

WIRRAL CARE RECORD & HEALTH INFORMATION EXCHANGE

HEALTHY WIRRAL PARTNERSHIP

INTRODUCTION

The Healthy Wirral Population Health Programme is delivering two key solutions to reduce variations in the health of local people and improve care.

The Health Information Exchange (HIE) is a shared care record that provides access to real time patient information. Along side it, the Wirral Care Record (WCR) supports targeted intervention and prevention based on a set of wellness and condition registries. Both solutions use Cerner technology to draw data from 51 GP practices, community services, the acute hospital, and cancer centre. Further datasets will be added in time.

AT A GLANCE

SCALE

L

S = < 5 organisations
M = 5-10 organisations
L = 10+ organisations

MATURITY

3

0 – No planned programme for sharing data
1 – Sharing one data type or planning data sharing
2 – Sharing two data types (inc. GP) at read only
3 – Sharing three or more data types at read only
4 – Sharing three or more data types, with write capability

*for the purpose of comparison the data types are GP, Acute, Community, Mental Health, Adult Social Care, Child Social Care

HOW THE WCR AND HIE ARE BEING USED

Individual Patient Care	Care Planning & Coordination	Health & Care System Management	Population Health Management	Research
LIVE	LIVE	IN FLIGHT	IN FLIGHT	FUTURE



HIE is already starting to have a positive impact on direct patient care. But the WCR registries and analytics tools are the real game changer. We want people to live longer, healthier lives regardless of postcode. WCR will help us achieve that.



TIMELINE



51 GP practices accessing shared records

14 disease and wellness registries

300k + population

LOCAL CONTEXT

- The Wirral Local Digital Roadmap (LDR), which was produced by the Healthy Wirral partner organisations, outlines the key improvements that the region is starting to enable through the use of local shared care records, including standardising clinical processes based on best practice and using analytics to predict deterioration in patients' conditions earlier, allowing for more timely or appropriate intervention. It also articulates the two key objectives that provide the impetus for the HIE and WCR programmes: namely to change the way health care is delivered and transform the health of the local population.
- Wirral has a reputation for the successful delivery of technology-enabled change and there is a high level of digital maturity across the region. Staff have come to view IT as a fundamental component of their working practices and have high expectations regarding its potential.
- Wirral University Teaching Hospital (WUTH) has made long term investments in its IT provision, notably its Cerner Millennium EPR, and has an excellent strategic relationship with the supplier. The decision to adopt Cerner's HealthIntent platform is seen as a natural extension of this relationship. The other partner organisations have also bought into the vision.
- Wirral has a significantly less complex geography and health care system than most, which may account to some extent for its success in implementing and embedding IT solutions. Nonetheless, it faces some challenges which it is keen to address. For example, life expectancy varies by over 10 years between electoral wards. Reducing this variation is one of the primary goals of the WCR.

FOCUS ON: POPULATION HEALTH MANAGEMENT



The definition of population health management varies depending on who you talk to. In Wirral, we see it working on two levels: 1) enabling clinicians to identify and address gaps in the care of their patients, and 2) on a macro scale, being able to analyse data and develop intelligence to support decision making about care provision across the region.

The Wirral Care Record is live at a number of GP practices and already we're starting to observe trends. For example our data seems to corroborate the idea that the more unmet measures there are at a practice, the more Emergency Department (ED) encounters there will be too. It follows that by providing GPs with the tools they need to meet those measures, we can reduce ED attendance. A lot of the problems faced by hospitals cannot be solved inside the hospital itself.

The aim of the WCR is to help people (by which I mean individual clinicians and managers or policy makers) understand where to focus their efforts and resources. One of the registries we're introducing in Phase 2 is Wellness. We're interested to see the results from this because it's not about disease, it's about prevention. And it takes into account so many non-health factors (housing, education and so on) to help us build an accurate picture of our population and work out where to target our collective energy to reduce variations in outcomes.

Paul Charnley, Director of IT and Information, Wirral University Teaching Hospital



THE HEALTHY WIRRAL PARTNERSHIP POPULATION HEALTH PROGRAMME SUPPORTS...

INDIVIDUAL PATIENT CARE

- HIE supports the delivery of individual patient care, allowing GPs and hospital clinicians to view data from across the care pathway, meaning fewer delays, improved safety and care, and a much smoother experience for the patient. Community and Cancer Centre data have recently been added to the shared record, and mental health, social care, and hospice datasets will follow, further enhancing HIE's potential to support a more integrated model of care.
- WCR is also starting to have an impact on individual patient care and is currently most used by specialist groups, for example specialist nurses for COPD, to set up specialist clinics using the data to identify patients to target.



