Imaging Services Transformation Programme

Fiona Thow,

Head of Imaging Services Transformation 14th June 2018

Carter & Imaging –
So why a transformation Programme?

NHS Improvement

Limited Carter recommendations due to **lack of data**

Operational productivity and performance in English NHS acute hospitals: Unwarranted variations

An independent report for the Department of Health by Lord Carter of Coles

Recommendation 4: Trusts should ensure their pathology and imaging departments achieve their benchmarks as agreed with NHS Improvement by April 2017, so that there is a consistent approach to the quality and cost of diagnostic services across the NHS. If benchmarks for pathology are unlikely to be achieved, trusts should have agreed plans for consolidation with, or outsourcing to, other providers by January 2017.

Delivered by:

a) trusts introducing the Pathology Quality Assurance Dashboard (PQAD) by July 2016 to assure themselves and others that the pathology service provided to them is and remains of appropriate quality and safety, with NHS Improvement hosting the dashboard;

b) HSCIC publishing a definitive list of NHS pathology tests and how they should be counted by October 2016, with NHS Improvement requiring trusts to adopt the definitions from April 2017;

c) NHS Improvement publishing guidance notes for forming collaborative joint ventures and specifying managed equipment service contracts for local adaptation by October 2016; and,

d) NHS Improvement introducing metrics that describe relative imaging departmental productivity related to the use of equipment and workforce activity by December 2016.

Transforming Imaging Services – Improving Efficiency & Sustainability

NHS Improvement

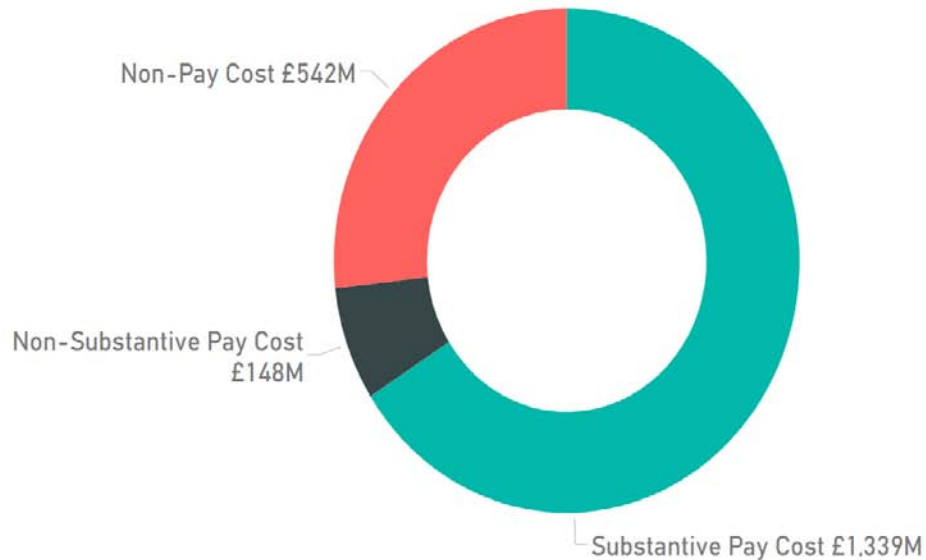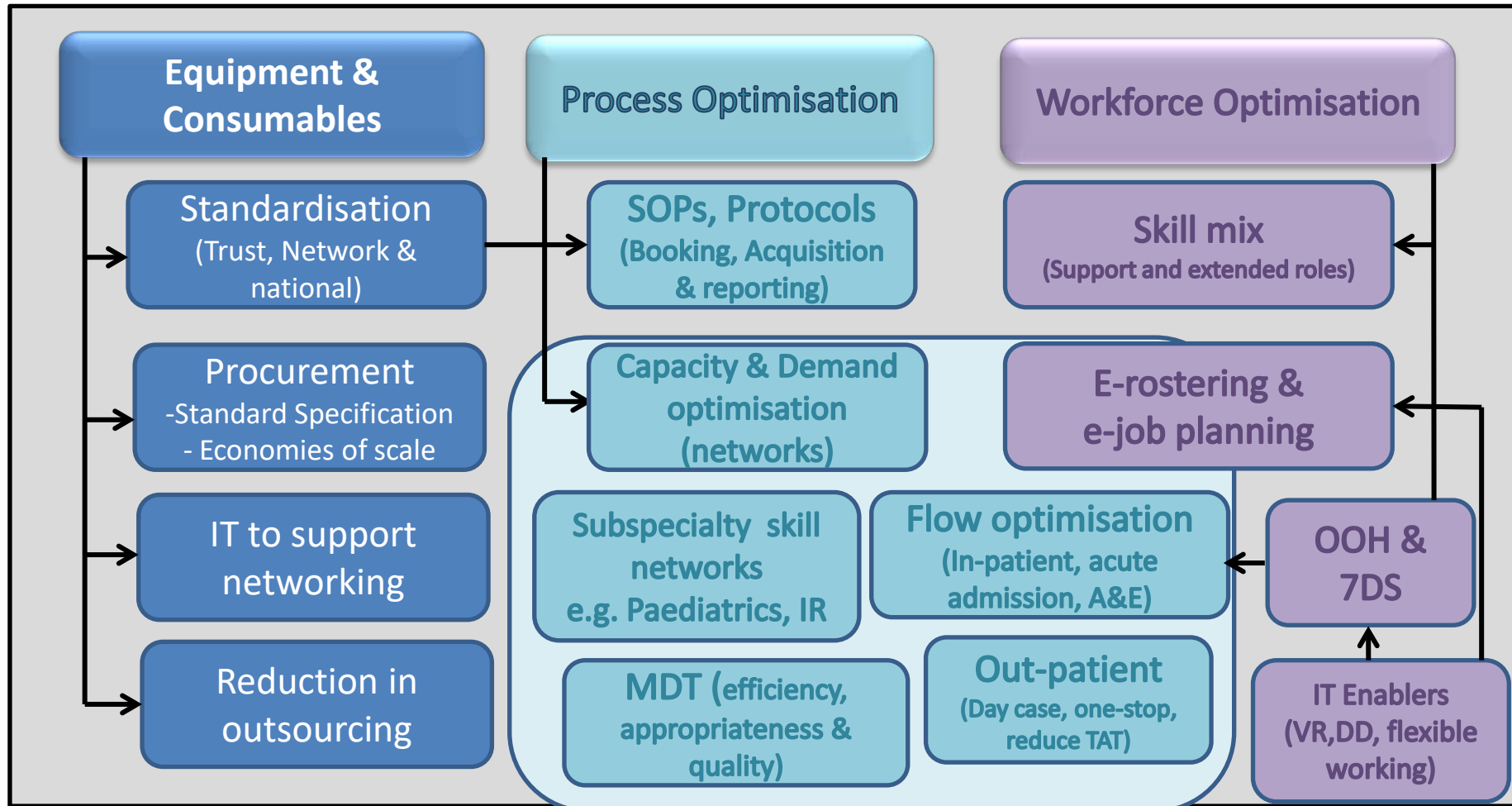| £2 Billion Spent on Delivering Imaging Services | Non Medical Workforce 23,500 (vacancy rates of 15%) | 3,000 Medical Consultants (vacancy rates 12.5% & ageing demographic) | £134 Million spent on Outsourcing & Insourcing (to manage demand)* | 39 Million reports |

