care initiatives together. Early DMA results have provided us with the following information:
- D1.9 Within Hampshire County Council (HCC), significant work has been done to move adult and children's social care records online. However, more work needs to be done to allow care professionals to access and update the record at point of care. A digital strategy has been developed and a programme is underway to build on the information they have already and enable easy access to the information care professionals need at point of care. The NHS number is already used within Adult Social Care, however, further work is required to establish how the NHS number can be used in Children's Social Care as this is currently a blocker for integrating records.
- D1.10 Capabilities delivered by HCC so far have enabled integrated working between teams. With a strong foundation built, the focus of the digital strategy moves towards online access and electronic updating of information. Examples include:
- Notifications and alerts to specific client risks for alerting professionals outside the organisation.
 - The use of assistive and new technologies to enable self-care including the ability to write back to the personal record.
 - Sharing of child protection information to be with unscheduled care settings.
- D1.11 Portsmouth City Council are currently developing their blueprint for health and care and are looking at information sharing between adult and children's social care with other providers.
- D1.12 Similarly, Southampton City Council's digital strategy focuses on enabling more self-service to shift care closer to home.

Secondary Care

- D1.13 According to the Digital Maturity Assessment (DMA) results, digital maturity for secondary care across the HIOW footprint is broadly in line with national average scores, and in four of the seven PF@POC capability areas are slightly better than average see figure 10.¹

¹ It should be noted that there has been no read-across of DMA scores and therefore direct comparison of scores may be misleading.

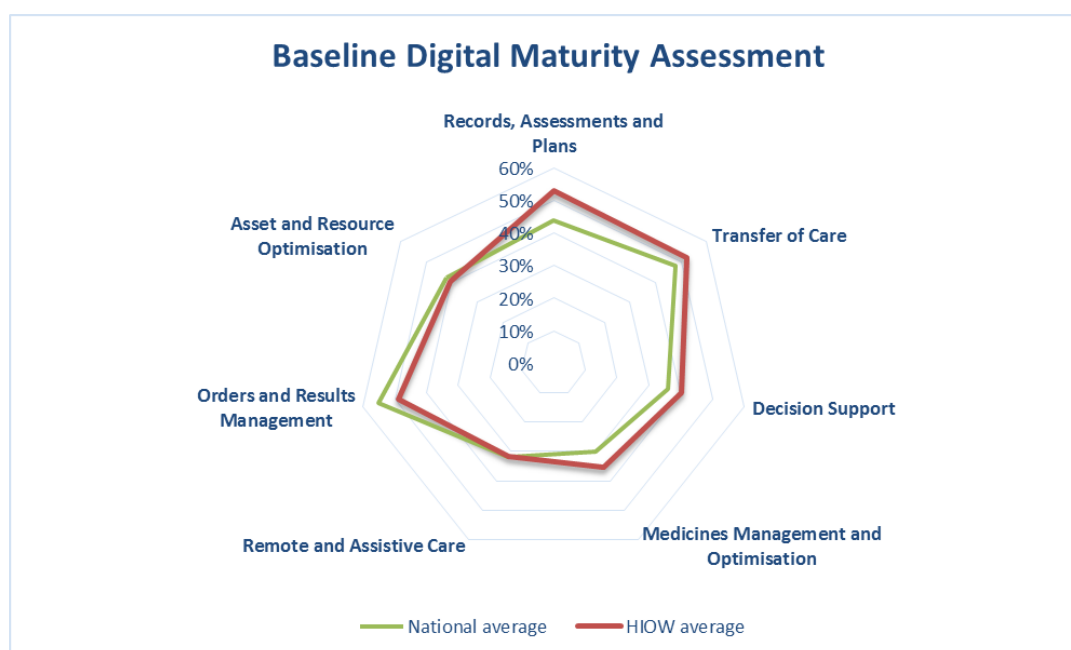


Figure 10: Comparison between national and HIOW digital maturity baselines

- D1.14 Whilst this indicates the HIOW footprint is one of the more digitally mature footprints in England, average scores across the capabilities are in the range of 40 – 55%, showing there remains significant room for improvement.
- D1.15 These variations indicate different starting positions in different localities and organisations in terms of the scale and pace of change required to uplift digital maturity across the footprint to enable us to achieve our strategic priorities at a HIOW level.
- D1.16 The LDR must therefore have a dual focus on putting in place strategic system-wide building blocks and enablers, and supporting different localities and providers to deliver their local requirements for improving digital maturity.

Secondary Care - Acute Trusts

- D1.17 When compared with national baseline digital maturity against the seven PF@POC capabilities, acute trusts in the HIOW footprint² exceed the national average for two domains; orders and results management, and medicines management and optimisation (see figure 11).
- D1.18 The footprint is broadly in line within national averages (within 5%) for records, assessments and plans and decision support. However, there remains a gap to be filled across the three remaining capabilities: asset and resource optimisation; remote and assistive care and transfer of care. Further detail of projects planned to achieve these capabilities are outlined in Annex 7 Master Portfolio List.

² Isle of Wight NHS Trust has been included as an acute provider, however it should be noted that this trust is unique in England, combining acute, community, mental health and ambulance health care

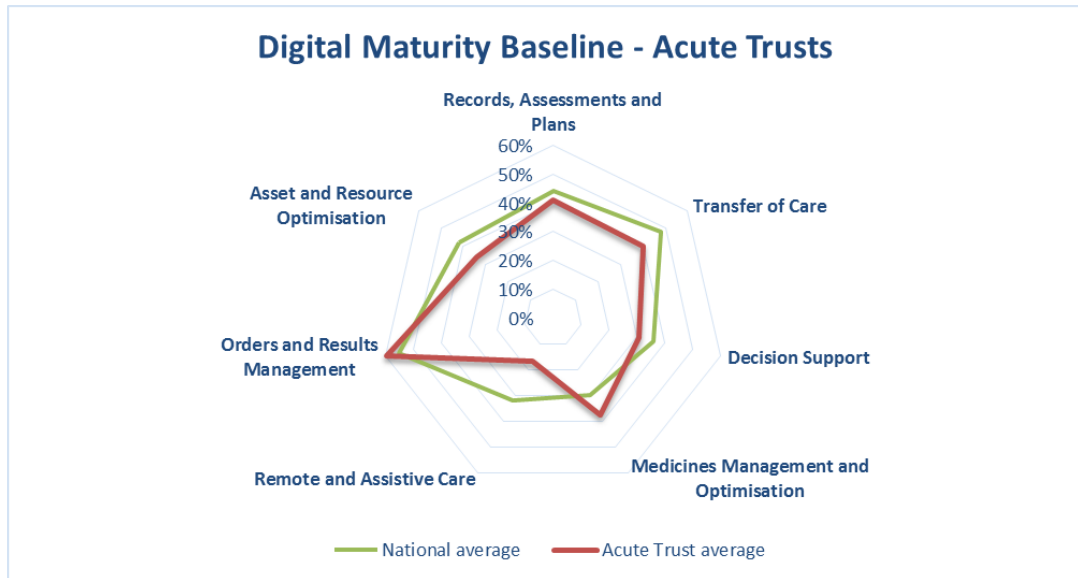


Figure 11: Comparison between national digital maturity baseline and HIOW acute trusts

- D1.19 There is substantial variation in baseline digital maturity between the acute providers in the HIOW footprint across all seven PF@POC capabilities (figure 12).
- D1.20 Records, assessments and plans and orders and results management are the most well developed capabilities across all acute providers in HIOW, whilst transfer of care and remote and assistive care show significant variation in maturity between providers.

Trust Name	Records, Assessments and Plans	Transfer of Care	Decision Support	Medicines Management and Optimisation	Remote and Assistive Care	Orders and Results Management	Asset and Resource Optimisation
Frimley Health NHS Foundation Trust	27%	36%	33%	3%	17%	84%	80%
Hampshire Hospitals NHS Foundation Trust	52%	70%	30%	63%	0%	69%	30%
Isle of Wight NHS Trust	48%	0%	46%	50%	0%	28%	0%
Portsmouth Hospitals NHS Trust	24%	16%	8%	0%	8%	34%	10%
University Hospitals Southampton NHS FT	54%	79%	36%	72%	58%	83%	50%
Acute Trust average	41%	40%	31%	38%	17%	60%	34%
HIOW average	53%	52%	40%	35%	32%	49%	40%
National average	44%	48%	36%	30%	32%	55%	42%

Figure 12: Digital maturity baselines of HIOW acute trusts against seven PF@POC capabilities

Secondary Care - Ambulance Trusts

- D1.21 South Central Ambulance Service (SCAS) is the provider of ambulance services across Hampshire, whereas these services on the Isle of Wight are provided by the combined IOW NHS Trust (see acute trust analysis).

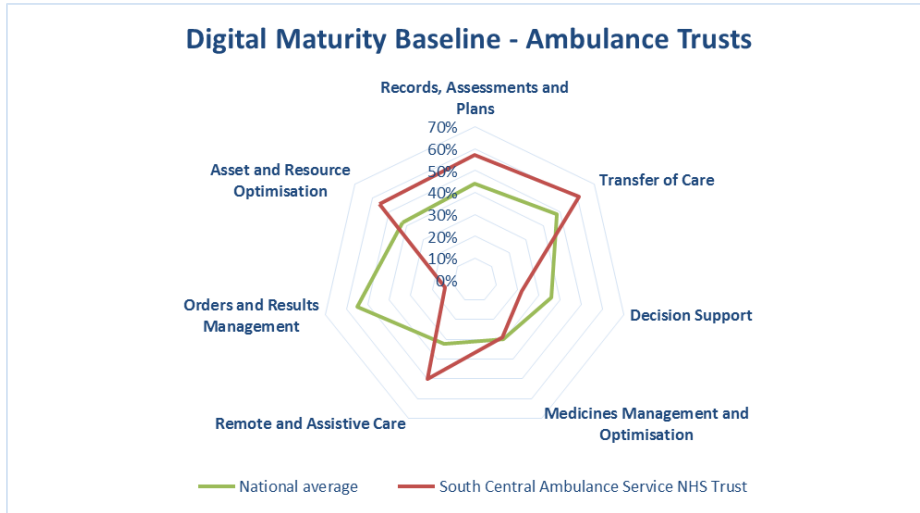


Figure 13: Comparison between national digital maturity baseline and HIOW ambulance trusts

Trust Name	Records, Assessments and Plans	Transfer of Care	Decision Support	Medicines Management and Optimisation	Remote and Assistive Care	Orders and Results Management	Asset and Resource Optimisation
South Central Ambulance Service NHS Trust	57%	61%	22%	29%	50%	14%	56%
HIOW average	53%	52%	40%	35%	32%	49%	40%
National average	44%	48%	36%	30%	32%	55%	42%

Figure 14: Digital maturity baselines of HIOW ambulance trusts against seven PF@POC capabilities

Secondary Care - Community and Mental Health Trusts

D1.22 There are four community and mental health trusts³ in the HIOW footprint. On average, these trusts exceed the national average across all PF@POC capabilities with the exception of orders and results management (see figure 15).

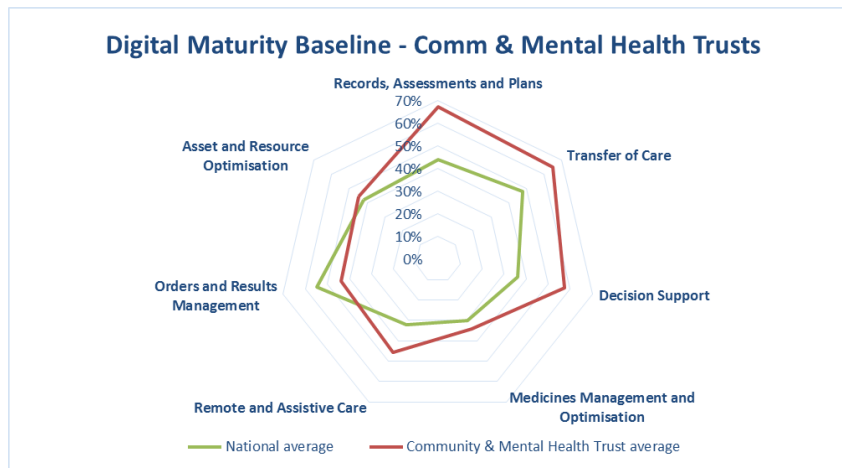


Figure 15: Comparison between national digital maturity baseline and HIOW community and mental health trusts

³ Isle of Wight NHS Trust has been included as an acute provider, however it should be noted that this trust is unique in England, combining acute, community, mental health and ambulance health care

Trust Name	Records, Assessments and Plans	Transfer of Care	Decision Support	Medicines Management and Optimisation	Remote and Assistive Care	Orders and Results Management	Asset and Resource Optimisation
Care UK	81%	88%	100%	88%	58%	75%	63%
Solent NHS Trust	58%	65%	68%	34%	33%	63%	35%
Surrey and Borders Partnership NHS FT	45%	58%	43%	8%	42%	0%	45%
Southern Health NHS Foundation Trust	84%	49%	18%	6%	50%	38%	35%
Community & Mental Health Trust average	67%	65%	57%	34%	46%	44%	45%
HIOW average	53%	52%	40%	35%	32%	49%	40%
National average	44%	48%	36%	30%	32%	55%	42%

Figure 16: Digital maturity baselines of HIOW community and mental health trusts against seven PF@POC capabilities

D1.23 There are substantial variations in baseline positions across organisations and capabilities in the footprint. It is necessary therefore to focus simultaneously on ensuring the building blocks to develop digital maturity are in place for individual organisations whilst focusing on the strategic priorities at a HIOW level to achieve digital transformation.