POPULATION HEALTH MANAGEMENT

- A major component of the WCR population health management solution is the use of "registries". These give clinicians a means of monitoring patient cohorts and identifying gaps in their care when certain measures are not met. In Wirral, registries are being enabled in phases. Phase 1 is live, and Phase 2 will be released later in 2018.

PHASE 1

- Adult diabetes
- Child diabetes
- Adult asthma
- Child wheeze
- COPD

PHASE 2

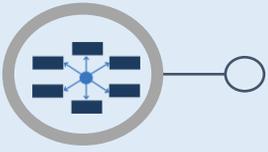
- Cardiovascular disease (one for atrial fibrillation and one for heart failure)
- Substance misuse
- Wellness (split into adults and children)
- Mental health
- Frailty
- End of life
- Social care

- An intuitive dashboard-style display shows clinicians how each registry is performing, making it easy to see where they should focus their efforts.
- This is on the level of individual clinicians or teams working with their own sets of patients, however the solution also aggregates the data up to a population level, this time highlighting gaps in service provision across the region.
- Healthy Wirral has developed a set of objectives, with defined measures, that it aims to meet through improvements in working practices enabled by WCR. These include reducing health inequalities, improving the patient experience, supporting self care, reducing admissions, and enabling children to get the best start in life.



TECHNICAL SOLUTION

HEALTH INFORMATION EXCHANGE (HIE)



FEDERATED RECORD LOCATOR MODEL

- The Health Information Exchange uses a Cerner platform to connect clinical systems together.
- Data is collected on a per-request basis at the point of need and displayed in an aggregated view. It is not stored.
- The solution accesses data from GP systems via the MIG. The information is real-time. All access is audited.
- Users launch HIE through their own clinical systems.

SOLUTION FEATURES

FEATURE	IN USE
Coded data	✓
Free text data	✓
Bi-directional	✓
Real time	✓
Role-based access	✓
Mobile	✓
Write access	⊘
Notifications	⊘
Alerts	⊘
Patient Portal	⊘