Finance: National Overview

Total Cost Split

Non-Pay Cost £542M

Non-Substantive Pay Cost £148M

Substantive Pay Cost £1,339M

* Data Collection for 2016/17
(Figure likely to be much higher for 2017/18)

Imaging – Key Work to Deliver increased Productivity

NHS Improvement

Imaging network collaborations

Improved Quality – ISAS / Safety / Reduced Litigation

Clinical Leadership and system alignment (Local and national)

Equipment & Consumables

- Standardisation (Trust, Network & national)
- Procurement
  - Standard Specification
  - Economies of scale
- IT to support networking
- Reduction in outsourcing

Process Optimisation

- SOPs, Protocols (Booking, Acquisition & reporting)
- Capacity & Demand optimisation (networks)
- Subspecialty skill networks e.g. Paediatrics, IR
- Flow optimisation (In-patient, acute admission, A&E)
- MDT (efficiency, appropriateness & quality)
- Out-patient (Day case, one-stop, reduce TAT)

Workforce Optimisation

- Skill mix (Support and extended roles)
- E-rostering & e-job planning
- OOH & 7DS
- IT Enablers (VR,DD, flexible working)

Imaging – Recent progress

- **9th National Imaging Optimisation Delivery Board (Mapping & showcasing early network collaborations)**
- **First National Imaging Data Collection completed (and first line validation)**
- **Model Hospital compartment populated with 1st National Imaging Data Collection – Alpha testing complete, now live**
- **Four 'Early Adopter' Imaging networks selected (from 22 EOI):**
  - **Merseyside & Cheshire** - **Norfolk Acute Hospitals**
  - **Cumbria & North East** - **Devon STP**
- **Four regional engagement events- 6th, 7th, 8th & 21st February (to gain input from clinical departments – support planning)**
- **National Imaging Network Sharing Event (18th April 2018)**
- **Alignment work with Cancer Board, NHSE, GIRFT, CQC**
- **Developed programme plan (TOM by March 2018)**