D2 Recent achievements

HIOW Footprint level

D2.1 At a system level, the Hampshire Health Record (HHR) provides a well-established shared care record and data repository, which we continue to develop. One of the UK's longest running shared care records, the HHR provides a single source of information from a multitude of different health and care systems across the county.

D2.2 The HHR currently enables 172 GP practices, three acute hospitals, two community and mental health Trusts, South Central Ambulance Service and adult social care to share information for 1.9M patients in Hampshire.

D2.3 Critical to the HHR's success has been the integration with emergency and out of hours services ensuring that key information to support clinical decisions is always available:

- Patients are supported to receive the right treatment, in the right place by the right health care professional. Emergency services can then ensure care is managed in accordance with each patient's care plan.
- By providing better information at the point of care, HHR has enabled improvement in the speed and quality of care delivered, a reduction of unnecessary referrals and admissions and a reduction in the number of repeat tests carried out. It has also reduced the length of stay for patients that are admitted to hospital.

D2.4 Building on the successes of the HHR, Providers, Local Authorities and CCGs across the footprint have come together to form a collaboration group to ensure strategic alignment and provide collective leadership for digital transformation across HIOW. Refer to Section F for more details.

D2.5 In addition to the HHR, there have been a number of projects delivered that have had a significant impact across a large section of the HIOW footprint:

- A project for South Central Ambulance Service (SCAS) to enable access to the HHR via single sign on is also nearing completion. This will allow 999 and 111 call handlers to directly access HHR data, including real time searching and customised 'flags'. The scope of this extends across SCAS' extensive coverage within HIOW.
- In April 2016, Southern Health (SHFT) implemented single sign on from their EPR systems to the SCR. Since go live in April, the SCR has been accessed nearly 2,500 times by 1,000 members of staff, with the functionality being used extensively by the pharmacy team.

- 110 GP practices have been activated to receive electronic correspondence (Electronic Discharge summaries) across North and West Hampshire, Fareham and Gosport, South East and Southampton areas from SHFT. Adult mental health inpatient wards / units have all been set up on the system. The functionality is being rolled out to community and older persons mental health wards.
- SHFT has delivered instant/video messaging software to staff across the organisations extensive geography. The reduction in travel and improvement in communication has been widely recognised by the organisation.
- SHFT completed a successful merge of the three versions of RiO in 2015, resulting in a single clinical record across the Trust used by Adult Nursing and Therapies, Mental Health and Learning Disabilities. Over 850,000 patients now have their record within the system.
- HCC have developed a digital strategy to articulate the Council's ambition, vision, and objectives. It identified an agile Council in the future that works across the organisation using digital tools and insightful information to deliver user centric services, wherever possible through self-service.
- An App for young people to hold their health information and manage their on-going health and social care contacts and appointments has been developed. The app was developed with the Children In Care team and young people.
- SHFT has delivered business intelligence software for data visualisation which has enabled a suite of tools to be provided to front line services. Examples of use include unscheduled care dashboards bringing together patient level acute and community information to enable integrated primary and community teams to effectively manage patients that intensively use services across care settings.
- Mobile working has been delivered to over 3,000 SHFT staff who routinely access information and records at the point of care. The mobility programme is actively pursuing the replacement of some laptop devices with tablet technologies

North East Hampshire and Farnham

- D2.6 Recent achievements include the rationalisation of all GP systems across the NEH&F locality, with majority of the GP practices now using the EMIS system and the remainder to be migrated by Q3 16/17.
- D2.7 The implementation of EMIS GP data viewer at Frimley Park Hospital has meant that nurses and consultants within A&E are able to view GP-held patient data. Anticipated benefits include admission avoidance and providing allergy information.
- D2.8 GP practices are now uploading GP-held patient data into the HHR and viewing records via single sign on within EMIS. North Hampshire Urgent Care are also now able to view this data through the implementation of GP data viewer via Adastral (also by single sign on).
- D2.9 The rollout of DXS Point of Care to all practices provides supporting clinical information about care pathways in our CCG triggered from within EMIS during relevant consultations.
- D2.10 The procurement of EMIS Enterprise to enable remote analysis of member practices' performance in agreed areas (e.g. Local Service Contract (LSC) reporting, medicines management)

North Hampshire

- D2.11 Successful trial of a flexible systems access solution which has allowed teams from Hampshire County Council (HCC), Southern Health and GPs within North Hampshire to work across the different sites in the region.

- D2.12 The development of a primary care information hub under the “North Hampshire Clinical System Umbrella service” centred on EMIS and the HHR to connect GPs with the Integrated Care teams, Out of Hours service and GP led ED Front-Door service.
- D2.13 HHFT has taken an innovative approach to achieving a high level of digital maturity. The latest development is to allow clinical staff to capture vitals information and flag when patients are at risk so that they can receive appropriate care. This has been done at significantly lower cost to similar systems. A pilot project is planned to test the rollout within a community hospital to help eliminate unnecessary admissions.
- D2.14 HHFT has developed a contact form which allows Clinical Nurse Specialists to record all contacts with patients, including where patients have open access arrangements. The form can be electronically sent to the GP automatically and will put an alert on the ePR. The development has significantly reduced admissions and has been short listed for a 2016 Nursing Times Award for technology innovation.
- D2.15 Following the SHFT Lync rollout, the use of Lync has been extended to GP practices in the North of Hampshire to enable MDT meetings to take place remotely. Pilots are currently underway to support electronic consultations with patients within the perinatal and diabetes services.

Isle of Wight

- D2.16 The Isle of Wight is unique in England in that it operates a combined NHS Trust providing acute, community, mental health and ambulance Services. Through the Vanguard programme, My Life a Full Life, the island has a well-developed digital health and care environment involving the Isle of Wight Council, Clinical Commissioning Group, NHS Trust and GPs.
- D2.17 The Acute Trust is now paperless in several outpatient areas. The Wards have adopted an electronic observation system and nurses are using tablets and touch screen laptops to capture observations and other information using the E-form capability within the ePR. The E-forms have been utilised to send Social Care referrals and Community nursing referrals and these are picked up by the receiving staff who access the ePR.
- D2.18 As part of My Life a Full Life, a full requirement scoping exercise has taken place to capture the integration needs between NHS IOW and IOW Council and the Voluntary Sector. The solution proposed enables a shared record for health and social care via an Information Sharing Platform and links the main three ePRs used on the Island across Health and Social Care enabling a seamless approach to delivery of care.
- D2.19 In January 2016, IOW CCG launched an International Normalised Ratio (INR) self-monitoring service pilot for patients on warfarin. Patients on long term treatment can self-test at home, and receive the appropriate dose via anticoagulation dosing software.

West/South West Hampshire

- D2.20 The University Hospital Southampton (UHS) development of My Medical Record has been a significant achievement in this region. UHS patients are able to access their record, cancel and rebook appointments and share information with the clinician online. The software uses a cloud based architecture and is not bound solely to UHS. My Medical Record is already deployed across multiple trusts through relationships with Prostate Cancer UK (Movember) and Macmillan which is a joint development with Liverpool. The business case shows a number of win-win benefits including demand management (reduction in activity).
- D2.21 Under the Integrated Digital Care (IDCR) technology fund and Safer Wards fund, UHS is rolling out a patient observations monitoring system where vital signs data for any level of acuity reside in a single platform, including Level 3 intensive Care. This demonstrates a high level of integration and an innovative approach to deliver total continuity of data through any hospital spell.

- D2.22 South West Hampshire has for many years shared a single patient record through the same Patient Administration System (PAS) and still runs a combined library for paper notes. The IDCR tech fund II has enabled this approach to be taken forward into electronic records with a project for an area wide Electronic Document Management System (EDMS).
- D2.23 UHS is highly integrated, and is one of few acute hospitals to have delivered full order communications and electronic prescribing. It uses integration engine technology extensively, and has application single sign-on which is regularly quoted as best practice for access to shared records with the connection to the Hampshire Health Record.
- D2.24 Adult nursing and therapies team within the New Milton Area have migrated to TPP SystemOne to enable a fully integrated read write record with primary care.
- D2.25 Solent has rolled out a trust wide ePR (TPP's SystemOne) to all services barring Dental and Sexual Health. This has included all services that were on the legacy Rio platform as well as any remaining services that were operating outside of the previous clinical systems.
- D2.26 Solent has rolled out new IT infrastructure to support mobile working, including the pilot for the use of TPP mobile to support disconnected working.
- D2.27 Solent is nearing the completion of the handover of its IT services and support to CGI, this has involved a complete refresh of all server and user devices and a complete network redesign. Work is now underway to agree how Solent will work with partner organisations across the network.

South East Hampshire

- D2.28 Portsmouth Hospitals has worked with a supplier to develop a chronic obstructive pulmonary disease (COPD) app, delivering pulmonary rehabilitation in patients' homes and allowing patients to monitor their symptoms, learn inhaler technique, review and update their management plan. It enables hospital-based clinicians to view real-time patient symptom data and to intervene if necessary.
- D2.29 Portsmouth Hospitals has conducted a pilot of the use of Skype for patient consultations to enable remote care.
- D2.30 Portsmouth Hospitals has supported commercial supplier The Learning Clinic in developing their VitalPAC applications to enable vital signs monitoring of hospital inpatients with automated alerts and to support multiple nursing assessments.
- D2.31 Portsmouth Hospitals has initiated the eHospital Portsmouth programme to define, procure and implement an integrated electronic medical record (EMR) solution across all its hospital services. As well as reducing risks for patients and increasing the efficiency of the hospital, this will enable it to play a full part in planned interoperability initiatives to support patient-centric care.
- D2.32 Portsmouth Hospitals has an innovative approach to infrastructure renewal and is at the vanguard of NHS organisations in its development of both virtual server and virtual desktop environments. The latter, which benefitted from national Technology Fund monies, enables clinicians to tap-and-go with smart-cards, so they can switch between desktop devices without long log-in waits.
- D2.33 Solent's work across West/South West Hampshire also covers South East Hampshire.

D3 Rate limiting factors

- D3.1 As described in section D1, the current digital maturity across the footprint is variable and shows that different localities and provider organisations have progressed at different rates.
- D3.2 There are a range of factors that will affect the rate of progress across the system:

Funding

- D3.3 To date, there has been relatively little funding available to support digital transformation, and uncertainty about availability of future funding as a system has hindered the prioritisation of large system-wide transformational initiatives.
- D3.4 In addition, providers are faced with a significant challenge around allocating capital funding to boosting digital maturity. For example, Portsmouth Hospitals is a private finance initiative (PFI) trust and under its contract must pass most of its annual capital funding to its PFI provider.
- D3.5 Solent has made significant investment in both effort and budgetary terms to support the modernisation and stabilising its IT infrastructure. Funding to support future change is limited and the managed service arrangement with CGi will have to be taken into consideration when supporting any future work.

Information Governance

- D3.6 Through use of the HHR, there has been good progress with tackling information governance challenges. However, there are still further challenges that need to be overcome in order to improve the way that we share information between different health and care professionals.
- D3.7 In addition, there will be future challenges around the ambition to use information to drive population health management and decision support for front line care.

Geographical challenges

- D3.8 The wide geographical spread and sheer number of stakeholders across our footprint causes challenges in developing a common vision and strategy which all parties can agree to. Achieving a consistent level of engagement and keeping all organisations updated will remain a challenge.
- D3.9 In addition, achieving communication and alignment (where appropriate) across footprint borders will remain a challenge (e.g. Dorset, Surrey and Sussex). In particular the link with the Frimley footprint is key with the population of North East Hampshire and Farnham CCG utilising services across this border.
- D3.10 The nature of the geographical spread and variety of organisations means that there may be technical (i.e. different Wide Access Networks (WANs)) and security issues hindering cross organisational working.
- D3.11 HIOW has a mix of rural and urban areas with varying levels of connectivity and access to public services and/or transport. Reaching all parts of the population geographically and demographically, particularly ensuring engagement with harder to reach communities, will be both a challenge to overcome and an opportunity to exploit for digital.
- D3.12 In order to achieve the ambition set out in this LDR, the system has already started by adopting a portfolio approach and putting in place a system wide governance group, see section F.

Capacity and expertise to deliver

- D3.13 We have a significant challenge across the system in resource and capacity to deliver digital transformation, with an increasing resource gap causing a stretch on the demands of health and care professionals. To date this has meant that focus has been on providing the best care possible and deprioritising the boost of digital maturity and transformation. In order to accelerate digital transformation, the system will need to significantly increase its capacity to deliver.
- D3.14 Although the footprint boasts significant digital leadership and expertise it recognises that additional specialist expertise will need to be sought. For example external expertise to support the development of the technical strategy and architecture is required immediately.

E Delivery Roadmap

E0 System-wide transformation

- E0.1 Building on the identified digital transformation priorities (see Section C), a roadmap for the delivery of system-wide transformation has been developed.
- E0.2 Figure 17 sets out the key delivery milestones we aim to deliver at a HIOW system level over the next five years.