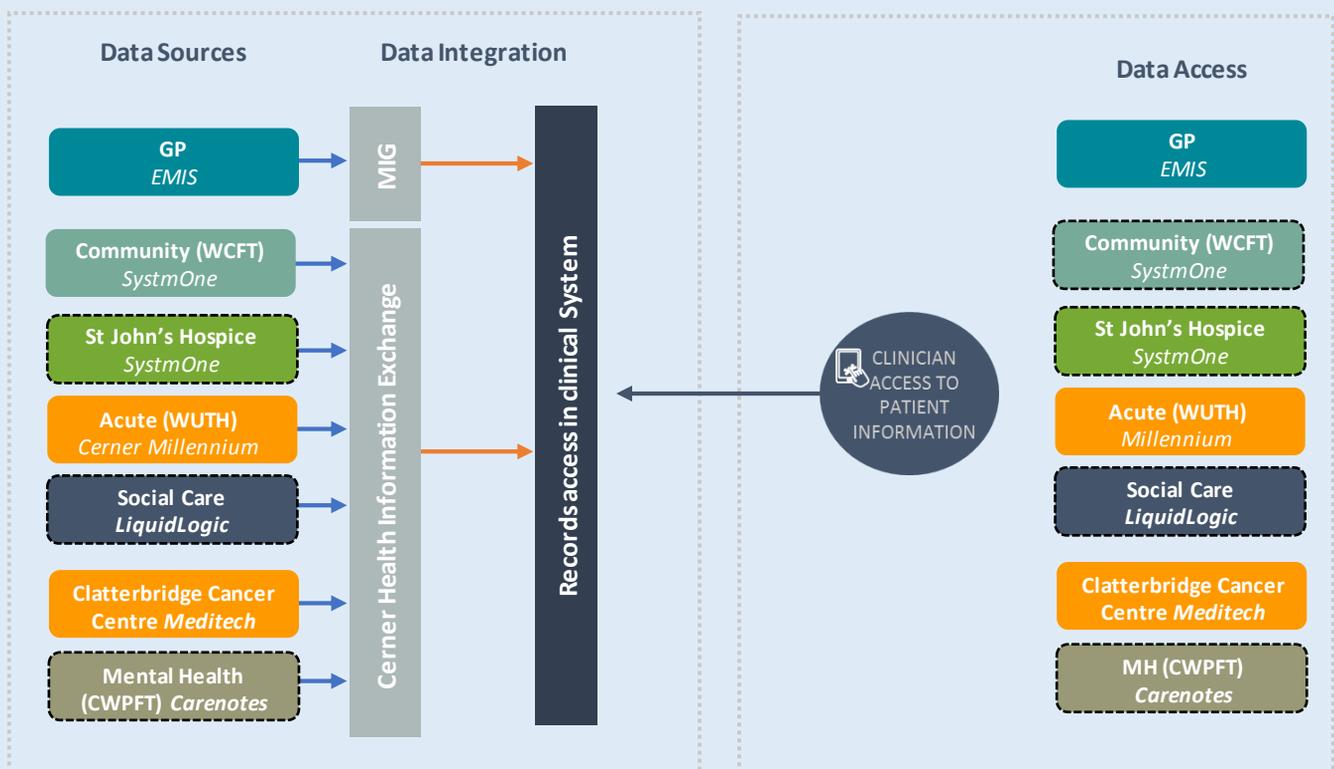
SYSTEMS IN SCOPE OF HIE

SITE	TYPE	VIEW	SHARE	CLINICAL SYSTEM
Wirral University Hospital FT	Acute	Yes	Yes	Cerner Millennium
Clatterbridge Cancer Centre	Acute	Planned	Yes	Meditech
Wirral GPs (51)	GP	Yes	Yes	EMIS
Wirral Community FT	Comm	Planned	Yes	SystemOne
Cheshire & Wirral Partnership FT	MH	Planned	Planned	Care Notes
Wirral Council (Social Services)	LA	Planned	Planned	LiquidLogic
St John's Hospice	Pall	Planned	Planned	SystemOne

OPEN STANDARDS

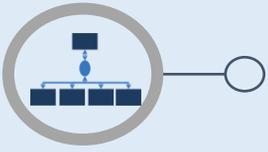
STATUS	SNOMED	Read	dm+d	HTML	ITK	HL7	HL7 FHIR
IN USE	✓	✓		✓	✓	✓	
NOT IN USE							
PLANNED			✓				✓

HIGH LEVEL TECHNICAL ARCHITECTURE



TECHNICAL SOLUTION

WIRRAL CARE RECORD (WCR)



CENTRAL REPOSITORY ARCHITECTURE

- The Wirral Care Record uses the Cerner HealthIntent platform.
- Data is pulled from GP, acute, community, social care, cancer centre, mental health and third party provider systems. It is aggregated, transformed and normalised, creating a merged longitudinal record for each person in the population.
- The data can be interrogated and displayed in different ways, including through a set of disease and wellness registries which can help identify gaps in care.
- The central data repository is refreshed every 24 hours.

SOLUTION FEATURES

FEATURE	IN USE
Coded data	✓
Free text data	✓
Bi-directional	✓
Real time	⊘
Role-based access	✓
Mobile	✓
Write access	⊘
Notifications	⊘
Alerts	⊘
Patient Portal	⊘