Expressions of Interest

Trusts who put forward Expressions of Interest to be 'Early Adopter' Imaging Networks networks (green)
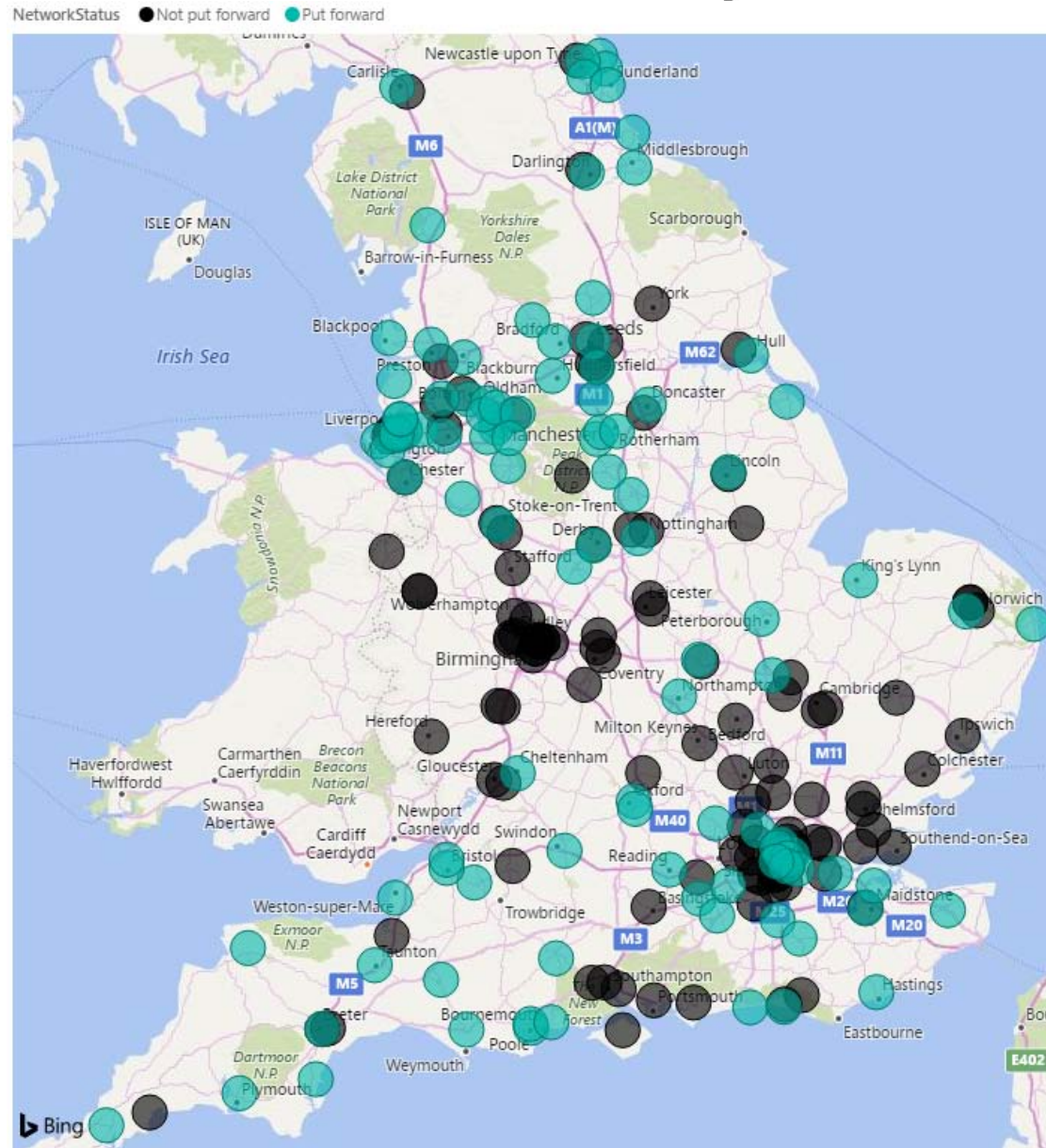
Early Adopter Programme
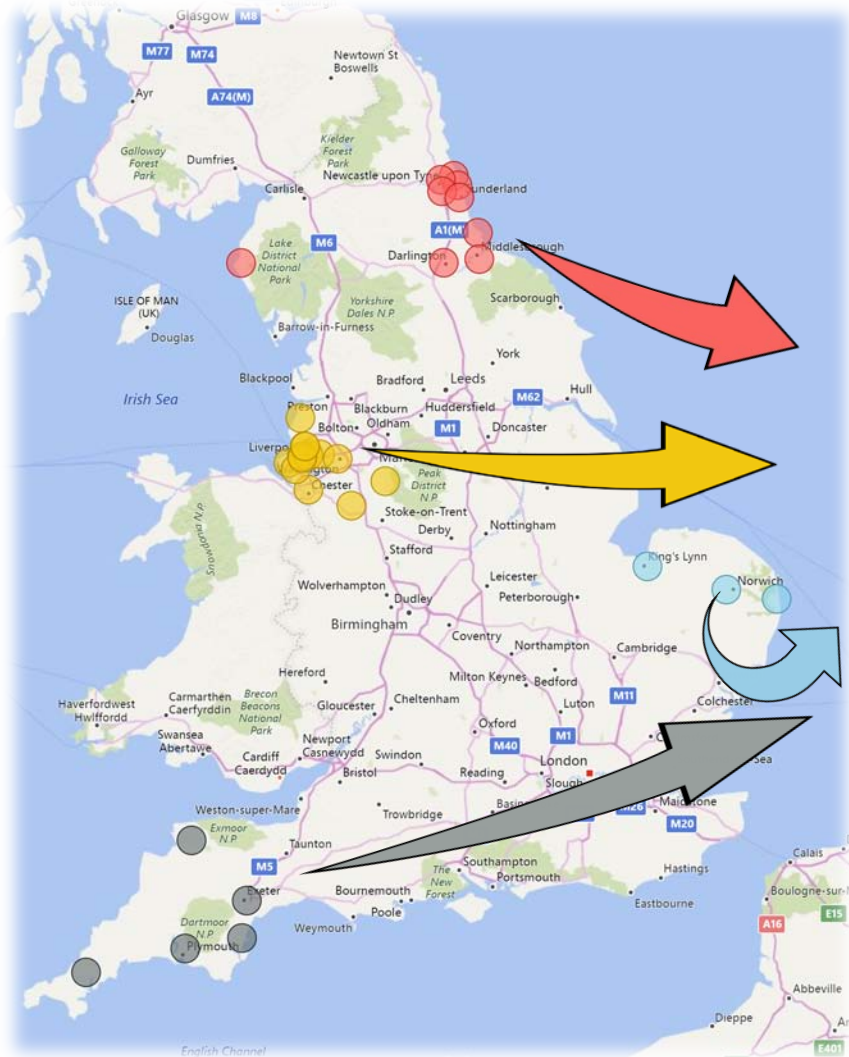
- 22 Bid submissions received for innovative ideas in NHS Diagnostic Imaging
- NHSI provided a small amount of funding to kick start early adopter projects over a 6 month period
- Developed materials and lessons learned to be shared nationally
- Winning submissions:
  - Cheshire & Merseyside Imaging Collaborative
  - Norfolk Imaging Alliance
  - Cumbria & North East Imaging Group
  - Devon STP

Early Adopters – Project Summaries

NHS Improvement

Cumbria and the North East

'An increase in flexible working'
In the short term – develop clinical passports to enable movement of people. In the long term – an IT interoperability solution to enable images to be moved around within the network.