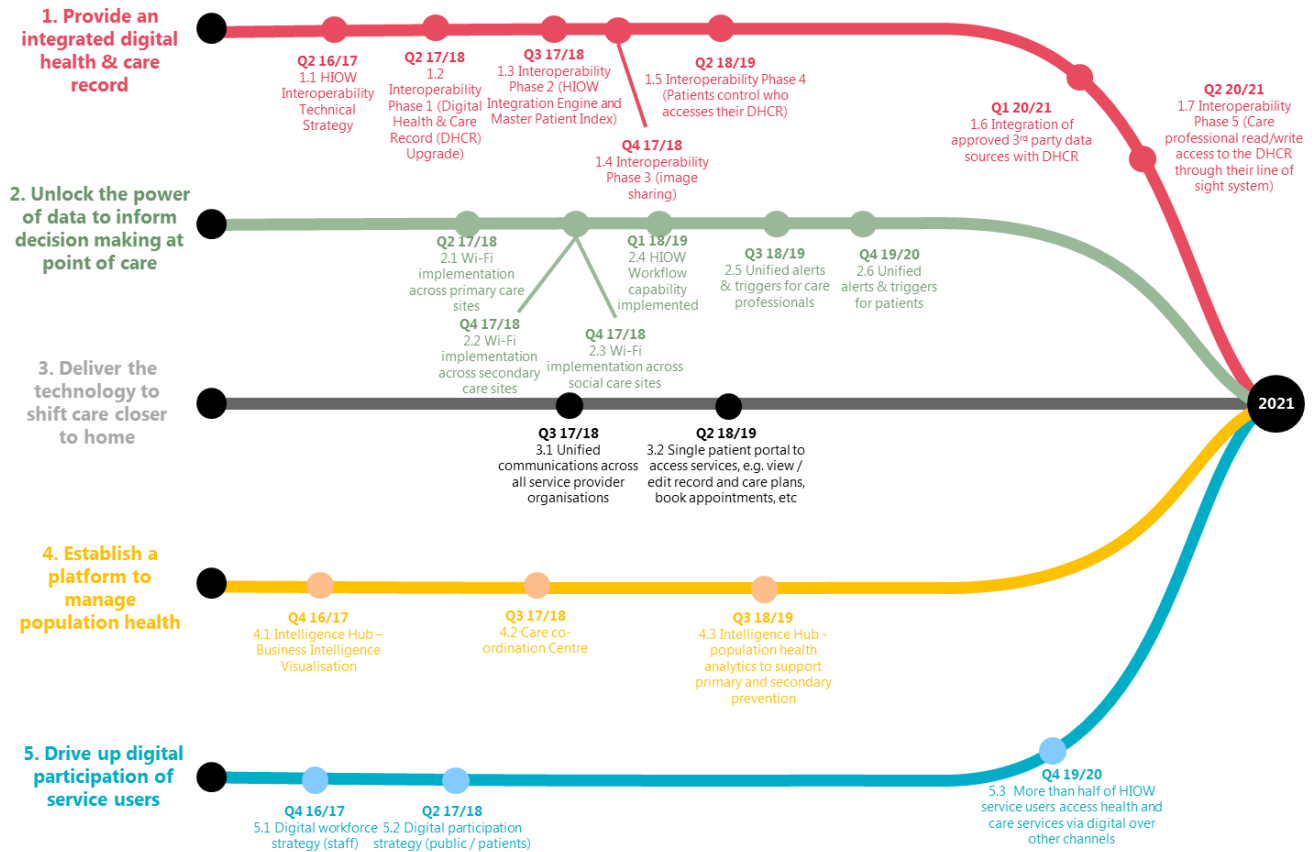


Figure 17: System-wide priorities and milestones

- E0.3 This system level roadmap is underpinned by local delivery plans for achieving identified digital maturity trajectories, as set out in Section E2, and enabling infrastructure requirements and plans, which are outlined in Section E6.
- E0.4 Together, these co-ordinated system and local level delivery plans will enable and support delivery of the HIOW STP.
- E0.5 Sections E1 to E5 describe each digital transformation priority and the associated system level delivery milestones.

E1 Provide an integrated digital health & care record (DHCR)

- E1.1 Over the past few years in HIOW, we have made significant steps in moving towards having an integrated digital health & care record. Through the HHR, we have an existing data repository of patient information which is currently being used by multiple organisations involved in the health and care of the patient.

- E1.2 However, much work needs to be done in order to move towards our ambition of having a truly integrated digital health and care record and we need to take advantage of the investment that we have already made in the HHR.
- E1.3 In addition, we will review the feasibility of implementing the HHR on the Isle of Wight. Rolling out HHR across the island will result in the entire footprint having access.
- E1.4 Providing an integrated digital health & care record will be key to achieving our ambition as it will provide the backbone for our new models of care. It will improve cross discipline working and collaboration, ensure every health and care professional is talking the same language and improve data accuracy.
- E1.5 Our ambition for an integrated digital health and care record is:
- For all GP-registered citizens in HIOW to have a digital health and care record;
 - For health and care providers to be able to easily view the appropriate information, such as care history, current medications, appointments, care plans and preferences;
 - For the record to be consistently used across the footprint and across our borders; and
 - For the patient to be in control of their record. This includes being able to view and update their record, as well as grant access to those involved in their care.
- E1.6 *Table 1* outlines the system level milestones for delivering this priority.

Milestone	Summary description
1.1 HIOW Interoperability Technical Strategy	A detailed technical blueprint for how we convert our high level ambition into deliverable components and standards. The strategy will document our existing infrastructure and integrations and then define a series of standards and steps to achieve a fully interoperable solution for HIOW.
1.2 Interoperability Phase 1 (Digital Health & Care Record (DHCR) Upgrade)	As part of the forward view for the HHR, a new enhanced version of the underlying software, CareCentric Plus will enable support for mobile working and customisable dataset interfaces for clinical staff.
1.3 Interoperability Phase 2 (HIOW Integration Engine and Master Patient Index)	The integration engine and master patient index are key components of our HIOW interoperability platform. The integration engine will act as a central point of orchestration for information flowing between specialities and organisations. The master patient index will act as the single version of the truth for identifying and authenticating patients and care professionals across the HIOW health and care system.
1.4 Interoperability Phase 3 (image sharing)	This project aims to join up the existing PACS radiology image sharing network with the main interoperability programme and to wider domains. The current consortium covers South Hampshire including Southampton, Portsmouth and Isle of Wight plus Salisbury. The project will connect the new Master Patient Index through the new Integration Engine and use the IHE standard XDS/XDSi protocol using XCA extension to connect to other XCA capable domains. Currently this includes Hampshire Hospitals and Sussex but there are future plans for Bournemouth and others.
1.5 Interoperability Phase 4 (Patient control who accesses to their DHCR)	Patients will have greater control over who accesses their record through granting permissions on the patient portal.

<p>1.6 Integration of approved 3rd party data sources (e.g. health & wellbeing monitoring apps) with patient health and care record</p>	<p>Data that is relevant from 3rd parties is collected and integrated with the DHCR, updating the relevant part of the patient record. Scope includes health monitoring apps, both for patients with known conditions and for tracking activity (e.g. fitness/diet) and the ability for patients to input information based on their wellbeing.</p>
<p>1.7 Interoperability Phase 5 (Care professional read/write access to the DHCR through their line of sight system)</p>	<p>The DHCR will interface with all health and care provider systems meaning all health and care professionals across HIOW will be able to access a comprehensive integrated digital health and care record in real time. Following their provision of care, information inputted will update the DHCR in real time through the interface with their system.</p>

Table 1. Milestone Summary Descriptions

E1.7 In order to fully realise the benefits of an integrated health and care record, local plans for improving digital maturity must be delivered in alignment with system level transformation – refer to Section E6.

E2 Unlock the power of data to inform decision making at the point of care

E2.1 To date, much of the work within HIOW has been focused on creating the means to capture and store information. Now that we have that information, our focus must shift towards realising the potential of this data for improving outcomes and productivity.

E2.2 With rapid advances in technology over the past few years, the collection, analysis and use of data has become increasingly fundamental to the way organisations are run, and this is no different for health and care organisations. The vast majority of individuals use online services and mobile devices, which makes capture of data more feasible, and with greater data capture there is much more we can achieve. In particular:

- Real-time access to information and tools to support decision making at the point of care; and
- Data driven alerts and triggers to notify care professionals when there is a situation they need to action.

E2.3

E2.4

E2.5 Table 2 outlines the system level milestones for delivering this priority.

Milestone	Summary description
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2.1 Wi-Fi implementation across primary care sites	The proposed solution would be capable of presenting patients with Wi-Fi internet access, the practice with Wi-Fi access to their practice LAN and other health and social care professionals (e.g. community staff and social workers) access to their own web-based systems. The solution would utilise the current internet connections at the practices in Hampshire and the Isle of Wight (HIOW), and intelligently route traffic to NHS or internet resources efficiently.
2.2 Wi-Fi implementation across secondary care sites	The proposed solution would be capable of presenting patients with Wi-Fi internet access, clinical staff at the trust with Wi-Fi access and other health and social care professionals (e.g. community staff and social workers) access to their own web-based systems.
2.3 Wi-Fi implementation across social care sites	The proposed solution would be capable of presenting patients with Wi-Fi internet access and other health and social care professionals (e.g. community staff and social workers) access to their own web-based systems. The solution would utilise the current internet connections in Hampshire and the Isle of Wight (HIOW), and intelligently route traffic to NHS or internet resources efficiently.
2.4 HIOW Workflow capability implemented	New models of care and pathways require a joined up approach to providing services. This requires not only information to be shared but also the transfer of care. The workflow tool will facilitate the creation of cross organisational workflows by orchestrating a set of linked tasks, decision points and hand offs. This includes joining up with adult and children's social care. The workflow capability will also facilitate the creation of lists of patient/population cohorts for the focus of targeted interventions.
2.5 Unified alerts & triggers for care professionals	Providing health and care professionals across HIOW with notifications when their attention is required to help their decision making at the point of care. Alerts and triggers are provided in the form of metadata, pointing them towards the information that they need to access in order to understand full detail. Examples here include DNR, vital signs.
2.6 Unified alerts & triggers for patients	This will be provide patients across Hampshire and Isle of Wight with alerts and triggers that are relevant to their health and care. This should be joined up across the entire pathway. Examples of alerts and triggers include appointments, medication reminders.

Table 2:
Milestone
summary

descriptions

E2.6 In order to fully realise the benefits of these system level initiatives, local plans for improving digital maturity must be delivered in alignment with system level transformation – refer to Section E6.

E3 Deliver the technology to shift care closer to home

E3.1 Advances in technology have resulted in an increase in the number of people using mobile devices to help them perform day to day activities such as shopping and banking, as these new digital services become available.

E3.2 Personal attitudes towards healthcare are also changing. The use of health apps in the UK more than doubled between 2014 and 2016; for wearables, usage tripled.⁴ Technology is moving faster

A1.1 ⁴ Accenture, Digital Consumer Health Engagement 2016 – Global Report, 2016.

than ever and this presents significant opportunities for the health and care system. For example, utilising wearables to monitor the vitals of a patient or using home technology such as smart scales to monitor the weight of a patient with heart disease.

E3.3 Within HIOW, we are seeking to leverage these changes to promote health and wellbeing, prevent illness, shift demand towards digital self-service, and deliver care services closer to patients' homes.

E3.4

E3.5

E3.6 Table 3 outlines the system level milestones for delivering this priority.

Milestone	Summary description
3.1 Unified communications across all service provider organisations	Unified communications will deliver technology that makes use of new and current systems and technologies adopted by individual organisations and enable them to work together. This includes staff from all partner organisations being able to video conference and work collaboratively regardless of organisation or location. Unified communications will also provide video or telepresence capabilities to enable professionals to interact with the public or patients. The platform will bridge or replace existing localised solutions and will support secure collaboration across Health (N3) and Care (PSN) networks. This activity is dependent on the completion of the HIOW Interoperability Technical Strategy.
3.2 Single patient portal to access services, e.g. view / edit record and care plans, book appointments, etc.	A portal that is accessible by the patient on multiple devices and is their main route in to the HIOW health and care system. The portal should allow the patient to access services such as; view their DHCR, view their pathway (breadcrumb trail), manage their appointments, order repeat prescriptions and interact with health and care professionals.

Table 3: Milestone summary descriptions

E3.7 In order to fully realise the benefits of these system level initiatives, local plans for improving digital maturity must be delivered in alignment with system level transformation – refer to Section E6.

E4 Establish a platform to manage population health

E4.1 As set out in the HIOW STP, the HIOW footprint partners have identified the need to move towards a population health approach to service delivery as a key ambition for addressing local health and care challenges.

- E4.2 Population health management can be described as the ability to assess the health needs of a specific population; implement and evaluate interventions to improve the health of that population; and provide care for individual patients in the context of the culture, health status, and health needs of the population of which that patient is a member.⁵
- E4.3 A population health approach offers a number of significant benefits relative to more traditional service delivery approaches, including:
- Population health applies to an overall population or subpopulation, rather than only for patients of a specific hospital or provider.
 - Illness or risk is traditionally the “trigger” for receiving clinical care. In population health, the trigger for inclusion is not related to specific diseases or conditions, but to any opportunity to prevent illness from occurring in the first place.
 - Healthcare system activities occur in settings such as hospitals and nursing homes. By contrast, population health activities are implemented in the community or involve some kind of partnership between a healthcare provider and a community-based organisation or social service provider.
 - While healthcare providers typically address medical problems and symptoms such as pain or loss of function, population health strategies address the wider range of needs that are influencing the health problems, including housing, food access, and safety from violence.
 - Population health strategies aim to improve outcomes, such as morbidity and mortality, rather than focusing on process, output or quality measures.
 - Traditional healthcare performance data are often reported as an average, rate or percent for an overall group of patients. This type of reporting can sometimes mask health disparities. The population health approach emphasises the importance of using data to identify health disparities and inequities and selecting strategies that will improve health for all groups.
 - Population health strategies provide opportunities for individuals to improve their own health and wellbeing in ways that are meaningful to them. Population health strategies also attribute accountability to both healthcare and public health organisations, and to policy decisions that impact the social, economic and physical environment.
- E4.4 Figure 18 below sets out a high level ambition and data flows for patient centred population health that will enable HIOW to leverage the data we already have and enable transformational change to services.