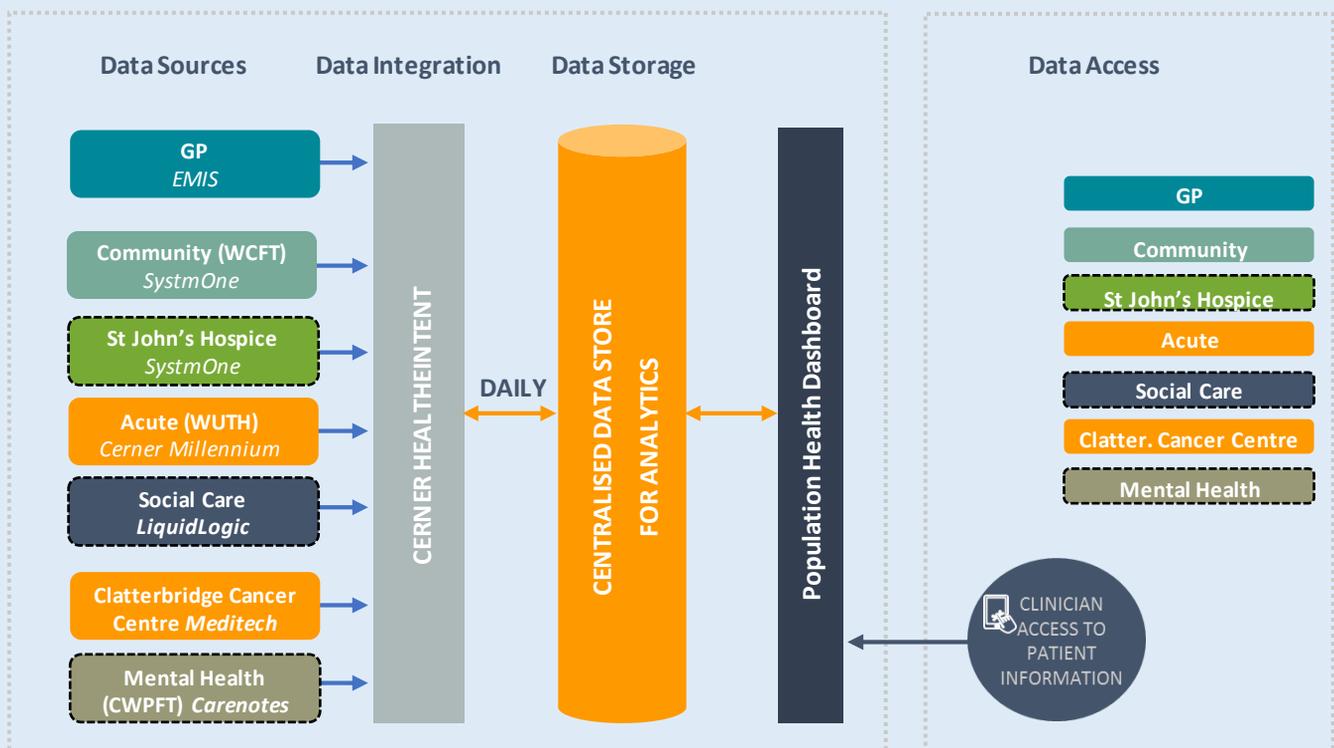
SYSTEMS IN SCOPE OF WCR

SITE	TYPE	VIEW	SHARE	CLINICAL SYSTEM
Wirral University Hospital FT	Acute	Yes	Yes	Cerner Millennium
Clatterbridge Cancer Centre	Acute	Planned	Yes	Meditech
Wirral GPs (51)	GP	Yes	Yes	EMIS
Wirral Community FT	Comm	Planned	Yes	SystemOne
Cheshire & Wirral Partnership FT	MH	Planned	Planned	Care Notes
Wirral Council (Social Services)	LA	Planned	Planned	LiquidLogic
St John's Hospice	Pall	Planned	Planned	SystemOne

OPEN STANDARDS

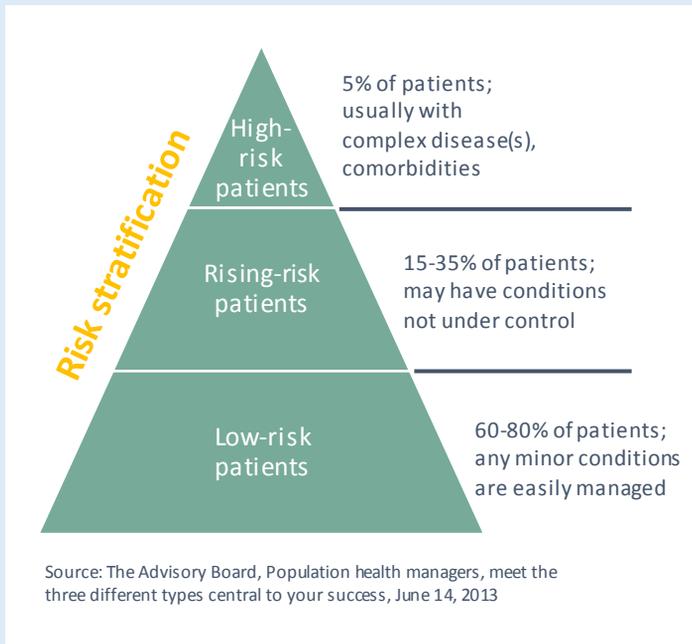
STATUS	SNOMED	Read	dm+d	HTML	ITK	HL7	HL7 FHIR
IN USE	✓	✓		✓	✓	✓	
NOT IN USE							
PLANNED			✓				✓

HIGH LEVEL TECHNICAL ARCHITECTURE



IMPLEMENTATION

The programme team has developed an approach aimed at ensuring a smooth and effective transition for organisations and services joining either the HIE or WCR. Through a series of steps, beginning with an “on-boarding workshop”, they first examine the high level technical feasibility of integrating the proposed dataset, then look at any data quality implications, and finally agree a data specification which is both technically achievable and supports improved clinical processes. This approach takes into account the perspective of the source organisation or service, as well as those who will be consuming the data, to ensure the shared information supports the process end to end. It is a collaborative exercise, involving technical, clinical and programme resources.