Norfolk Acute Collaboration

'Set up a working group, define a governance structure, identify workstreams & requirements, develop aims for each individual site'
An importance of data, and buy-in from all Trusts

Devon STP

'Increase productivity using home reporting, a consultant on-call network, & skill-mix'

Skill mix – using the Radiology Academy to provide training to Radiographers
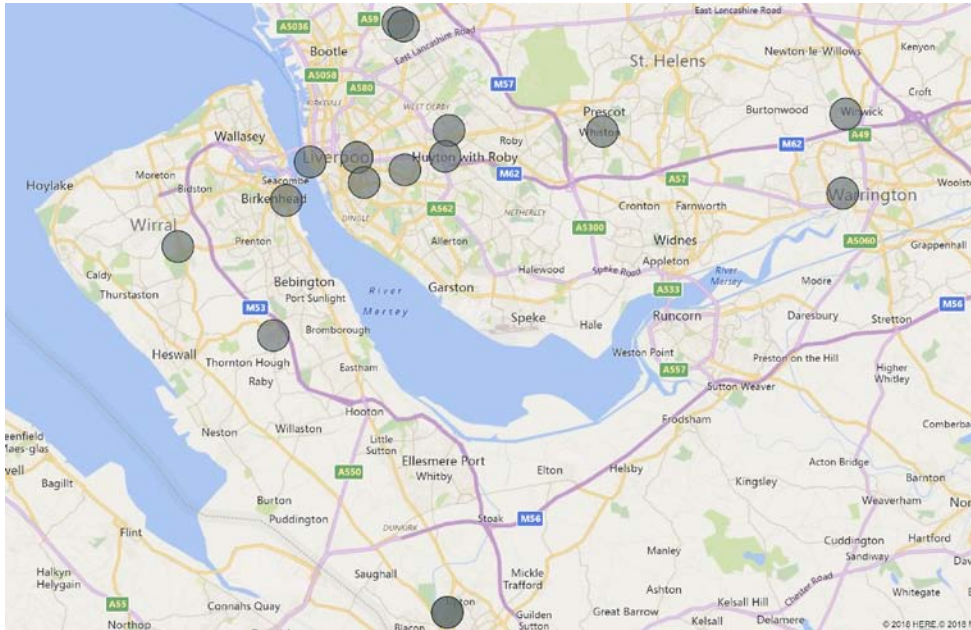
Merseyside & Cheshire

'Develop a working stroke network to improve outcomes for stroke patients'

Data collection, and an impact assessment

Cheshire & Merseyside

Aintree University Hospital NHS Foundation Trust

Countess Of Chester Hospital NHS Foundation Trust

Liverpool Heart & Chest Hospital NHS Foundation Trust

Liverpool Women's NHS Foundation Trust

Royal Liverpool and Broadgreen University Hospitals NHS Trust

St Helens & Knowsley Hospitals NHS Trust

The Clatterbridge Cancer Centre NHS Foundation Trust

Wirral University Teaching Hospital NHS Foundation Trust

The problem:

- Mechanical thrombectomy within 6 hours of onset of symptoms can prevent permanent brain damage and prevent or limit long term disability.
- CT Angiography is required to assess whether a patient should receive Mechanical Thrombectomy.
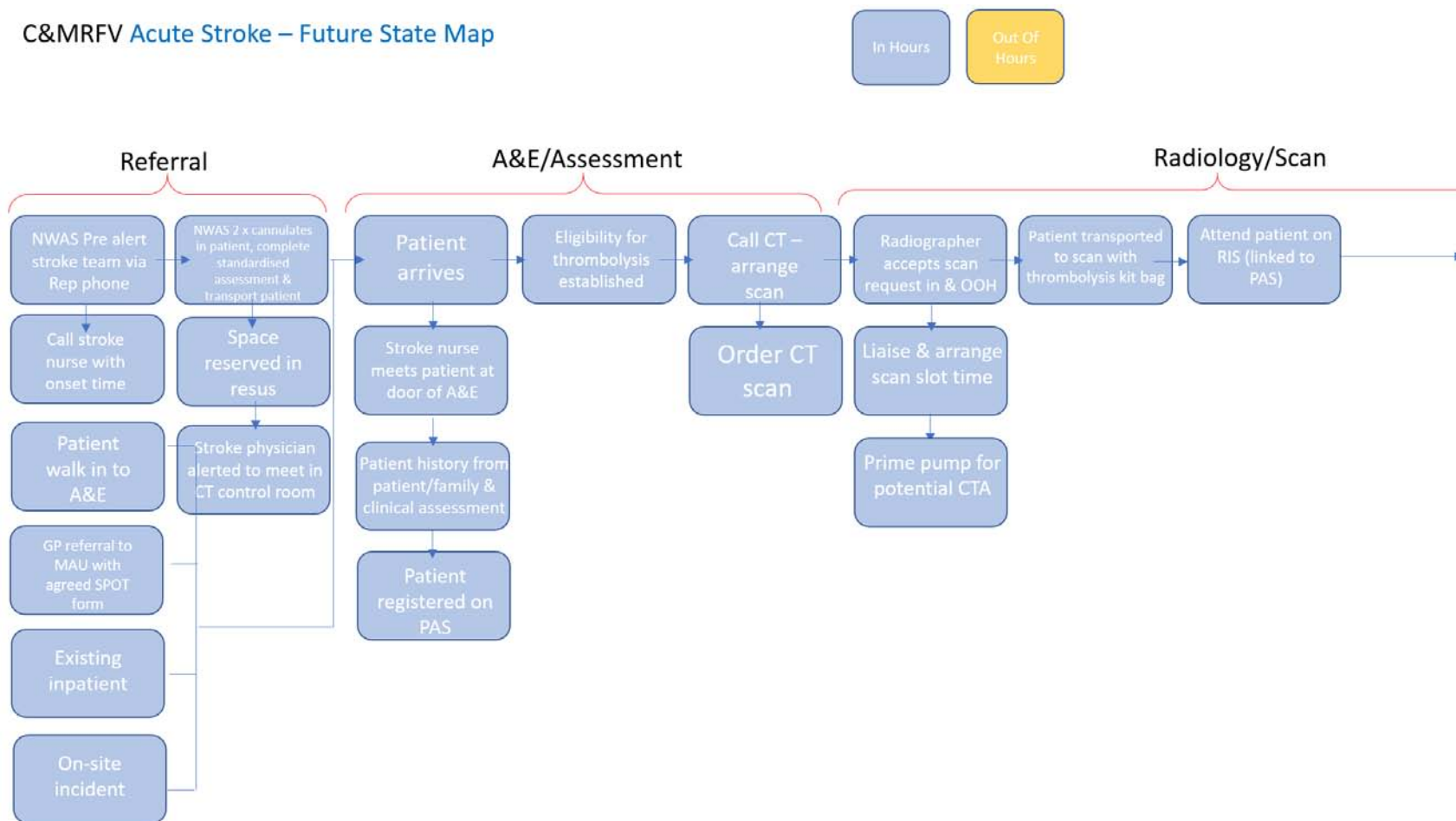- Multiple stroke pathways across the region with varied access to CT Angiography.