⁵ Definition provided by the Association of American Medical Colleges (AAMC)

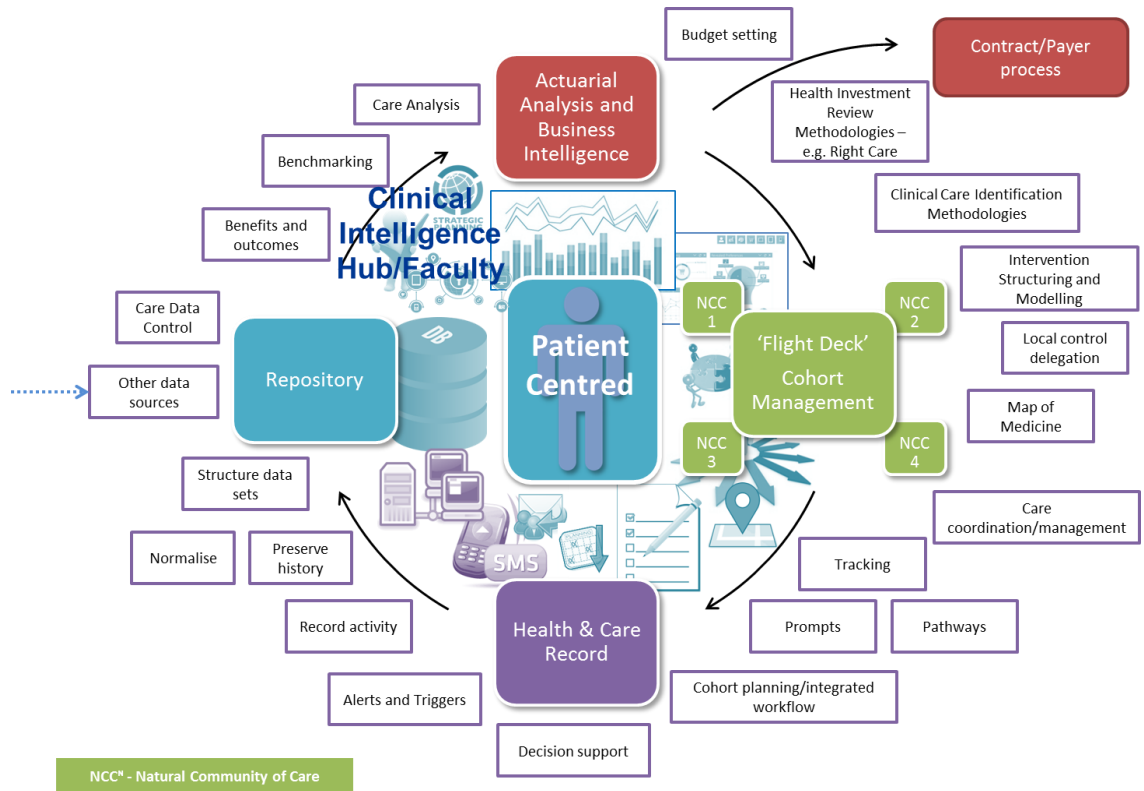


Figure 18: Patient-centred population health data flows

E4.5 Taking a population health approach entails a number of significant requirements for change to existing IM&T capabilities and the development of new capabilities across the HIOW service delivery landscape. These IM&T requirements include:

- Risk stratification and associated tools will be a key driver of the system and the associated information requirements must become integral to the health and care record;
- Capitation-based payment mechanisms will be a key component of pricing, and therefore financial systems must reflect new ways of working;
- A HIOW-wide data repository is required to enable data analysis and improvement opportunity identification, which will also drive pricing;
- Incentives will become better aligned so Provider CSFs are driven by prevention, non-escalation, appropriate settings and wellness – business systems will need to change to support this;
- Learning/ feedback mechanisms are required such that current commissioning/payor activity becomes better informed by success (and failures) of past;
- Cohort management strategies, standards and guidance, e.g. top three interventions will need to be linked to health and care records; and
- Patient activation and behaviour change will be facilitated through open access to records, care plans and services.

E4.6 Table 4 outlines the system level milestones for delivering this priority.

Milestone	Summary description
4.1 Intelligence Hub - Business Intelligence Visualisation	A layer of business intelligence will be enabled over the current DHCR solution the Hampshire Health Record (HHR). This will be done by utilising local data and business intelligence expertise and experience to develop a series of dashboards answering business and operational needs. Dashboards will be linked to appropriate data systems supporting direct patient care and integrated working to inform decisions at a local (practice based/NCC) and Hampshire and Isle of Wight strategic level.
4.2 Care Co-ordination Centre	As part of the future digital landscape, the STP requires establishment of Care Co-ordination Centre. This will provide a HIOW level 'flight deck' for co-ordinating health and care service delivery, including managing 999 and 111 calls, providing routing for primary care appointments, referring to clinical triage hubs, and maintaining a live directory of services.
4.3 Intelligence Hub – Full lifecycle Population Health Analytics to support prevention & improve intervention	BI / analytics capability sitting across key HIOW health and care data repositories, enabling the Intelligence Hub, Care Co-ordination Centre, commissioners and providers to derive population health insights and apply these to commissioning and service delivery. The Intelligence Hub will provide a centre of excellence for making best use of health and care data sources, risk stratification, data mining, generating population health insights, and supporting clinicians to leverage data-driven insights.

Table 4: Milestone summary descriptions

- E4.7 In order to fully realise the benefits of these system level initiatives, local plans for improving digital maturity must be delivered in alignment with system level transformation – refer to Section E6.

E5 Drive up digital participation of service users

- E5.1 If we are serious about shifting health and care services towards a more digital-based provision model with all the benefits that entails, the associated transformation must drive up digital participation by patients and the public.
- E5.2 Three quarters of UK adults now own a smartphone, however those most likely to gain from health interventions – low income earners and older people – are least likely to own a device.⁶ Engaging cohorts of the population that are at greater risk of poor health and helping them to become digital participants in their own health and care has multiple potential benefits, including improving health and wellbeing outcomes, increasing patient self-care, improving patient experience, and achieving cost savings for health and care service provision systems.
- E5.3 Digital participation requires, on the part of the service user, both motivation and digital literacy. By improving digital literacy through appropriate training and education, and influencing motivation by raising awareness of the benefits of digital services, the health and care system can drive up digital participation of both patients, population cohorts and the wider public.

⁶ Deloitte, Mobile Consumer 2015: The UK cut: Game of Phones, 2015; We are Apps, UK Mobile Devices Usage and Demographic Roundup, 2013.

- E5.4 In addition, we must also ensure that our care professionals are trained in delivering digital services and in encouraging and supporting their patients and population cohorts in using these services.
- E5.5 These changes will be delivered through a range of initiatives at different tiers of the system. This includes: leveraging nationally funded, locally delivered programmes such as the Widening Digital Participation programme⁷, engagement and communications campaigns, and local change projects and programme for particular population cohorts and services.
- E5.6 *Table 5* outlines the system level milestones for delivering this priority.

*Table 5.
Milestone
summary*

Milestone	Summary description
5.1 Digital workforce strategy	<p>A shared HIOW system workforce strategy to make best use of the digital capabilities that will be delivered through LDR in supporting new models of care and address the significant workforce implications, such as:</p> <ul style="list-style-type: none"> • Training in how to use technology (e.g. virtual consultations, remote monitoring, alerting) and new ways of working (e.g. shared decision-making, customisation of services); and • New roles and skill mix, e.g. lower skilled workforce enabled with decision support systems.
5.2 Digital participation strategy	<p>It is viewed that the necessary change will be delivered through a suite of initiatives at different tiers of the system. This includes a mix of: leveraging nationally funded, locally delivered programmes such as the Widening Digital Participation programme, regional engagement and communications campaigns, and local change projects and programme for particular population cohorts and services.</p>
5.3 More than half of HIOW service users access health and care services via digital over other channels	<p>Usage of implemented technology needs to be high in order to maximise the return on investment and realisation of benefits. Through implementation of the participation strategy and continued service user engagement and involvement we will maximise usage.</p>

descriptions

E6 Capability improvement plans

- E6.1 Following on from the national Digital Maturity Assessment (DMA), an exercise has been conducted with key providers across HIOW to define the maturity trajectory against the seven PF@PoC capabilities between now and 2018/19. The following sections outline local ambitions and plans for improving capability maturity across HIOW. The seven PF@POC capabilities are:
- Records, Assessments and Plans
 - Transfers of Care
 - Orders and Results Management
 - Medicines Management and Optimisation
 - Decision Support
 - Remote Care

⁷ <https://www.england.nhs.uk/ourwork/tsd/wdp/>

- Asset and Resource Optimisation

E6.2 Figure 19 displays an aggregated view of the capability deployment trajectory across all of the secondary care providers in HIOW. For a detailed breakdown, please see Annex 3.

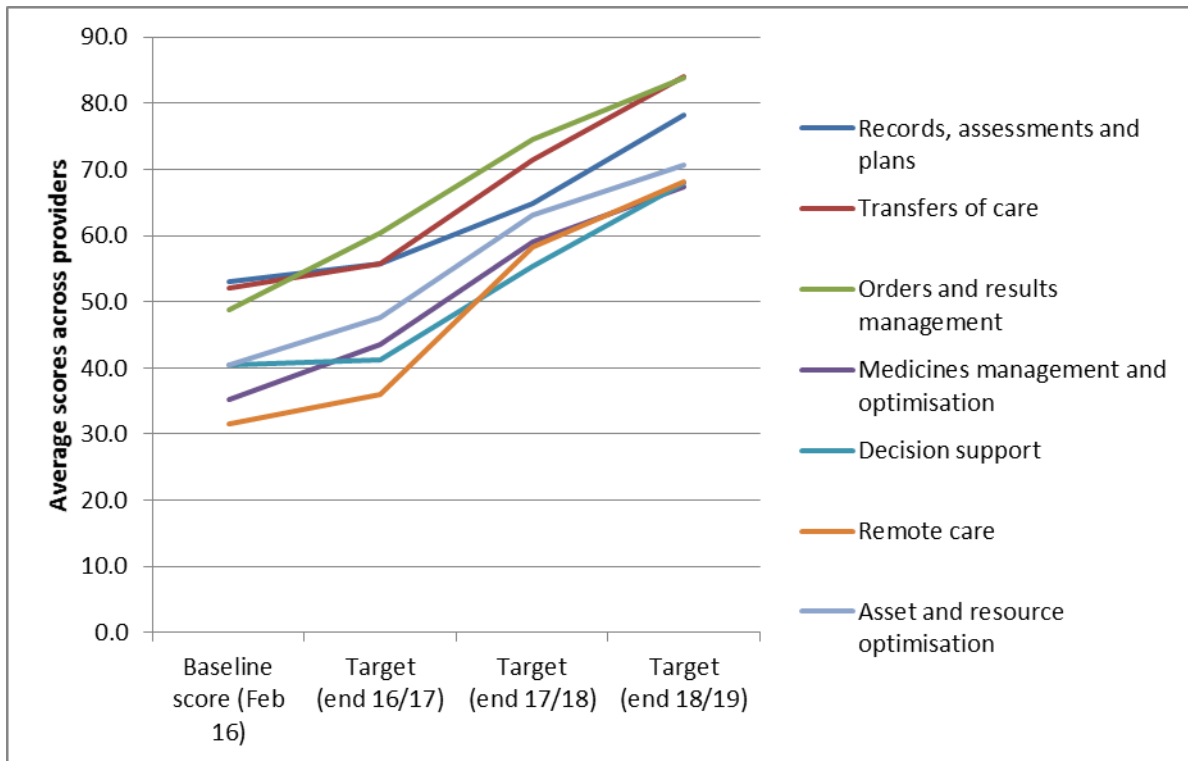


Figure 19: HIOW Secondary Care Capability Deployment Trajectory



Records, Assessments & Plans

Universal capabilities and aims

E6.3 Table 6 summarises the universal capabilities and aims for the Records, Assessments & Plans capability.

Delivery priorities	Aims
<p>Professionals across care settings can access GP held information on GP prescribed medications, patient allergies and adverse reactions</p>	<ul style="list-style-type: none"> • Information accessed for every patient presenting in an A&E, ambulance or 111 setting where this information may inform clinical decisions (including for out-of-area patients) • Information accessed in community pharmacy and acute pharmacy where it could inform clinical decisions

<p>Clinicians in urgent and emergency care settings care access key GP held information for those patients previously identified by GPs as most likely to present (in U&EC)</p>	<ul style="list-style-type: none"> Information available for all patients identified by GPs as most likely to present, subject to patient consent, encompassing reason for medication, significant medical history, anticipatory care information and immunisations Information accessed for every applicable patient presenting in an A&E, ambulance or 111 setting (including for out-of-area patients)
<p>Patient access to their GP record</p>	<ul style="list-style-type: none"> Access to detailed coded GP records actively offered to patients who would benefit the most and where it supports their active management of a long term or complex condition Patients who request it are given access to their detailed coded GP record

Table 6: National delivery priorities for Records, Assessments & Plans

Local capability maturity ambitions

- E6.4 Figure 19 highlights the ambition for the secondary care providers across HIOW within the Records, Assessments and Plans capability. The ambition is to move from the current average of 53% to 79% by the end of 2018/19.

Local delivery plans

- E6.5 In order to achieve these trajectories, there is a wide range of change initiatives underway or planned across the footprint, at both HIOW and locality levels of the system.
- E6.6 Table 7 sets out a sample of initiatives that will contribute to meeting the ambitions set out in the universal capabilities as well as delivering improvements in the Records, Assessments & Plans capability area.

