

# LANCASHIRE PATIENT RECORD EXCHANGE SERVICES

## LANCASHIRE

### INTRODUCTION

The Lancashire Person Record Exchange Services (LPRES) allows sites to share patient documents with participating sites. LPRES also developed an online information governance tool for managing information sharing agreements between sites.

The solution deployed is a HIE Tiani Spirit Exchange platform and it connects 9 sites and 228 GPs.

SCALE

M

COMPLEXITY

M

- ACUTE CARE
- PRIMARY CARE
- MENTAL HEALTH CARE
- COMMUNITY CARE
- SOCIAL CARE

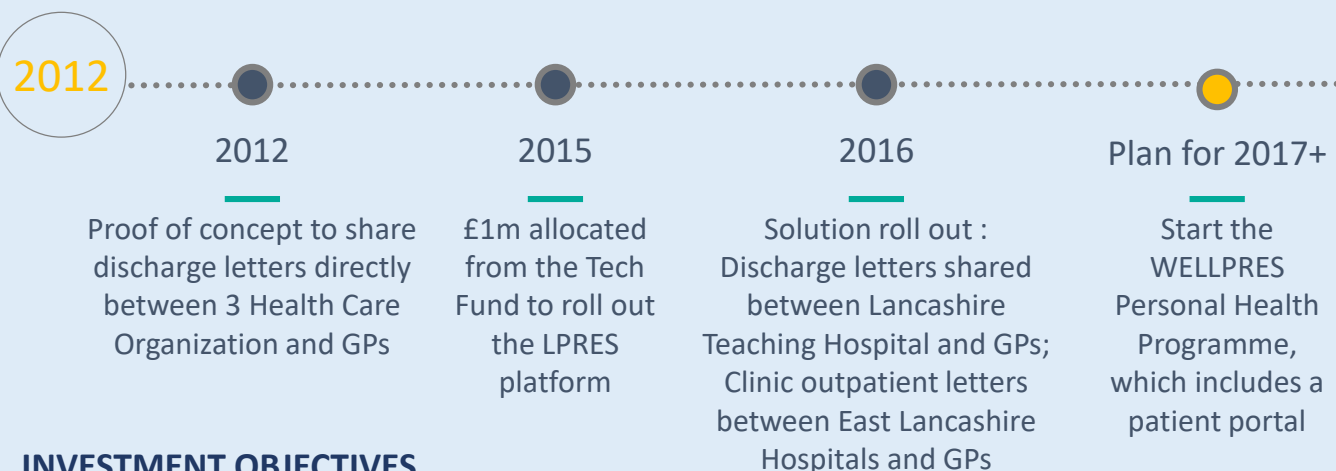
**Scale:**

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

**Complexity:**

L = Healthcare (HC) only  
M = HC + community or social care  
H = HC + community + social care

### TIMELINE



### INVESTMENT OBJECTIVES



PUTTING THE CITIZEN AT THE HEART OF CARE PROVISION. SUPPORTING INCREASED EFFICIENCY BY EMPOWERING STAFF WITH ACCURATE, REAL-TIME INFORMATION. IMPROVING PATIENT OUTCOMES THROUGH BETTER, SAFER AND MORE JOINED UP CARE.



**9** healthcare organisations

Approx. **3500** documents shared every day

Approx. **1.8 million** population

## SOLUTION

- The LPRES solution enables document sharing between different organisations, on request.
- Health and Care workers access these documents via a “one-click” button search feature embedded within their native systems. Documents can contain test results, discharge summary or patient information and they are published in PDF Format.
- The solution currently supports read-only access to these documents.
- Currently documents are shared between 9 organisations in the region:
  - 5 acute hospitals
  - 1 mental health trust
  - 1 ambulance trust
  - 1 commissioning support unit
  - 2 county councils
  - 228 GPs
- On average 3500 documents are exchanged per day.
- An Information Sharing Governance Tool is used to manage the flow of documents.

## BUSINESS CAPABILITIES

### RECORDS ACCESS

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- LPRES programme enables health and care professionals to access information stored across the systems of other care organisations on the programme.
- The record includes access to:
  - Hospital attendance
  - Social care information
  - Diagnoses
  - Mental health contacts
  - Immunisations
  - Community health information
  - Allergies
  - Test results

### TRANSFERS OF CARE

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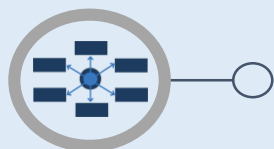
- All types of documents, clinic letters, outpatient letters and other clinical documents are delivered directly into the GP workflow for GP practice staff to manage.