Cheshire & Merseyside
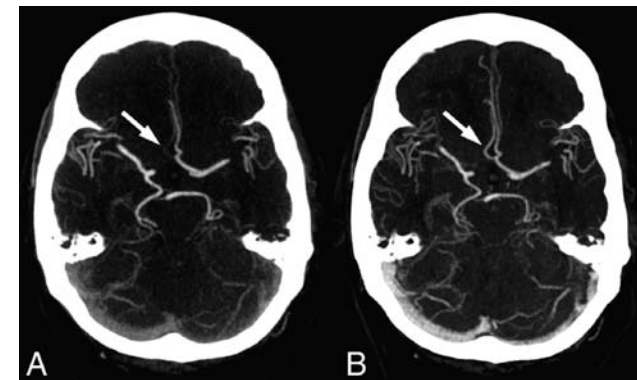
The solution:

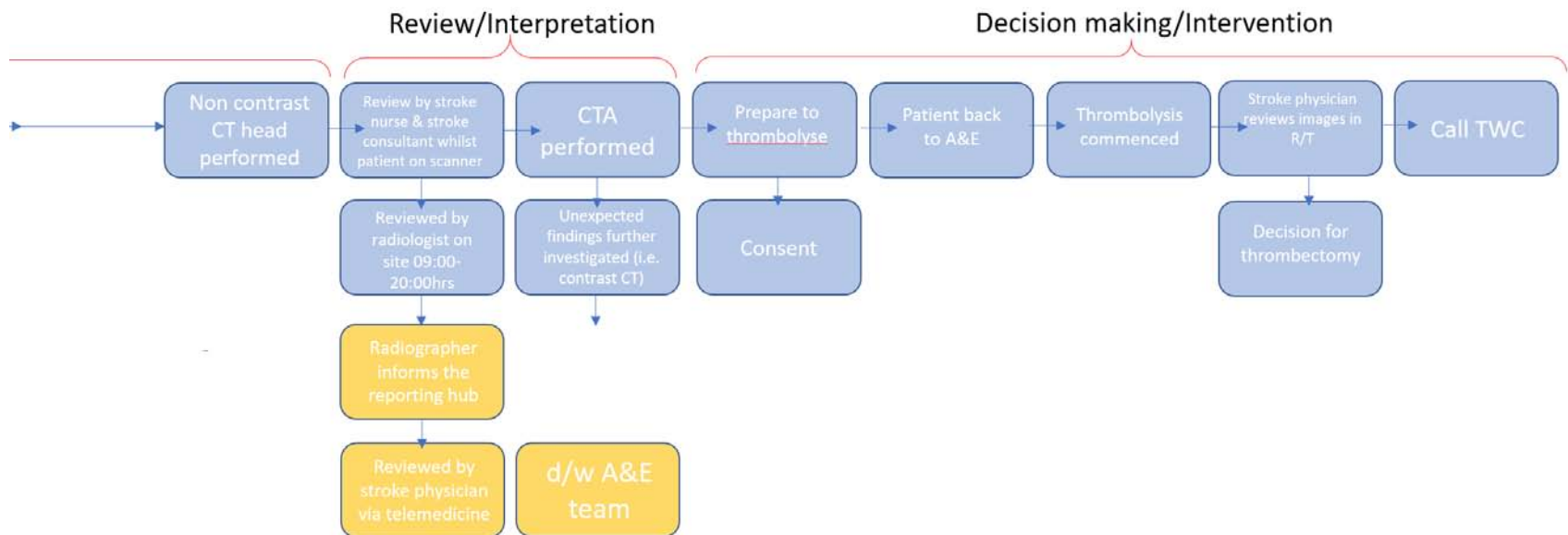- All stroke pathways across the entire region were mapped & analysed.