Summary of initiative	Coverage	Delivery date
<p>Interoperability Phase 1 (Digital Health & Care Record (DHCR) upgrade): See Section E1</p>	Hampshire-wide	16/17 – 17/18
<p>Single patient portal to access services: See Section E3</p>	HIOW-wide	18/19
<p>Interoperability - Access to Special Patient Notes: provide SCAS with automated access to the Special Patient Notes information held within the Hampshire Health Record (See Annex 10)</p>	SCAS	In flight
<p>Interoperability - Access to Integrated Patient Record: provide SCAS with real-time GP Patient Records as part of the each regional group's Programmes of Interoperability (See Annex 10)</p>	SCAS	Planning
<p>Interoperability - End of Life - DNR - Paper Form Removal: utilising electronic Do Not Resuscitate instructions to replace the master paper record currently being used across all regions (See Annex 10)</p>	SCAS	Concept
<p>UHS My Medical Record: UHS patients are able to access their record, cancel and rebook appointments and manage their care with the clinician online.</p>	UHS (with further support to additional locations in UK)	TBC

UHS EMR/EPR: Implementation of an integrated EMR solution to enable digital recording of structured notes, assessments, observations and care plans shared across the hospital and the interfacing to support sharing of these by care partners and access by patients	UHS	TBC
eHospital Portsmouth programme: Implementation of an integrated EMR solution to enable digital recording of structured notes, assessments, observations and care plans shared across the hospital and the interfacing to support sharing of these by care partners and access by patients	Portsmouth Hospitals	Q3 18/19
Rollout of electronic clinical noting for nursing and AHPs: Clinical notes to be captured and reviewed electronically, significantly reducing paper usage.	HHFT	June 2017
Fundamentals of Care programme to provide electronic assessment, capture and recording of care plans: programme to fully replace all assessments and care plans with structured electronic data capture. Developed internally on top of existing clinical ePR.	HHFT	June 2018
Vital signs monitoring: to capture observations electronically: Cost effective solution to capture vital signs electronically, automatic alerting of deteriorating patients and remote monitoring. Fully integrated into ePR.	HHFT	Mar 2017
Electronic document management solution: Fully integrated solution to ensure capture and retrieval of all medical record data electronically.	HHFT	Mar 2020
South East EMIS Common Care Record Pilot	SHFT	Q4 16/17
The Isle of Wight ePR includes functionality to build assessments and care plans integration enabled with Social Care and Community teams . The functionality forms part of the workflow within the ePR. The next development phase is to include drawings and patient signatures to ensure complete data capture for Care Pathways within the Trust.	Isle of Wight	Underway
Solent TPP Viewer giving patient centric view of full patient record as appropriate for clinical staff	Solent Wide	March 17
TPP uploads to Hampshire Health Record and summary care record integration to TPP	Solent Wide	Underway
Customisation of TPP Clinical Build by Service Line	Solent Wide	March 17
GP MIG for Solent Practices	Solent Wide	17/18
TPP Mobile deployment which will ensure the accurate and timely availability and updates of records	Solent Wide	16/17 -17/18

Table 7: Initiatives for improving maturity in Records, Assessments & Plans

- E6.7 The full list of local change initiatives that are underway or planned to develop these capability areas is set out in the Master Portfolio List in Annex 7.



Transfers of Care

Universal capabilities and aims

- E6.8 Table 8 summarises universal capabilities and aims for the Transfers of Care capability.

Delivery priorities	Aims
GPs can refer electronically to secondary care	<ul style="list-style-type: none"> • Every referral created and transferred electronically (By Sep 17 – 80% of first outpatient elective referrals made electronically) • Every patient presented with information to support their choice of provider • Every initial outpatient appointment booked for a date and time of the patient's choosing (subject to availability).
GPs receive timely electronic discharge summaries from secondary care	<ul style="list-style-type: none"> • All discharge summaries sent electronically from all acute providers to the GP within 24 hours • All discharge summaries shared in the form of structured electronic documents • All discharge documentation aligned with Academy of Medical Royal Colleges headings
Social care receive timely electronic Assessment, Discharge and Withdrawal Notices from acute care	<ul style="list-style-type: none"> • All Care Act 2014 compliant Assessment, Discharge and associated Withdrawal Notices sent electronically from the acute provider to local authority social care within the timescales specified in the Act

Table 8: National delivery priorities for Transfers of Care

Local capability maturity ambitions

- E6.9 Figure 19 highlights the ambition for the secondary care providers across HIOW within the Transfers of Care capability. The ambition is to move from the current average of 52% to 85% by the end of 2018/19.

Local delivery plans

- E6.10 In order to achieve these trajectories, there are a wide range of change initiatives underway or planned across the footprint, at both HIOW and locality levels of the system.
- E6.11 Table 9 sets out a sample of the initiatives that will contribute to meeting the ambitions set out in the universal capabilities as well as delivering improvements in the Transfers of Care capability area.

Summary of initiative	Coverage	Delivery date
eReferrals (National): from HIOW GPs to secondary care	National	

Sharing SCAS Discharge Summary: to provide a summary of SCAS clinical activity for a patient and confirmation of discharge / handover from the Trust (See Annex 10)	SCAS	Concept
Bookings for Emergency GP Appointments: to enable SCAS to have the capability of providing Emergency GP Appointment Booking for selected GP surgeries. (See Annex 10)	SCAS	Concept
Bookings for Minor Injuries Unit Appointments: to enable SCAS to have the capability of providing Minor Injuries Unit Appointment Booking for selected facilities (See Annex 10)	SCAS	Concept
Inbound Patient Condition Sharing: to share earlier vital signs information from the frontline Ortivus system with the receiving Emergency Departments. (See Annex 10)	SCAS	Concept
Transformation - Mental Health Pathway: to facilitate the automated transfer of care / patient alert from the SCAS clinical service to the Mental Health Social Care Pathway (See Annex 10)	SCAS	Concept
Non-Emergency Patient Transport: to share patient information with the Programmes of Interoperability and Transfer of Care capability alerting (See Annex 10)	SCAS	Concept
HHFT eCorrespondence: E-discharges and Clinical Contact Notes to improve use of e-discharges throughout the trust, including providing clinic letters in an electronic version.	HHFT	16/17
SHFT eCorrespondence: a project is currently in flight to support clinical correspondence and e-discharges for mental health and paediatric patients, with plans to roll this out further.	Southern Health	16/17
Instant/video messaging software to support Multi Disciplinary meetings (NH CCG): to enable health and social care professionals (primary, community and acute), to work collaboratively to provide patient centric care. Working with HHFT to federate with their solution.	NH CCG/SHFT	Mar 2017
UHS EMR/EPR: Implementation of an integrated EMR solution to enable digital recording of structured notes, assessments, observations and care plans shared across the hospital and the interfacing to support sharing of these by care partners and access by patients	UHS	TBC
eHospital Portsmouth programme: Implementation of an integrated EMR solution to support clinical workflows across the hospital and the interfacing to enable electronic transfers of data both for patients transferring into the hospital's care and those transferring out to that of care partners.	Portsmouth Hospitals	Q3 18/19
SW Hants EDM Implementation: EDM solution linking into referrals management	SW Hants	

e-correspondence (Solent): Currently working to support use of electronic communications with other providers, primary care and the patient	Solent	16/17 – 17/18
e-referrals (Solent): Capability to send e-referrals both internally and externally through TPP	Solent	17/18
Delayed Transfer of Care App (allows the organisation to monitor and proactively managed delayed discharges)	Solent	Underway

Table 9: Initiatives for improving maturity in Transfers of Care

E6.12 The full list of local change initiatives that are underway or planned to develop these capability areas is set out in the Master Portfolio List in Annex 7.



Decision Support

Universal capabilities and aims

E6.13 Table 10 summarises the universal capabilities and aims for the Decision Support capability.

Delivery priorities	Aims
Clinicians in unscheduled care settings can access child protection information with social care professionals notified accordingly	<ul style="list-style-type: none"> Child protection information checked for every child or pregnant mother presenting in an unscheduled care setting with a potential indicator of the child being at risk (including for out-of-area children) Indication of child protection plan, looked after child or unborn child protection plan (where they exist) flagged to clinician, along with social care contact details The social worker of a child on a child protection plan, looked after or on an unborn child protection plan receives a notification when that child presents at an unscheduled care setting and the clinician accesses the child protection alert in their record
Professionals across care settings made aware of end-of-life preference information	<ul style="list-style-type: none"> All patients at end-of-life able to express (and change) their preferences to their GP and know that this will be available to those involved in their care All professionals from local providers involved in end-of-life care of patients (who are under the direct care of a GP) access recorded preference information where end-of-life status is flagged, known or suspected

Table 10: National delivery priorities for Decision Support

Local capability maturity ambitions

E6.14 Figure 19 highlights the ambition for the secondary care providers across HIOW within the Decision Support capability. The ambition is to move from the current average of 40% to 71% by the end of 2018/19.

Local delivery plans

- E6.15 In order to achieve these trajectories, there are a wide range of change initiatives underway or planned across the footprint, at both HIOW and locality levels of the system.
- E6.16 Table 11 sets out a sample of the initiatives that will contribute to meeting the ambitions set out in the universal capabilities as well as delivering improvements in the Decision Support capability area.

Summary of initiative	Coverage	Delivery date
Interoperability Phase 1 (Digital Health & Care Record (DHCR) upgrade): See Section E1 (Note: HHR holds end of life preference information)	Hampshire-wide	Q4 16/17
Intelligence Hub – Business Intelligence Visualisation: See Section E4	Hampshire-wide	Q4 16/17
HIOW Workflow capability implemented: See Section E3	HIOW-wide	Q1 18/19
Unified alerts & triggers for care professionals: See Section E2	HIOW-wide	Q3 18/19
Online Triage System	FG CCG, Solent, W Hants, N Hants	March 2017
HHFT clinical electronic observation system: Calculates NEWS (National Early Warning Scores) values to inform clinical decision making. These scores are electronically available to clinical staff throughout HHFT and integrated with the HHFT ePR.	HHFT	2016/17
UHS EMR/EPR: Implementation of an integrated EMR solution to enable digital recording of structured notes, assessments, observations and care plans shared across the hospital and the interfacing to support sharing of these by care partners and access by patients	UHS	TBC
eHospital Portsmouth programme: Implementation of an integrated EMR solution to support clinical workflows across the hospital, including decision support, automatic prompting, alerting, monitoring of over-rides and links to evidence-based reference material.	Portsmouth Hospitals	Q3 18/19
Fundamentals of care programme will alert Nursing staff of overdue care needs	HHFT	17/18
Real time integration of pathology results into Local ePR and HHR.	HHFT	Mar 17
Full use of Barcode technology for patient identification	HHFT	2019
Child Protection Information System Access for MIUs and Children’s services	SHFT	Q4 16/17
Business Intelligence: Southern Health to provide access to health professionals from the wider multi-disciplinary team with external, secured, access to the Trust’s Business Intelligence Tool, Tableau, to support population health management and proactive case management	SHFT	Q3 16/17

SCAS LiveLink for Front Line: Project that has been scoped to deliver the capability of visual communications between clinicians to support clinical decision making and provide eyes on the ground visibility.	SCAS	Concept
SCAS LiveLink for Patient: Project that has been scoped to provide visual communications with the public that contact the service which will support the decision of what course of action needs to be taken (See Annex 10)	SCAS	Underway
Business Intelligence - Auto Reporting & Alerting: Project that has been scoped to enhance the capabilities of real-time data capture from the Programme of Interoperability and existing SCAS systems to enable full automation of reports & dashboards and facilitate new patient alerts	SCAS	Concept

Table 11: Initiatives for improving maturity in Decision Support

- E6.17 The full list of local change initiatives that are underway or planned to develop these capability areas is set out in the Master Portfolio List in Annex 7.



Medicines Management and Optimisation

Universal capabilities and aims

- E6.18 Table 12 summarises the universal capabilities and aims for the Medicines Management and Optimisation capability.

Delivery priorities	Aims
GPs and community pharmacists can utilise electronic prescriptions	<ul style="list-style-type: none"> All permitted prescriptions electronic (By end 16/17 – 80% of repeat prescriptions to be transmitted electronically) All prescriptions electronic for patients with and without nominations - for the latter, the majority of tokens electronic rather than paper Repeat dispensing done electronically for all appropriate patients

Table 12: National delivery priorities for Medicines Management and Optimisation

Local capability maturity ambitions

- E6.19 Figure 19 highlights the ambition for the secondary care providers across HIOW within the Medicines Management and Optimisation capability. The ambition is to move from the current average of 35% to 67% by the end of 2018/19.

Local delivery plans

- E6.20 In order to achieve these trajectories, there is a wide range of change initiatives underway or planned across the footprint, at both HIOW and locality levels of the system.
- E6.21 Table 13 sets out some of the sample initiatives that will contribute to meeting the ambitions set out in the universal capabilities as well as delivering improvements in the Medicines Management and Optimisation capability area.