The programme’s implementation roadmap is driven by a set of priorities which focus on better management of three distinct patient populations. The aim is to prevent patients from moving up a risk category; in particular to stop them ending up in the top 5%.

Decisions relating to the scope and phasing of the WCR are underpinned by three key objectives:

KNOW

The population (i.e. identify cohorts and predict what will happen to them)

ENGAGE

Patients and providers to take action

MANAGE

Outcomes to improve health and care

GOVERNANCE

Healthy Wirral is a partnership between Wirral Clinical Commissioning Group, Wirral Council, Cheshire & Wirral Partnership NHS Foundation Trust, Wirral Community NHS Trust, Wirral University Teaching Hospital, Clatterbridge Cancer Centre, and St John’s Hospice. It leads the local transformation agenda in Wirral and is a key component of the governance structure. The Healthy Wirral Informatics and Information Governance Group oversees the key sub-groups and teams involved in delivering population health solutions. This group reports up to the Healthy Wirral Partners’ Board.



CONSENT

The consent model is currently based on implied for all patients. For the HIE solution, explicit consent is required at the point of treatment in order to then view the record, but access can be obtained without permission, for example in an emergency, in accordance with a strict set of guidelines. Full access audit trails are maintained. At present, opting out of HIE also means opting out of WCR, although the aim is to refine this as the solution evolves. The programme team is also planning to implement changes to the consent model following the introduction of GDPR, with the potential for the explicit consent component to be removed from HIE.

ENGAGEMENT

What matters to you?

Healthy Wirral has launched a [patient engagement campaign](#) to find out what local people want from their health and care services. The aim is to change the nature of the conversation by asking “what matters to you?” instead of “what’s the matter?”.

A series of around 30 workshops run by a range of voluntary and community partners, including [Healthwatch Wirral](#), and [Community Action Wirral](#), with representation from staff groups and patients, were carried out in early 2018. The outputs from these sessions will help shape the design and direction of diabetes services for adults and children, as well as urgent and emergency care services. They will also help the organisations involved understand what enabling technologies are needed to make the new ways of working possible. HIE and WCR are of course key components of the required digital landscape.

The left shift

This engagement approach – focusing on getting patients proactively involved – ties in with a broader overall shift (often described as the “left shift”) in the delivery of health and care, which the WCR programme hopes to accelerate for the people of Wirral.

The shift sees a change in focus away from the more traditional (and expensive) medical models of health provision, towards promoting and enabling more socially oriented forms of care closer to home. This can start to happen when clinicians have access to tools such as the WCR registries, and when patients are empowered to better manage their own care, for example through access to single a patient portal, which is a future aspiration of the Healthy Wirral Partnership (there are already service level patient portals available at GPs and WUTH).

Local and national campaigns

As well as a leaflet drop to all households explaining how data will be used to support health and care across the region, key messages have been delivered via local television, radio, social media and public meetings across Wirral. A new Healthy Wirral website is soon to be launched, and clinicians are being engaged face to face to ensure they feel confident to answer patients’ questions or concerns. The communications approach is a joint effort between communications teams from the partner organisations .

The teams are also working to integrate national messages into their local communications plans. For example, the [#datasaveslives](#) public engagement campaign that highlights the positive ways in which data is securely re-used to improve health services. Similarly, [Understanding Patient Data](#) has proved to be a valuable resource – particularly its research-based advice on topics such as choosing the right [language](#) when explaining how data is being used.



KNOWLEDGE SHARING

- As a Global Digital Exemplar (GDE) site, Wirral hosts and attends events – such as the Population Health Management Open Day, where more than 50 delegates from organisations around the country attended and contributed their knowledge.
- Wirral attends Cerner user groups and other events hosted by the supplier. WUTH is Cerner’s first global HealtheIntent client and is a reference site for the solution.