### INFORMATION SHARING CONSENT

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- The Information Sharing Gateway (ISG) is a programme-wide governance tool designed for the LPRES.
- Online tool for member organisations to track data flows by registering the type of data they want to share and request details about the type of data they want to access.
- Allows easy auditing for organisations to demonstrate compliance with legislations.
- Patients give consent before any data can be shared at the point of care.

## TECHNICAL SOLUTION



### FEDERATED REGISTRY MODEL

- The LPRES project uses a federated registry model to share information and is based on the Tiani Spirit Health Information Exchange.
- On request, the Tiani Spirit retrieves information from other organisations within the network.
- Organisations store data within their own systems and control what data they share.
- Nodes are deployed at each organisation to control access and publish and consume data.
- User access roles are stored in an active directory, the largest NHS directory of its kind in the country.
- 5 organisations and GPs share documents. Additional organisations can view these.

## SOLUTION FEATURES IN USE

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

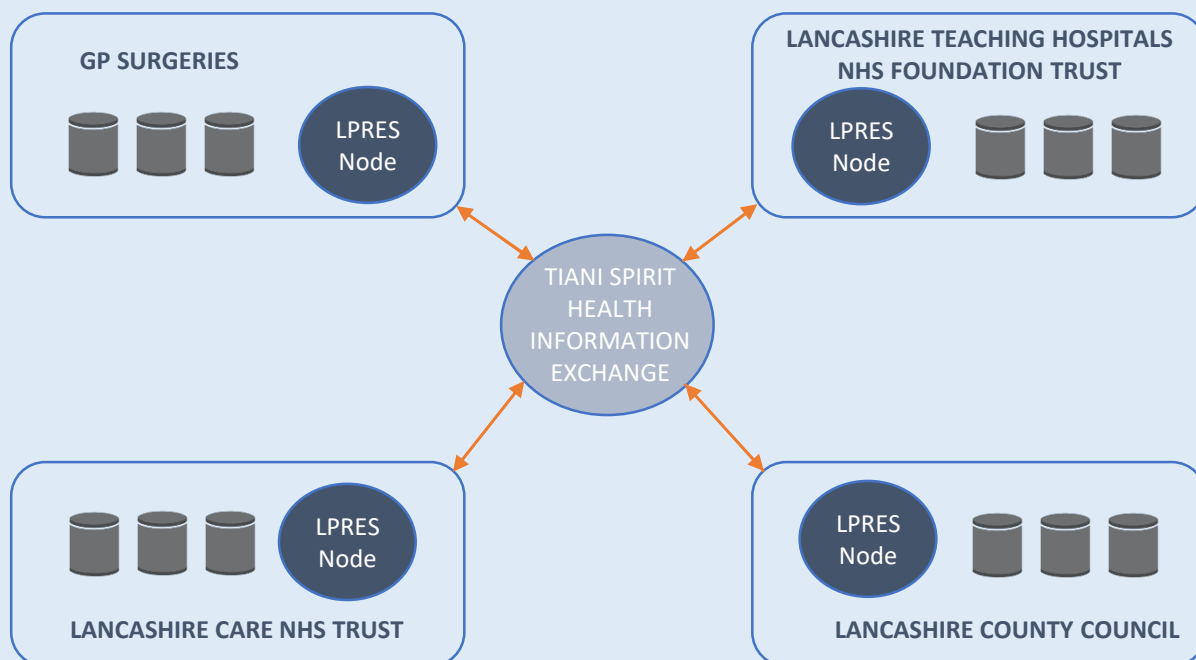
## HEALTH AND CARE IT SYSTEMS IN THE REGION

SITE	IT SYSTEM
Lancashire Teaching Hospitals	Harris Quadramed
Lancashire Care NHS Foundation Trust	Servelec Rio
Blackpool Teaching Hospitals	IMS
East Lancashire Hospitals	CSC Continuum
Southport and Ormskirk Hospital	System C Medway
University Hospitals of Morecambe Bay	CSC Lorenzo
GP Practices	EMIS
Lancashire County Council	Liquid Logic