Summary of initiative	Coverage	Delivery date
Interoperability Phase 1 (Digital Health & Care Record (DHCR) upgrade): See Section E1 (Note: HHR holds information on prescribed medications, patient allergies and adverse reactions)	Hampshire-wide	Q4 16/17
Electronic prescription capabilities: in place across all CCGs within the HIOW footprint, with further developments and expansions planned to increase uptake and usage.	HIOW-wide	TBC
Online long term condition toolkit (FG CCG):	TBC	TBC
Healthy living pharmacies (NEHF CCG):	TBC	TBC
UHS EMR/EPR: Implementation of an integrated EMR solution to enable digital recording of structured notes, assessments, observations and care plans shared across the hospital and the interfacing to support sharing of these by care partners and access by patients	UHS	TBC
eHospital Portsmouth programme: Implementation of an integrated EMR solution including pharmacy stock control and ePMA module to support electronic prescribing and medicines administration across the hospital and utilisation of GS1-standard bar codes to prevent incorrect drugs administration	Portsmouth Hospitals	Q3 19/20
Rollout of ePrescribing and medicines administration (EPMA) to outpatient settings: Pilot, followed by full rollout to ensure sufficient hardware and software to allow EPMA in all outpatient areas.	HHFT	2019
Electronic Prescribing Pilot	Solent	Q4 16/17
Electronic Prescribing roll out	Solent	17/18-18/19
Electronic Prescribing	SHFT	17/18 – 18/19

Table 13: Key initiatives for improving maturity in Medicines Management and Optimisation

- E6.22 The full list of local change initiatives that are underway or planned to develop these capability areas is set out in the Master Portfolio List in Annex 7.



Remote Care

Universal capabilities and aims

E6.23 Table 14 summarises the universal capabilities and aims for the Remote Care capability.

Delivery priorities	Aims
Patients can book appointments and order repeat prescriptions from their GP practice	<ul style="list-style-type: none"> By end 16/17 – 10% of patients registered for one or more online services (repeat prescriptions, appointment booking or access to record) All patients registered for these online services use them above alternative channels

Table 14: National delivery priorities for Remote Care

Local capability maturity ambitions

E6.24 Figure 19 highlights the ambition for the secondary care providers across HIOW within the Remote Care capability. The ambition is to move from the current average of 32% to 67% by the end of 2018/19.

Local delivery plans

E6.25 In order to achieve these trajectories, there are a wide range of change initiatives underway or planned across the footprint, at both HIOW and locality levels of the system.

E6.26 Table 15 sets out some a sample of the initiatives that will contribute to meeting the ambitions set out in the universal capabilities as well as delivering improvements in the Remote Care capability area.

Summary of initiative	Coverage	Delivery date
Unified communications across all service provider organisations: See Section E3	HIOW-wide	Q3 17/18
Single patient portal to access digital services: See Section E3	HIOW-wide	18/19
Solutions to support video consultations: Virtual clinics are planned across a number of HIOW health and care providers (IOW, Southern, etc.) with a Skype pilot in flight for Solent.	HIOW-wide	TBC
Wi-Fi implementation across primary care sites – see section E2	HIOW-wide	Q2 17/18
Wi-Fi implementation across secondary care sites – see section E2	HIOW-wide	Q4 17/18
Wi-Fi implementation across social care sites – see section E2	HIOW-wide	Q4 17/18
Mobile working solutions and remote workforce enablement being rolled out (UHS, Solent, IOW, Portsmouth) solution for social care (HCC)	HIOW-wide	TBC
HantsWeb2: Re-platforming the Council website to support and promote the concept of self-service and self-fulfilment. It will enable online resolution of the most popular enquiries, will have optimised end to end processes and provide new transactional services.	HCC	Underway

Tele-monitoring in the home (NH CCG) and nursing homes (NEHF CCG)	TBC	Concept
Wearable patient monitoring proof of concept (UHS)	TBC	Dec 18 (Concept)
UHS EMR/EPR: Implementation of an integrated EMR solution to enable digital recording of structured notes, assessments, observations and care plans shared across the hospital and the interfacing to support sharing of these by care partners and access by patients	UHS	TBC
eHospital Portsmouth programme: Implementation of an integrated EMR solution that supports home care monitoring and teleconferencing both amongst HCPs and for remote patient consultations	Portsmouth Hospitals	Q3 20/21
Unified Comms and Guest WiFi access: at all inpatient sites	SHFT	Q4 16/17
Unified Comms roll out (Solent): to include federation of Skype for Business to support e-consultation pilot	Solent	March 17 - ongoing
Collaborative work with Social Services on use of Telecare alerts	Solent	17/18
Trials of Tele-health/Telemedicine	Solent	17/18 -18/19
SCAS LiveLink to Care Homes: Project that is scoped to deliver the capability for SCAS to provide the service of virtual see and treat between the Clinical Contact Centre and the participating Care Homes.	SCAS	Currently in pilot

Table 15: Initiatives for improving maturity in Remote Care

- E6.27 The full list of local change initiatives that are underway or planned to develop these capability areas is set out in the Master Portfolio List in Annex 7.



Orders and Results Management

- E6.28 Whilst NHS England has not specified particular delivery priorities for 16/17 and 17/18 in this capability area, Orders and Results Management remains a key capability that must be developed to achieve the Paper Free at the Point of Care vision for 2020.

Local capability maturity ambitions

- E6.29 Figure 19 highlights the ambition for the secondary care providers across HIOW within the Orders and Results Management capability. The ambition is to move from the current average of 49% to 82% by the end of 2018/19.

Local delivery plans

- E6.30 In order to achieve these trajectories, there are a wide range of change initiatives underway or planned across the footprint, at both HIOW and locality levels of the system.
- E6.31 Table 16 sets out a sample of the initiatives that will contribute to delivering improvements in the Orders and Results Management capability area.

Summary of initiative	Coverage	Delivery date
HIOW Workflow capability implemented: See Section E2	HIOW-wide	Q1 18/19
Unified alerts & triggers for care professionals: See Section E2	HIOW-wide	Q3 18/19
UHS EMR/EPR: Implementation of an integrated EMR solution to enable digital recording of structured notes, assessments, observations and care plans shared across the hospital and the interfacing to support sharing of these by care partners and access by patients	UHS	TBC
Electronic Order Communications (Solent)	W/SW Hampshire (PH)	March 17
Internal referrals (Solent) – supporting requests for assessment between health care professionals	Solent	17/18
Information sharing platform: system wide integrated diagnostics - ordering and results	IOW	Dec 2018
Portsmouth Hospitals ICE For Radiology roll-out - Implementation of interim electronic order communications system to enable electronic requesting of Radiology imaging in ED, inpatient wards and outpatient clinics	Portsmouth Hospitals	Q4 16/17
eHospital Portsmouth programme: Implementation of an integrated EMR solution including electronic requesting, results reporting, alerting, audit trails and integration with legacy PACS/CRIS solutions	Portsmouth Hospitals	Q3 18/19
Internal referrals integrated into ePR: Programme to remove paper based speciality to speciality referrals. Integrated into work lists.	HHFT	June 2018
Cross community access integration to allow pull of imaging data from other providers: implementation of XCA IHE standards compliant gateway to allow efficient image and report sharing with other providers. Substantial benefits in reducing both work load and patient treatment times.	HHFT	Mar 18

Table 16: Initiatives for improving maturity in Orders and Results Management

- E6.32 The full list of local change initiatives that are underway or planned to develop these capability areas is set out in the Master Portfolio List in Annex 7.



Asset and Resource Optimisation

- E6.33 Whilst NHS England has not specified particular delivery priorities for 16/17 and 17/18 in this capability area, Asset and Resource Optimisation remains a key capability that must be developed to achieve the Paper Free at the Point of Care vision for 2020.

Local capability maturity ambitions

- E6.34 Figure 19 highlights the ambition for the secondary care providers across HIOW within the Asset and Resource Optimisation capability. The ambition is to move from the current average of 40% to 69% by the end of 2018/19.

Local delivery plans

- E6.35 In order to achieve these trajectories, there are a wide range of change initiatives underway or planned across the footprint, at both HIOW and locality levels of the system.
- E6.36 Table 17 sets out a sample of the initiatives that will deliver improvements in the Asset and Resource Optimisation capability area.

Summary of initiative	Coverage	Delivery date
HIOW Integration Engine and Master Patient Index implemented: See Section E1.	HIOW-wide	Q3 17/18
Wi-Fi implementation across primary care sites – see section E2	HIOW-wide	Q2 17/18
Wi-Fi implementation across secondary care sites – see section E2	HIOW-wide	Q4 17/18
Wi-Fi implementation across social care sites – see section E2	HIOW-wide	Q4 17/18
Solutions to support patient contact centres: Providing interoperability solutions across practice appointment systems, including 111, to enable practices to directly book appointments at another practice	HIOW-wide	TBC
NHS Mail2	National	Dec 2016
Portsmouth Hospitals Asset Management: Procurement & implementation of an asset management system to enable tracking of medical equipment, devices & prostheses	Portsmouth Hospitals	Q2 17/18
Extend Mobile Working to Tablets Pilot	SHFT	Q4 16/17
Real time electronic bed management solution	HHFT	Dec 2018
Single Point of access view of TPP enabling cross organisation view and booking of appointments	Solent	17/18
Enterprise Data Warehouse project to assist with resource optimisation	Solent	17/18
Staff e-Rostering: to integrated e-Rostering with allocation of assets / equipment to efficiently utilise collectively	SCAS	Concept

Table 17: Initiatives for improving maturity in Asset and Resource Optimisation

E6.37 The full list of local change initiatives that are underway or planned to develop this capability areas is set out in the Master Portfolio List in Annex 7.

E7 Information Sharing

- E7.1 Information sharing underpins everything that has been set out in this roadmap. Across HIOW we have already made significant progress into sharing health and care information and making it available across organisations through the use of the Hampshire Health Record (HHR).
- E7.2 Our ambition going forward is to build on these foundations to ensure health and care services across HIOW provide the right information, at the right time, to the right people in the right way.
- E7.3 This will result in the provision of better care and more informed decision making, whilst also improving the experience of service users.
- E7.4 Information sharing will ensure we are able to leverage population health analytics and modelling through front line service delivery and decision support, shifting care closer to home and enabling citizen-activated health and care focussed on prevention, self-care and holistic wellbeing.
- E7.5 We have identified the following requirements to enable effective information sharing across the HIOW footprint and help to achieve our overall vision:
- **A single information sharing agreement:** Facilitating better sharing of information between health and care organisations.
 - **A single shared consent model:** A central shared citizen/patient consent model which all delivery partners commit to and utilise.
 - **Online tool for partners to specify information sharing preferences:** Giving greater control to partners to specify whom they share with and what is shared. Also allowing new entrants and organisations to quickly integrate with existing partners under the single information sharing agreement.
 - **Online tool to enable citizens to control and share access to their information:** Giving greater control to the citizen/patient to share their information with partners of their choice. Enabling them to update consent preferences and specify people within their wider circle of care to whom wish to give access to their information.
 - **Open API adoption adhering to national standards:** Using the HIOW integration engine to provide a platform of open interfaces to minimise the technical barriers to sharing information between systems, partners and applications. Adoption will be phased and culminate in a public facing set of Open APIs that facilitate integration with public apps and wearables.
- E7.6 Further detail on the information sharing ambition is included within Annex 5.
- E7.7 In all instances we will look to leverage national solutions, standards and communication campaigns including Verify, Summary Care Record and Patient Online.

E8 Information Sharing Agreements

- E8.1 We have already undertaken work across the footprint to identify and assess existing information sharing agreements and consent models between partner organisations. The key findings are that there are many sharing arrangements in place already and there's a high level of maturity amongst partners in this regard. Going forward we need to simplify these arrangements and ensure consistency across the footprint to achieve our five year roadmap through single reusable models where possible.
- E8.2 Governance for information sharing will be provided by strengthening an established forum consisting of Information Governance and Caldicott Guardian representatives from each partner organisation. This group will report into the Digital Transformation Portfolio Board, providing specialist advice, assurance and resource.

- E8.3 The proposed HIOW Digital Health and Care collaborative team, working on behalf of all partners within the footprint could manage and co-ordinate a HIOW level information sharing agreement (ISA), which has already been developed in draft. This ISA will provide assurance in respect of the standards that each party to the agreement must adopt.
- E8.4 The draft ISA covers:
- Purpose and Objectives for Sharing Information
 - Principles for Sharing
 - Datasets and Data flows
 - Consent Arrangements for Sharing Personal Confidential Data
 - The Legal Framework
 - Legal Basis for Sharing
 - Legal Justification for Sharing
 - Disclosure and Access to the Integrated Digital Care Record
 - Data Accuracy
 - Data Retention Schedule
 - Procedure for dealing with Subject Access Request (SAR) and Access to Health Records
 - Procedure for dealing with Complaint and Breaches
 - Audit and Review Arrangement
 - Role Based Access Control (RBAC).
- E8.5 As part of the mandatory compliance with information governance the proposed health and care entity will complete the Health and Social Care Information Centre (HSCIC) Information Governance Toolkit (IG Toolkit) assessments up to level 2 standard and apply the information security management and, quality assurance standards (ISO 27001 and 9001).
- E8.6 To ensure we engage consistently with the public an “Active Communications Campaign” will be established developing a single and clear messages for partners, staff and the public about the intentions and methods by which information will be shared and utilised.
- E9 Adoption of the NHS number**
- E9.1 We will set up and support all our partners to achieve the minimum requirement of using the NHS number as the key identifier for identifying, communicating and sharing information.