Cheshire & Merseyside
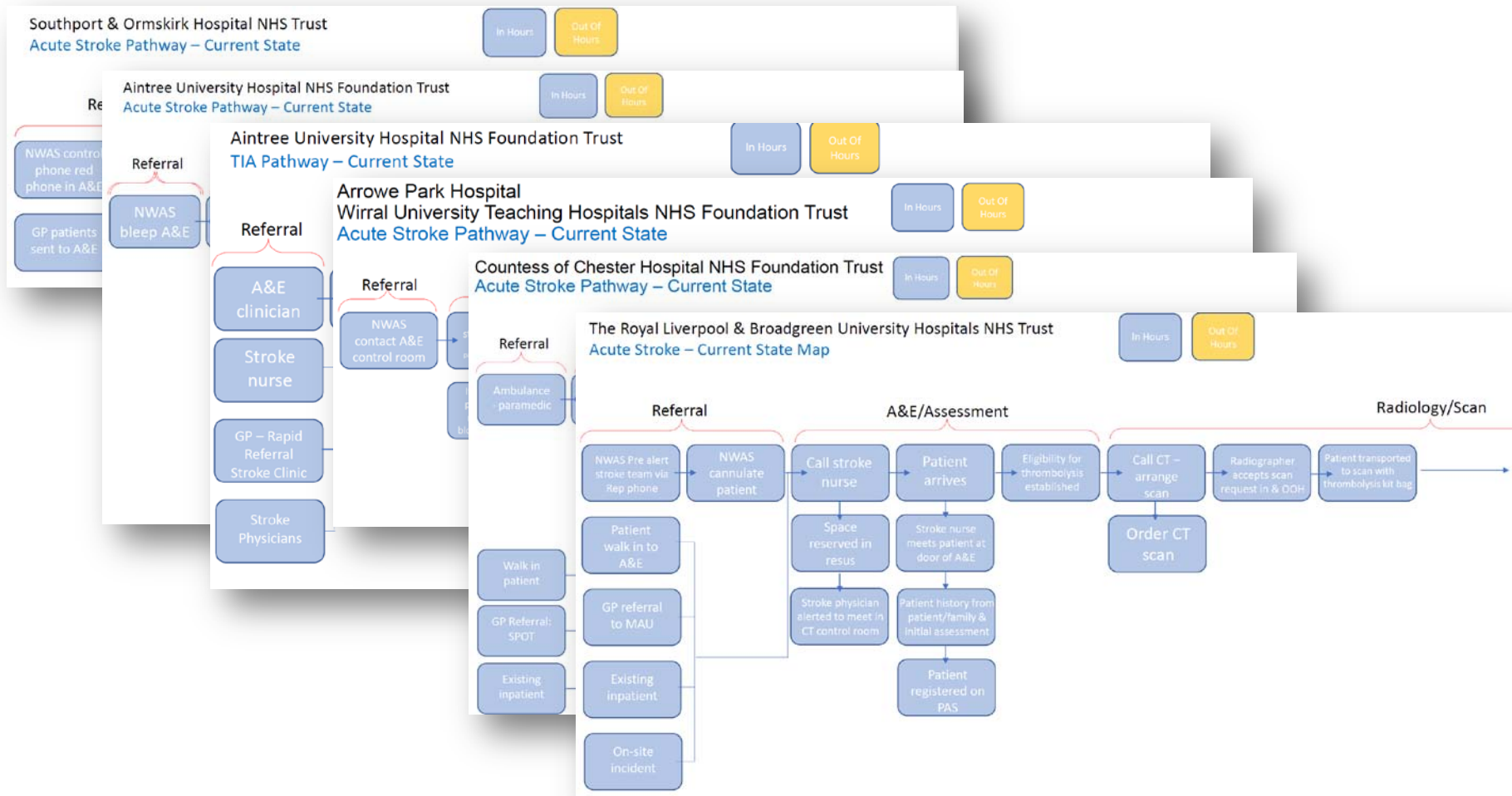
The Output:

- The group workshopped a standardised approach and agreed a uniform pathway.

C&MRFV Acute Stroke – Future State Map

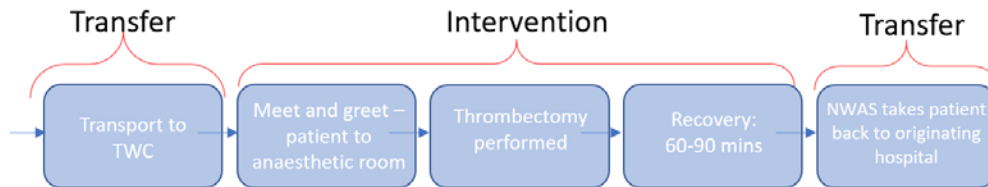In Hours | Out Of Hours

Referral | **A&E/Assessment** | **Radiology/Scan**

NWAS Pre alert stroke team via Rep phone | NWAS 2 x cannulates in patient, complete standardised assessment & transport patient | Patient arrives | Eligibility for thrombolysis established | Call CT – arrange scan | Radiographer accepts scan request in & OOH | Patient transported to scan with thrombolysis kit bag | Attend patient on RIS (linked to PAS)

Call stroke nurse with onset time | Space reserved in resus | Stroke nurse meets patient at door of A&E | | Order CT scan | Liaise & arrange scan slot time

Patient walk in to A&E | Stroke physician alerted to meet in CT control room | Patient history from patient/family & clinical assessment | | | Prime pump for potential CTA

GP referral to MAU with agreed SPOT form | | Patient registered on PAS

Existing inpatient

On-site incident

Cheshire & Merseyside

The Output:

- The group workshopped a standardised approach and agreed a uniform pathway.