SUCCESS FACTORS



ENGAGEMENT

CLINICAL ENGAGEMENT

- Clinical engagement has been led at a senior level, which has had a positive impact across the local clinical community. For example, the Medical Director at Wirral CCG is the clinical lead for the population health programme, and there are clinical leads from each of the partner organisations who have a genuine desire to be involved, and to help shape and promote the benefits of the programme.
- Engagement with GP practices has been mainly face to face. While this approach has been labour intensive, the team believes it has been vital in getting people on board and giving them the confidence to deal with patients' questions and concerns.
- Timing has also been a key factor. The solution has reached a level of maturity whereby it is easy to show people how it works. Not only is it a tangible system (as opposed to an idea on the horizon), but clinicians can immediately sense the innovation it represents. This has generated demand. People want it, which makes it easy to rollout.



COLLABORATION

POSITIVE RELATIONSHIP WITH SUPPLIER

- WUTH holds and manages the contract with Cerner (having worked with the supplier for a number of years to implement its Millennium EPR), but the programme is working on behalf of all the partners and the positive nature of the relationship has been extended accordingly.
- The programme team describes the value of this, saying there is no sense of "us and them". They feel they benefit from being part of the Cerner community, in terms of lessons learned and knowledge sharing, as well as being able to take advantage of the supplier's experience in North America.
- All of this has allowed the partner organisations and supplier to work collaboratively to shape Wirral's strategic vision and get the right enabling technology in place.

FUTURE AMBITIONS

Future development of Wirral's population health solutions include plans to:

- Rollout the solution to community, mental health, social services and hospice
- Implement the Phase 2 registries in WCR
- Analyse opt out data and improve the opt out rate through a targeted action plan
- Use WCR's analytics capability to identify and measure a set of benefits metrics
- Focus on service improvement and business change in order to fulfil the key aims of the programme
- Identify and exploit opportunities for tying health data in with other datasets, for example local air quality and public health data, and start to use data for research
- Explore the use of other advanced digital technologies, including remote monitoring and video conferencing
- Develop a single patient portal solution to give patients more power and ownership of their health.

LESSONS LEARNED

GETTING THE MESSAGE RIGHT

Challenge: So many messages have been put out to the local population, either generated locally or via national communications, that there is an element of confusion regarding data sharing which needs to be addressed.

Lessons Learned: The impact of mixed messages is evident in a couple of examples.

First, Wirral feel they need to do some work to build a more coherent “brand” for the solutions they are delivering. Clinicians talk about “HIE” and “WCR” but they are not always clear about the use-case for each. Furthermore, describing the local shared care record programme in these terms to patients is proving unhelpful. New messaging is being defined in order to give the programme a sense of identify for all stakeholders.

Secondly, the opt out rate across Wirral is considered to be high (approx. 10%), which the programme team is working to address. They have noted that 80% of opt outs were recorded at the time when the Care.Data programme was frequently in the press and there was significant anxiety about data sharing among the public. For this reason, they are keen to ensure local and national messages are aligned and compliment each other to foster public support. They are starting to adopt the language of positive national campaigns such as #datasaveslives and are building on the recommendations of Understanding Patient Data.

COMPLEXITIES OF TESTING

Challenge: Testing the data in integrated systems can be more complex than testing standalone ones. In addition, the team planned to get GPs to validate the data – to check that nothing was lost in translation – but they had no capacity to do so.

Lessons Learned: The team has refined the testing approach to reduce the time overhead and make it more effective. They have developed a defined set of data to be tested as well as identifying key roles to test the data.

FUNDING CAN LEAD TO STOP START

Challenge: The programme has both benefited from and suffered the negative effects of receiving national funding. It has ramped up to support accelerated delivery in line with funding becoming available and then has had to scale back when circumstances changed.

Lessons Learned: Maintaining collaborative relationships and keeping up the engagement is important even when (perhaps especially when) implementation slows.

FURTHER INFORMATION

INFORMATION CORRECT AS OF 27/04/2018

CONTACT

LINKS

EMMA DANTON

Healthy Wirral

INFORMATICS PROJECT MANAGER

Local Wirral Local Digital Roadmap

WIRRAL UNIVERSITY TEACHING HOSPITAL

Understanding Patient Data

emma.danton@nhs.net

#datasaveslives

Produced in collaboration with [NECS](#) and [Accenture](#)