E10 Infrastructure

HIOW Footprint Level

- E10.1 Infrastructure maturity across HIOW is inconsistent and requires investment. Only two providers' maturity for providing Wi-Fi to care professionals is above the national average with three out of the 10 providers at 50% or lower. Where there is a lack of provision amongst provider organisations there is acknowledgement of the requirement and plans to improve the provision, however these are subject to identifying funding.
- E10.2 Public Wi-Fi access varies significantly with three secondary care providers not offering a service while some have rolled out public access across their sites. In order to achieve our STP vision we will need to secure funding to roll out a programme giving consistent public Wi-Fi access across all our provider's publically accessible sites.
- E10.3 With regards to infrastructure to support collaboration there has been a successful pilot of providing flexible access to partners' systems from multiple sites. Hampshire County Council, Hampshire Fire and Rescue, Southern Health Foundation Trust, Hampshire Hospitals Trusts, Portsmouth Hospital Trust, local schools and GP practices have successfully implemented a new approach to creating links between secure networks enabling staff from any organisation to touch-down at partner's desks and access their systems.
- E10.4 This approach has helped staff from community health and social care co-locate in three hubs across Hampshire, social care staff access their systems from ward PCs, school nurses access their provider systems from a school terminal, GPs access an acute EPR and GPs access the Hampshire Health Record from Local authority care homes.
- E10.5 A number of existing initiatives across our footprint are exploring using video and web conferencing to support greater collaboration and reduce the impact of traveling. Several partners are establishing mobile working practices, including holding multi-disciplinary team meetings using Skype for Business and have successfully federated access across two separate domains. There are several projects across our footprint also looking at providing remote access to care and nursing homes via video link supported by shared vital signs monitoring. As part of our system wide maturity we plan to review existing capabilities with an objective to provide a consistent or single method of connecting with people across all partner organisations.
- E10.6 There are existing relationships and shared hosting arrangement across our footprint. Local providers are encouraged to explore partners' infrastructure hosting options when reviewing or setting up new technical solutions. Through the HIOW digital Design Authority we plan to explore further opportunities for maximising our local assets where there is existing capital investment that can be used or exploiting cloud hosting when it is appropriate.

HCC

- E10.7 HCC and an increasing number of health providers also purchase and share their network infrastructure from the Hampshire Public Services Network (HPSN2). The shared partnership run infrastructure across the public sector partners driving a lower cost of ownership and increased performance. HPSN2 is linked to N3 and offers the ability for partners to rationalise local N3 connections.

PHT

- E10.8 Portsmouth Hospitals has a comprehensive Wi-Fi network throughout its Queen Alexandra Hospital site. This currently supports bedside monitoring and gathering of vital signs data. Limited patients' access to Wi-Fi is provided in areas where patients have to spend long periods of time (e.g. Renal dialysis) though this currently excludes streaming services due to bandwidth limitations.

SHFT

- E10.9 SHFT's WAN backbone is HPSN2 with the majority of SHFT sites connected directly; the organisation has two N3 points of presence one at each of the two data centres which provide for Disaster Recovery in an active passive arrangement. The majority of SHFT sites have a level Wi-Fi capacity/capability and a programme of work is underway to increase coverage at all sites.
- E10.10 SHFT is planning for the implementation of guest Wi-Fi at all sites which will provide secure patient and visitor Wi-Fi access, the design will utilise existing infrastructure
- E10.11 A Unified Communications project is currently underway to deliver a consolidated communications platform across SHFT sites. This is being implemented in a phased approach with 15 sites due to complete in 2016/17.
- E10.12 Quality of Service (QoS) is being delivered across Southern Health sites to address bandwidth constraints and to provide low latency for relevant network services ensuring that traffic is appropriately prioritised.
- E10.13 Services are hosted on a virtual environment and delivered to a 50/50 mix of mobile and static staff/devices, utilising virtual private network (VPN) technology over Wi-Fi / 3G. Work is underway to consider extending this to a virtual desktop infrastructure (VDI) solution that will deliver a consistent desktop environment on lower cost endpoints.

HHFT

- E10.14 End user computing: the existing end PC and laptop estate's lifetime is being extended by rolling out of a virtual desk top environment based on Citrix. This allows fast login times and session persistence. Options to look at cheap end user Citrix devices (e.g. Blackberry PI) are being reviewed. All Windows PCs have been upgraded to Windows 7. Bedside devices are being installed for use both as patient entertainment systems as well as clinical applications. PC refresh is an ongoing issue due to funding, with too many devices being over 10 years old and a struggle to cope with current operating systems and applications. Mobile devices remain a stretch target if funding can be found.
- E10.15 Network: the core network has recently been replaced along with Wi-Fi access. The edge network replacement is due to complete in March 2017. Free Wi-Fi is available for both clinician and patient access. Access from home / home working has limited support at present, plans are in place to rollout more extensively pending funding.
- E10.16 Fixed telephony: due to be upgraded starting in March 2017 with full digital capabilities. Significant amounts of analogue telephony will remain due to the cost of replacing handsets.
- E10.17 Servers and Storage: a new virtual server and storage solution is in the process of being rolled out. Following this the rationalisation of datacentres on the two main sites is planned for 2018/2020. This includes the use of generic cloud and will allow for a full disaster recovery environment to be supported.
- E10.18 Security: there is an ongoing programme to ensure that all software is running on supported platforms and is patched on a suitable schedule.

Solent

- E10.19 Solent NHS are currently working with CGI on the migration of all end user devices, server and network infrastructure to a fully managed service. As part of this migration one of the key components is the roll out of mobile working across all areas of the organisation. Key to this work is the adoption of 4G enabled laptops with VPN functionality as the default device for users and a move away from shared fixed assets in locality based offices. To date more than 50% of the community based staff in Solent have been issued with mobile equipment and the roll out is due to complete by September 2016. Work is also underway with local partners to provide Wi-Fi access

from as many locations as possible to streamline access and provide options for areas with poor 4G coverage.

UHS

- E10.20 End user computing: The existing end PC and laptop estate lifetime is an issue with more than 1,000 devices more than six years old. It is hoped that if investment can be maintained to get the maximum age down to around six years within the 2016/17 period. Maintaining this state will require replacement at around 700-800 per annum ongoing. Mobile devices remain a stretch target if funding can be found.
- E10.21 Networking: The core network is being replaced by a 10Gb backbone, which has dual core. This highlights a significant problem in the estate with asbestos and the need to survey anything before any works, a factor of the age of the buildings.
- E10.22 NHS Network: The existing <100Mb is challenged. Given the trend towards cloud computing this will become more of an issue, unless there is a move to send more data over cheaper internet links.
- E10.23 Wi-Fi: Access is generally good but there are areas of non-coverage. This is difficult to correct partly due to age of buildings but also as a heavy user of the wireless network, planning is becoming an issue. Flooding areas with access points is counter-productive, and as an ePrescribing and mobile medical notes user the existing local wireless bandwidth is challenged. There is limited patient access upon request.
- E10.24 The fixed telephony is being upgraded during 2016 but is still largely analogue, with more than 6,000 bell wire extensions. This will not alter during the five year planning period, and this may affect ambitions around unified communications.
- E10.25 Data centre and Servers: The estate is largely virtualised over two data centres for disaster recovery and resilience purposes. There is a mixture of dedicated application servers for things such as Pathology, and general virtual storage and smaller servers. At some point the estate will become an issue (space) and there is a view that applications will start to move to the cloud.
- E10.26 Security: There is a patching schedule but it becomes out of date as servers cannot be taken down. The perimeter is managed by firewalls.

SCAS

- E10.27 SCAS have an aspiration to commence two projects to further develop their infrastructure and enable mobile working:
- NHS Mail 2: project that has been scoped to introduce the secured NHS Mail solution and bring in Skype for Business which both will introduce cost savings relating to cost and time of off-site meetings.
 - SCAS Clinical cloud: project that has been scoped to introduce Cloud hosting technologies that will improve remote system access for off-site working and reduce capital expenditure on hardware.

FHFT

- E10.28 FHFT have Wi-Fi infrastructure in all of their buildings. In addition, a network upgrade project is due to start in the next month.
- E10.29 Mobile devices have been piloted and a Mobile Device Management (MDM) strategy needs to be finalised and the policy written.

E10.30 Single Sign on is used and smartcards for access are in clinical areas. At this time there are smartcards at Frimley/and small number at Wexham. SSO is in place at Frimley and not at Wexham but part of the plan is to roll it across the Trust in the next year.

Isle of Wight

E10.31 The Trust has a need to update an ageing network and server infrastructure which will be key to enabling further progression towards paperless at point of care. This is an essential piece of work and needs to take place before any transformational change

E11 Adoption of GS1 standards

E11.1 Within the HIOW footprint, we recognise that the use of GS1 standards will enable, through standard identifiers and bar codes, the local health and care system to identify, capture, and share information on medicine, medical devices, consumables, assets and returnable equipment automatically.

E11.2 The standards will help identify patients and staff as well as delivery and requisition locations to improve patient safety and supply chain efficiency, whilst saving on costs and enable the recording of the full service line costing of procedures and patient care.

E11.3 Across the HIOW footprint there is a named GS1 lead for each NHS Trust and NHS South of England Procurement Services are on the Department of Health's national group for GS1 implementation.

E11.4 By December 2020, HIOW NHS Trusts are working to have implemented the following against the national standards and five-year plan:

- Single logistics function and inventory management
- Single Procure2Pay process (for supplies, pharmacy etc.)
- Single product recall procedure
- Utilisation of the GS1 barcodes
- Point of care scanning for patient identification in place in 100% of the Trusts
- 90% of products purchased are on a catalogue system.

E11.5 The HIOW CCGs only require limited application of the GS1 standards, when relevant to patients being seen by GP's and the medicine and products they order directly for patient use. In this instance there will be a drive to ensure a consistent approach across the healthcare system, which will be led by the acute service provider organisations.

F Organising to deliver

F1 Governance

F1.1 This LDR has been developed with oversight from a collaborative governance group representing all the HIOW footprint partners, referred to as the HIOW Digital Transformation Board.

F1.2 This group now reports into the HIOW STP Board, which provides overall leadership for transformation across the HIOW health and care system. Partner organisation representatives are responsible for reporting back to their respective Executive Boards.

F1.3 As the STP process gains momentum current digital transformation governance arrangements may need to change to align with that of the STP.

F1.4 Figure 20 sets out the governance structure for digital transformation across HIOW in the context of the broader transformation governance arrangements.

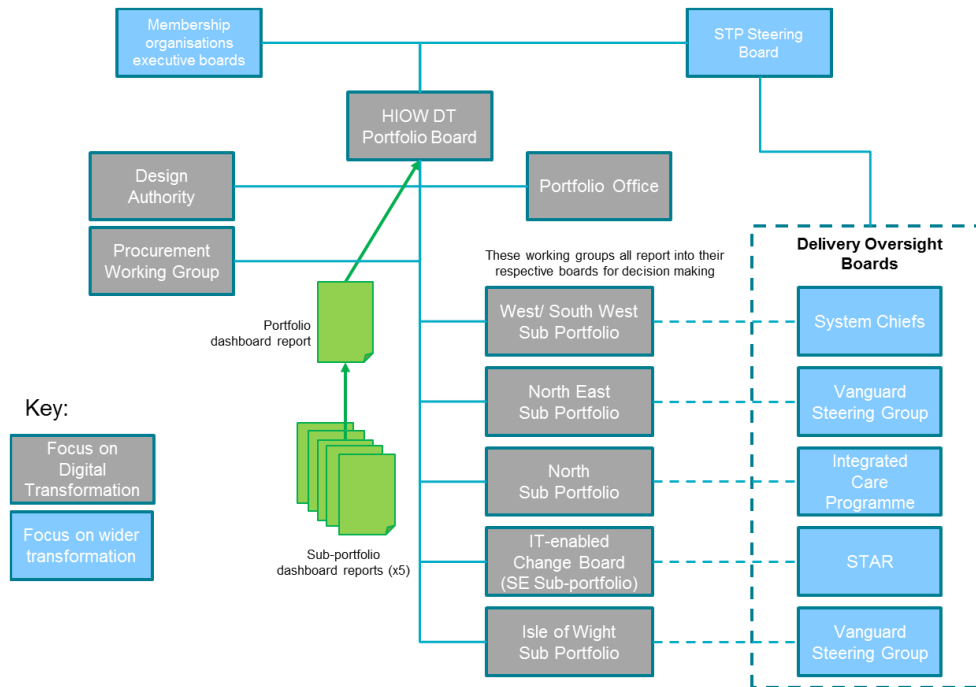


Figure 20: HIOW Digital Roadmap Governance Structure

F1.5 A portfolio management based approach has been used to support the HIOW Digital Transformation Board to establish visibility and portfolio level controls to enable collaborative decision making in relation to investment priorities and delivery oversight.

F1.6 Five sub-portfolios have been established to provide locality-based collaborative governance groups, which report into the HIOW Digital Transformation Portfolio Board, and local transformation leadership groups.

F1.7 A dedicated Design Authority, comprising of CIOs, CCIOs, GP IT Leads and local stakeholder technology leads has been established to provide collaborative technical leadership and to ensure partner organisations work towards shared objectives and outcomes in terms of the approach and design of technology solutions.

F2 Organisation and resource

F2.1 Delivery of the roadmap will require co-ordinated efforts at all levels of the HIOW health and care system.

F2.2 Going forward it is expected that the HIOW health and care system will establish a collaborative team, which will:

- Develop and assure delivery of the Local Digital Roadmap for the HIOW footprint;
- Develop and deliver HIOW-wide digital transformation programmes, including the strategic interoperability platform;
- Drive adoption and use of HIOW-level strategic solutions by health and care organisations across HIOW;

- Facilitate digital innovation through partnerships, stakeholder engagement, adopting an agile approach to delivery, and supporting proof of concept projects that benefit the whole footprint; and
- Provide the governance and portfolio management support function to the HIOW Digital Transformation Board.

F2.3 This collaborative will operate on behalf of the partner organisations that comprise the HIOW Digital Transformation Portfolio Board, and will operate under the terms of a HIOW Digital Transformation Collaboration Agreement, which is under development.

F2.4 It is envisaged that instead of setting up a standalone entity to provide these functions, individual organisations will lead on and resource specific elements, such as procurement, as agreed by the partnership, and will be funded appropriately.

F2.5 Further work is required to define and agree the scope, priorities and resource requirements of the collaborative.