Cheshire & Merseyside

The Output:

- The group workshopped a standardised approach and agreed a uniform pathway.

Transfer   Intervention   Transfer

| Transport to TWC | Meet and greet – patient to anaesthetic room | Thrombectomy performed | Recovery: 60-90 mins | NWAS takes patient back to originating hospital |

Next steps:

- Implement a training programme to enable the uniform stroke pathway to be a reality.

Devon STP
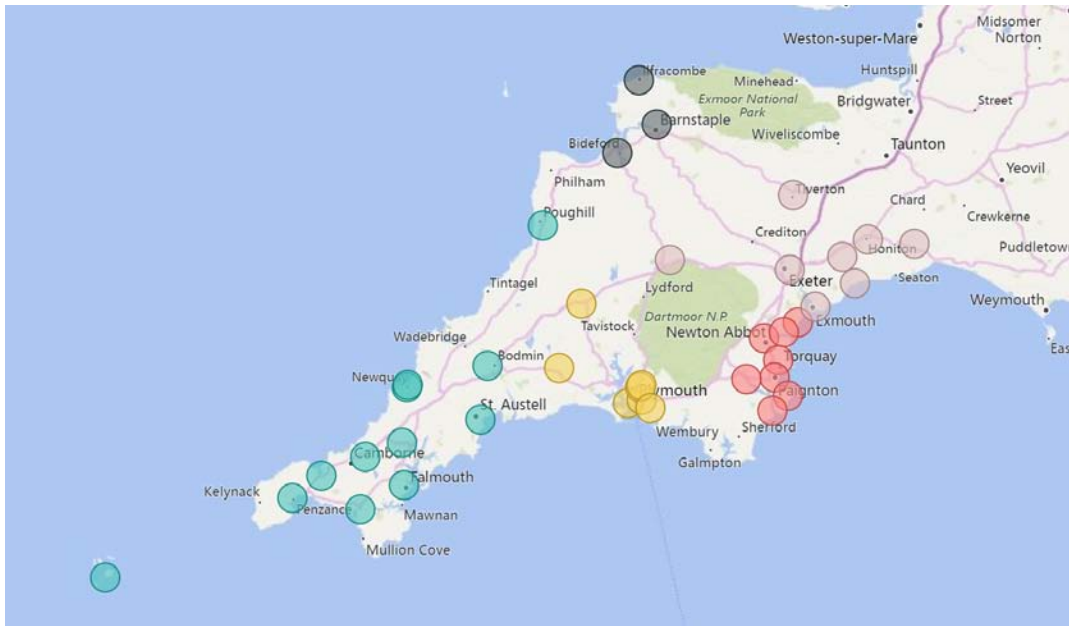
Northern Devon Healthcare NHS Trust

Plymouth Hospitals NHS Trust

Royal Cornwall Hospitals NHS Trust

Royal Devon and Exeter NHS Foundation Trust

Torbay and South Devon NHS Foundation Trust

The problem:

- The peninsula is facing a workforce crisis as demand for imaging services increases.

AFC Vacancies as Percentage of Budgeted Workforce

Role	Percentage
Mammographer	13.23%
Advanced Practitioner	13.13%
Radiographer	8.06%
Assistant Practitioner	7.25%
Sonographer	6.78%
Consultant Radiographer	2.00%
Doctors in Training	28.49%
Consultant Radiologist	10.65%

Devon STP
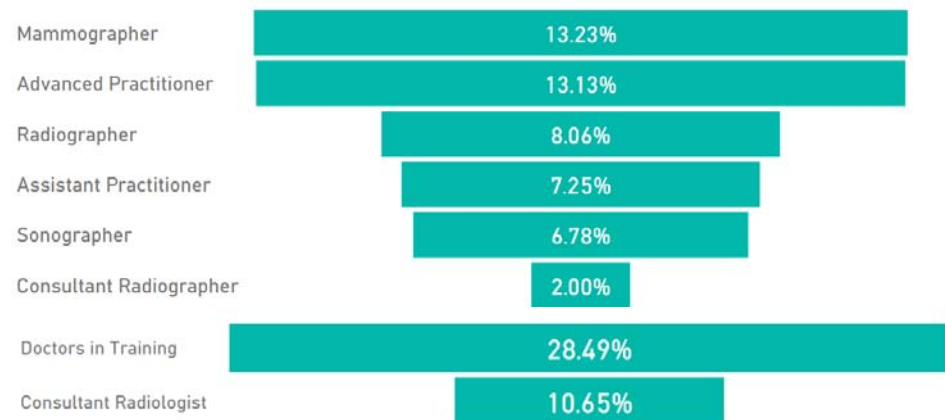
The solution:

- A business case to increase the training numbers at the Peninsula Radiology Academy.
- Implement home reporting for radiologists to increase productivity, recruitment & retention and job satisfaction.
- Implement a regional on call system

The output:

- Individual workstreams created that are investigating detailed solutions plans.
- Proof of concept working from home pilot has been completed showing increased sustainability and productivity.
- Peninsula Radiology On Call [PROC] has been implemented across the region utilising the joint RIS/PACS to support radiologist on call rotas.

PENINSULA RADIOLOGY ACADEMY

Devon STP

Next steps:

- Complete a business case for increasing the utilisation and financial viability of the Peninsula Radiology Academy.
- Expand the working from home pilot and establish a detailed baseline so any results from the pilot can be tracked and increased productivity proven along with any impact on the service.