## OPEN STANDARDS

STANDARD	COMPLIANT
HL7 v2, v.3, FHIR, GS1, IHE XDS	✓

## HIGH LEVEL TECHNICAL ARCHITECTURE DIAGRAM



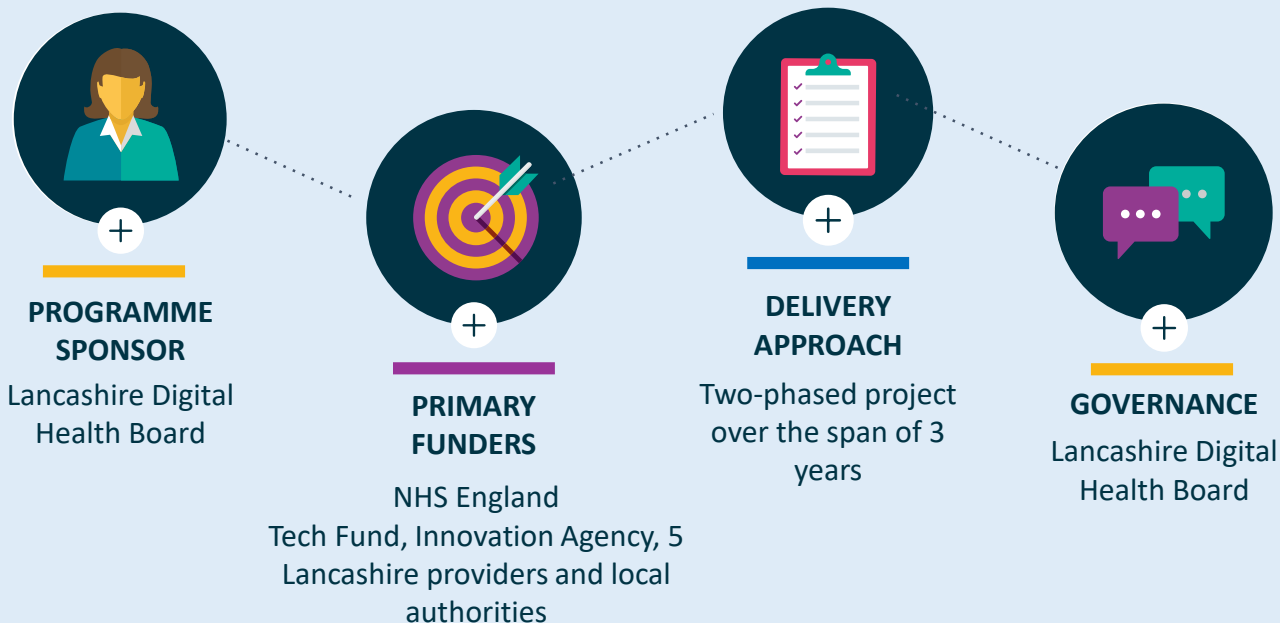
Note: this diagram does not show all sites that are sharing information

## IMPLEMENTATION

The LPRES project consisted of 2 phases: the pilot phase and the expansion phase. Each site deployment was carried out by Tiani and the local IT team and included:

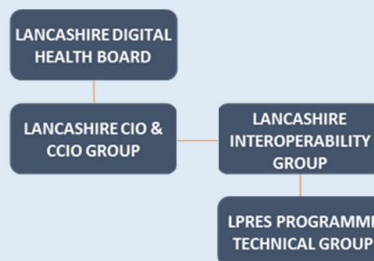
- Installation and deployment of a node in an organisation.
- Integration with the LPRES services.
- Deployment of a portal on local machines [if required].

Timelines for each deployment vary depending on the documentation and organisations. The implementation of the discharge letters from LTH to 80 GPs took 3 months.



## GOVERNANCE

The LPRES project reports into the Lancashire Digital Health Board. The LPRES project team works with local IT Committees.