F2.6 In addition to HIOW-level resources, resource will be required locally to lead implementation of HIOW-wide programmes, as well as developing and delivering local change projects and programmes to uplift digital maturity.

F3 Change Management

F3.1 To reap the benefits of the significant transformation set out in the HIOW STP and LDR, we must ensure adequate time and resource is invested in embedding the changes at the frontline of service delivery.

F3.2 For change to be effective, it requires a balance of leadership and change management techniques and we will use a framework for change that is based on best practice methodologies.

Leading change:

F3.3 The HIOW footprint is already well established in terms of leadership for digital transformation, with both system-wide and locality based collaboration groups in place.

F3.4 This vision, and the associated changes required to deliver it, will be championed at a senior level across the system, with appropriate investment in communications and engagement to validate the vision and changes, and gain buy-in from relevant stakeholder groups.

Managing change:

F3.5 In addition to effective leadership, change management capabilities must be embedded within the portfolio, programme and project teams responsible for delivering change across the HIOW health and care system, whether that is part of a HIOW-wide strategic programme, or a project within or between individual provider organisations.

F3.6 In delivering the agreed digital transformation across HIOW footprint, we will use a consistent framework to prepare, deliver and sustain the identified changes, which is summarised in Figure 21.

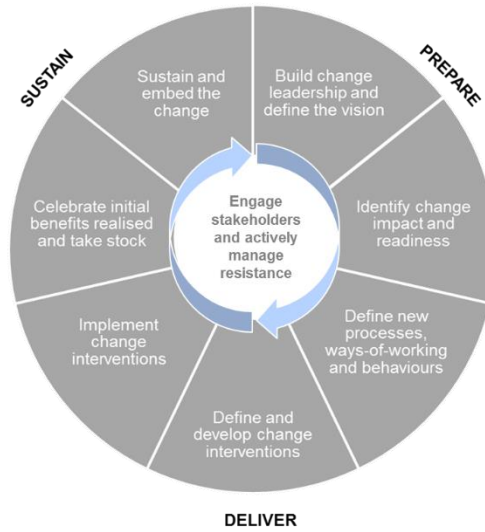


Figure 21: Change management framework

- Engaging all stakeholder groups with the change is key to its success – without the involvement and buy-in of the end users and those enabling the change, it will inevitably fail. Engaging stakeholders, and managing resistance to change, are critical activities to realising the anticipated benefits of change.

F4 Benefits Management

- F4.1 For us to achieve our ambition within HIOW, we are going to need a robust benefits identification and management approach to ensure the investments we are making are the right ones and will achieve real value.
- F4.2 If value is to be created and sustained, it is important to manage the benefits through the entire investment lifecycle; from describing and selecting the investment, through programme scoping and design, programme delivery and operation of the assets to release the identified benefits.
- F4.3 Benefits will accrue at different levels of the system, e.g. to patients, staff, provider organisations, commissioners and the system as a whole, e.g. aggregate savings from cost improvement. In order to have a single view of the benefits being realised through delivering of the HIOW STP and LDR, benefits must be pro-actively managed at the change delivery level.

Benefits management process

- F4.4 The figure below shows a high level overview of the benefits management process which will be used to define and track benefits at a programme and project level across the digital transformation portfolio.



Figure 20: Benefits management process

- F4.5 Summary of each process step:
- **Define benefits management plan:** This will describe the policies and procedures, roles and responsibilities for benefits management of a project or programme.
 - **Identify and structure benefits:** Captures required benefits from key stakeholders. The interrelationships between delivery outputs and achieving associated outcomes will be understood through benefits modelling and mapping. Each benefit (and dis-benefit) will be documented in the project / programme business case in terms of value, timescales, ownership and dependencies.
 - **Plan benefits realisation:** This step involves capturing baseline measurements and agreeing targets for metrics that will represent each benefit to be delivered by a project / programme. Baseline measurements will identify the current performance of an operation so that improvements can be measured.
 - **Implement change:** This is about implementing the changes required to deliver the identified benefit, including changes to processes, systems and behaviours.
 - **Realise benefits:** Following completion of the project / programme, the business-as-usual operational teams must be clear on roles and responsibilities for embedding the changes and ensuring maximum benefits are realised.

F4.6 Projects and programmes will go through appropriate prioritisation based on the benefits they deliver and the return on investment. Prioritisation and go/no go decisions will be decided by the relevant governance group, e.g. organisational board, locality sub-portfolio board or the HIOW Digital Transformation Portfolio Board.

Anticipated benefits

F4.7 Delivery of the HIOW LDR is expected to realise a broad range of benefits to different stakeholders in the health and care system.

F4.8 Whilst specific benefits will be identified and managed at project and programme level, it is important to ensure these are understood and reported on at a system level to ensure appropriate prioritisation of investment and resources to optimise the digital transformation portfolio.

F4.9 Table 1 sets out a high level benefits model, identifying the desired benefits that the HIOW STP and LDR are seeking to achieve, and mapping these to the outcomes and capabilities that must be delivered in order to realise them.

Benefit	Achieved through (outcomes)	Enabled / delivered by
Improve the health of the citizens of the HIOW footprint and prevent ill health	<ul style="list-style-type: none"> Better informed health and wellbeing decisions by citizens 	<ul style="list-style-type: none"> Patient (citizen) portal Integrated health and care record BI / analytics
Improve care outcomes for patients	<ul style="list-style-type: none"> Better informed clinical decision making Faster / better co-ordinated delivery of care pathways, including across care setting and organisational boundaries Better informed commissioning / demand and capacity planning 	<ul style="list-style-type: none"> Integrated health and care record Interoperability Workflow, triggers and alerts BI / analytics
Improve public / patient experience of health and care services	<ul style="list-style-type: none"> Delivery of care closer to home Better access to services Better informed choices about care services More self-service options Greater control of personal care plans Better informed commissioning / demand and capacity planning 	<ul style="list-style-type: none"> Patient portal Integrated health and care record Wi-Fi Infrastructure Interoperability Workflow, triggers and alerts BI / analytics
Improve the productivity of care professionals	<ul style="list-style-type: none"> Better access to information by care professionals Better informed clinical decision making Faster transfer of information between care professionals to enable faster delivery of care pathways Avoid repeat entry of health and care information (paperless, single shared electronic repository) 	<ul style="list-style-type: none"> Integrated health and care record Mobile working Wi-Fi Infrastructure Interoperability Workflow, triggers and alerts BI / analytics
Reduce overall demand from the public and patients on provider	<ul style="list-style-type: none"> Better informed health and wellbeing decisions by citizens Better informed choices about care services 	<ul style="list-style-type: none"> Patient (citizen) portal Integrated health and care record

organisations / the health and care system	<ul style="list-style-type: none"> • More self-service options 	<ul style="list-style-type: none"> • BI / analytics
Shift demand to more efficient channels / settings, increasing productivity of provider organisations / the system	<ul style="list-style-type: none"> • Delivery of care closer to home • Better access to services • More self-service options • Better access to information by care professionals • Better informed clinical decision making • Better informed commissioning / demand and capacity planning 	<ul style="list-style-type: none"> • Patient portal • Integrated health and care record • Wi-Fi Infrastructure • Mobile working • Interoperability • Workflow, triggers and alerts • BI / analytics

Table 19: High level benefits model

F4.10 Further work is required across the HIOW digital transformation portfolio to ensure that benefits are clearly defined and plans put in place to manage and realise them at the appropriate level of the system.

F5 Risk Management

F5.1 Management of risks to the successful delivery of the HIOW LDR will be led by the HIOW Digital Transformation Board, with support from the portfolio management team, who will pro-actively monitor, review and manage identified risks.

F5.2 An appropriate portfolio risk management framework will be established to ensure the Board has visibility and management control of HIOW level risks.

F5.3 Please see Annex 6 for details of the key identified risks to successful delivery of the HIOW digital ambition and roadmap.

F6 Investment Profile Summary

F6.1 The scale and complexity of the HIOW footprint together with the ambition for strategic transformation means that significant digital investment will be required to achieve our outcomes. The high level of investment reflects the need for all organisations to reach a threshold of maturity acting as a technical foundation and the need to invest in top down strategic interoperability and population health analytics to deliver holistic citizen centric services.

F6.2 Throughout the digital roadmap process a portfolio approach has been used to collect and share an increasing level of detail surrounding our existing maturity, current and planned projects and individual trajectories to achieve the national capabilities. While the information has provided a unique insight into the work being undertaken, there is now a requirement evaluate and align, at scale, to ensure we are making the best use of resources, maximising collaboration opportunities and everything is contributing to our strategic 5 year ambition. Utilising the governance structures, including the digital design authority, future digital projects and their corresponding business cases will be evaluated to ensure they are fit for purpose and strategically aligned.

F6.3 The HIOW footprint is a multi-billion pound health and care system supporting approximately 50,000 staff supporting over 2 million citizens. Every aspect of our future transformation is underpinned by digital from our estates strategy, customer access and new models of care. We recognise investment in digital as the key driver for change and releasing the ongoing efficiencies to maximise the health and wellbeing of our population.

F6.4 Funding required to deliver the roadmap is split between investment to support local digital maturity and HIOW wide strategic investment. Without identifying the detailed design requirements and

overall technical strategy estimating the split between capital and revenue required, particularly with IT and digital solutions being increasing hosted on the cloud, is difficult to predict.

- F6.5 Early analysis indicated capital investment of c.£35M and revenue implications of c.£10M per annum would be required to achieve our digital ambition. Focus on this analysis was on the system wide initiatives such as the interoperability and population health programmes with limited funds assigned to individual organisations maturity ambitions. Finance Directors have been consulted in the development of these estimates through the STP process. Further engagement with local providers has also identified key shortfalls in local digital maturity (covered in section D1) that require significant investment to align over the next 5 years.
- F6.6 Estimates for this include:
- £4m to support a local provider to transition to electronic document management.
 - £10m to support a £50m project to overhaul and modernise a hospital's core technology platform.
 - £20m to support an ePR replacement.
 - >£5m to support local Wi-Fi initiatives.
 - >£5m as 1/3 funding to support systems rationalisation as part of an acute trust merger.
- F6.7 Without further work to assess detailed bids the total value of additional investment to achieve partner trajectories for digital maturity is in excess of £100m.
- F6.8 HIOW strategic investment covers both short and long term investment projects. The interoperability strategy builds on existing capabilities and technology to provide early benefits as well as recognising the need to invest in new shared technology to support future integration work. Shorter term the priority is to harness the investment and asset we have in our existing integrated digital care record the HHR. Work includes an upgrade to the latest version, rollout of single sign-on, mobile working and creating a decision support dashboard utilising a business intelligence visualisation tool.
- F6.9 To support our workforce to work flexibly, co-locate, and enable public access to services and to underpin our future systems it is vital we invest in our infrastructure. Short term will be look to build on existing work to ensure staff from any partner organisation can work across all location flexibly and ensuring there is Wi-Fi access across our shared estate. Longer term, and in light of national programmes, we investigate opportunities to exploit shared networks and services such as unified or federated communications platforms (for example the Health and Care network and extended NHSmail2 services).
- F6.10 Longer term strategic investment includes:
- Shared Infrastructure
 - Strategic Interoperability
 - Population health/Intelligence hub
 - Support to integrate with local system and APIs
 - Technology to support care coordination and patient activation
 - Capability and capacity to implement, integrate, train and manage the future ambitions
- F6.11 We have detailed estimates for initial investment required to support strategic interoperability and have already started to engage with the market to identify potential solutions. We are looking to secure funding for short term strategic solutions through the ETTF, Vanguard and local CCG funding.
- F6.12 Investment in technology will require identifying funding sources and where appropriate pooling resources to benefit from our footprints ability to deliver economies of scale.

F6.13 Our target sources of investment include:

- ETTF
- Vanguard funding
- STP funding
- Digital maturity investment fund
- Local IM&T funding
- Cash releasing efficiencies

F6.14 There will be a significant gap between the investment needed and identified. The gap will ultimately limit our ability to deliver the transformation and therefore it is vital we can measure outcomes and release cashable benefits early from our digital investment. Securing a level of early momentum, working with our pioneering business areas will help secure the confidence and business justification to unlock future funding streams.

F6.15 While it would not be feasible to restrict all local funding applications for small initiatives to support local sustainability, any future large or strategic requirement will be channel through the Digital and STP governance. Evolving a process that will ensure we align to our transformation objectives is critical in order to achieve the efficiencies needed to deliver modern health and wellbeing solutions meeting our future population and organisational needs.

F6.16 Our LDR recognises that funding may come in tranches and our approach to delivery will be aligned to reflect this.

G Annexes

Annex 1.	NHSE Checklist Mapping Tool	 Annex 1 - NHSE checklist mapping to
Annex 2.	HIOW Capability Deployment Schedule	 Annex 2 - HIOW Capability Deployme
Annex 3.	HIOW Capability Deployment Trajectories	 Annex 3 - HIOW capability trajectorie
Annex 4.	HIOW Universal Capability Delivery Plan	 Annex 4 - HIOW Universal Capability
Annex 5.	HIOW Information Sharing	 Annex 5 - Information Sharing
Annex 6.	HIOW LDR Risk Log	 Annex 6 - HIOW Digital Roadmap Ris
Annex 7.	HIOW Master Portfolio List	 Annex 7 - HIOW_Master_Portfi
Annex 8.	HIOW LDR Glossary	 Annex 8 - HIOW LDR Glossary v03.do
Annex 9.	HIOW LDR Governance Group	 Annex 9 - HIOW LDR Governance Grc
Annex 10.	SCAS LDR Vision	 Annex 10 -SCAS Vision of the Local E