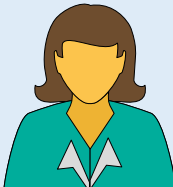

## FUTURE AMBITIONS

In the future there are specific milestones and plans to:

- The LPRES project plans to deploy the solution to all Local Digital Roadmap partners by the end of 2017. This includes adapting the solution for local police, fire rescue and borough councils as part of the Lancashire Transforming Lives programme.
- WELLPRES Personal Health Programme, which includes a patient portal for patients to share personal health information with health and care professionals.
- Enable local authorities to see parts of a person's GP record – [September 2017]
- Enable South Manchester Hospital to share information with Blackpool Hospital regarding Cystic Fibrosis patients. [September 2017]

## SOLUTION BENEFITS

LPRES identified the following potential direct and indirect benefits of the information sharing solution:

				
	DESCRIPTION	PATIENT	CLINICAN	OPERATIONAL
DOCUMENT SHARING	<p>Patient information can be shared in digital form. Documents now arrive in hours, compared to the previous wait of 6 weeks.</p>	<p>Experience improves as they can be treated sooner</p>	<p>Saves time waiting for important patient information</p>	<p>Increases care organisation productivity; reduction in postage costs, courier fees</p>
ADMISSION	<p>Clinicians have access to critical patient information when patient is admitted to A&amp;E, including patient allergies, diagnosis and medical history.</p>	<p>Experience improves as they may spend less time in hospital</p>	<p>Saves time chasing information</p>	<p>Frees up bed spaces, increases care organisation productivity</p>

*Note: These benefits are assumption based and there are no supporting data or metrics to quantify the benefits described.*

## SUCCESS FACTORS



### GOVERNANCE

#### SMALL, INDEPENDENT TEAM TO LEAD PROGRAMME

- The central team was funded by all of the organisations in the programme, but did not belong to any of them.
- This structure helped prevent disputes over project ownership.
- By keeping the team small and focused, they could prioritise and respond to new challenges quickly.



### CO-OPERATION

#### LEARN FROM OTHER SITES

- There are exemplar sites across the country and the world which can provide valuable support.
- The LPRES team learned from the Lower Austria Health Organisation who also use the Tiani Spirit Platform.
- They took technical developers and interface specialists to visit this site and provided them with a better understanding of the programme and the benefits it can bring.



### DELIVERY APPROACH

#### PROJECT PROOF OF CONCEPT

- The LPRES team created a proof of concept model before starting work on the programme, this helped them identify possible issues and mitigate risk.
- In the proof of concept, the LPRES programme implemented the Discharge Summary Exchange (DSe) and the Care Plan Exchange (CPe).



### ENGAGEMENT

#### OBTAIN CLINICIAN BUY-IN

- The LPRES programme leadership built partnerships with local care organisations to progress the information sharing agenda.
- By having the future users of the system championing the interoperability programme, the programme was adopted with minimum resistance.

## LESSONS LEARNED

### ENGAGEMENT

**Challenge:** Maintaining pace and stakeholder engagement was challenging as progress was slow. This was a concern because adequate funding and support was key to the success of the project.

**Approach:** The central team learned to maintain stakeholder engagement by providing reassurance about the progress of the project. The team continually set expectations about the length and effort required to adapt new technologies.

### ENGAGEMENT

**Challenge:** The proof of concept initially set out to deliver a Core Health Profile solution but this proved challenging, resulting in decreased end-user interest.

**Approach:** The LPRES project team revised the focus of the proof of concept to address the end-user's highest priority challenge: discharge summary exchange. As the LPRES programme now meets the needs of the user base, support for the project was revitalized.

### TECHNOLOGY ASSESSMENT

**Challenge:** An up to date and accurate view of the existing technology system architecture across the Lancashire sites did not exist. This initially caused challenges in design and implementation.

**Approach:** The LPRES team carried out a technology assessment. This helped them document an up to date view of the architecture, which helped the design and implementation planning of the solution.

### LEGACY ARCHITECTURE

**Challenge:** 5 major sites on the LPRES programme were using different EPR systems with different architectures and connectivity. Implementing interfaces was challenging as they could not be deployed as off-the-shelf solutions.

**Approach:** The project team overcame the problem by implementing an affinity domain in each individual organisation i.e., a set of virtual servers with Health Integration Engine technology. This allows the respective organisations to publish data to the affinity domain regardless of the interface engine type.

### FURTHER INFORMATION

CONTACT

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Produced in collaboration with NECS and Accenture

### INFORMATION CORRECT AS OF 06/04/2017

REFERENCES

Lancashire Local Digital Roadmap

LPRES Website

LPRES Project Documents