Initial baseline assessment results

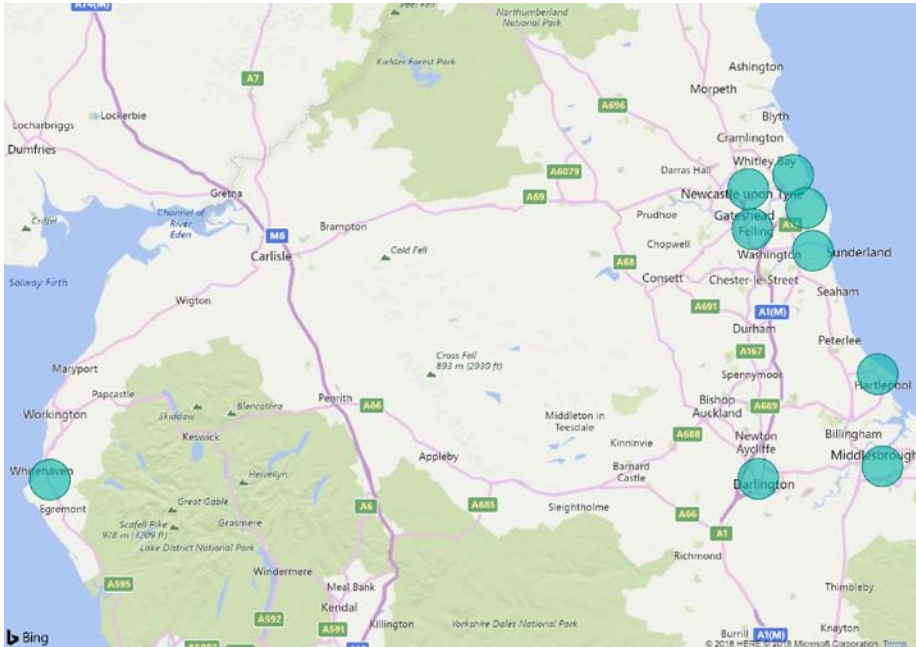I am happy with my current work/life balance

- Strongly disagree: 4.17 %
- Strongly Agree: 16.67 %
- Disagree: 20.83 %
- Agree: 29.17 %
- Neutral: 29.17 %
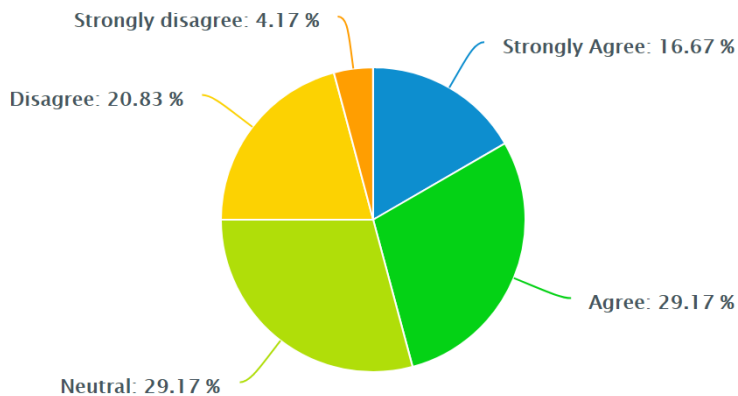
How often are you interrupted / disturbed per reporting session on average:

- Never: 0 %
- More than 10 times: 29.17 %
- Less than 5 times: 37.5 %
- Between 5–10 times: 33.33 %
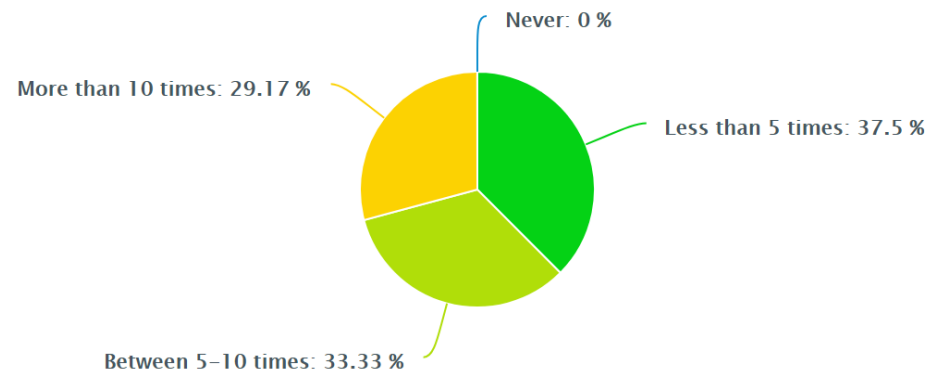
Cumbria & North East

NHS Improvement

City Hospitals Sunderland NHS Foundation Trust

County Durham and Darlington NHS Foundation Trust

Gateshead Health NHS Foundation Trust

North Cumbria University Hospitals NHS Trust

North Tees and Hartlepool NHS Foundation Trust

Northumbria Healthcare NHS Foundation Trust

South Tees Hospitals NHS Foundation Trust

South Tyneside NHS Foundation Trust

The Newcastle Upon Tyne Hospitals NHS Foundation Trust

The problem:

- Workforce and service sustainability issues in the face of increasing demand on services have stretched the imaging service in the area.
- Without interconnectivity across the region, realising any benefits from networking is extremely difficult.

Different RIS/PACS across region

Cumbria & North East

The solution:

- The group created a terms of reference for working together and established work groups with workstream leads.
- **Workforce workstream**:
  - To provide recommendations for change to Trust executives
- **IT interoperability**:
  - To provide a business case on connecting the IT between Trusts so the benefits of networking could be realised.
- **Interventional Radiology:**
  - To design a hub and spoke model to ensure sustainability and standardised care.

Workstreams

Workforce	IT Interoperability	IR
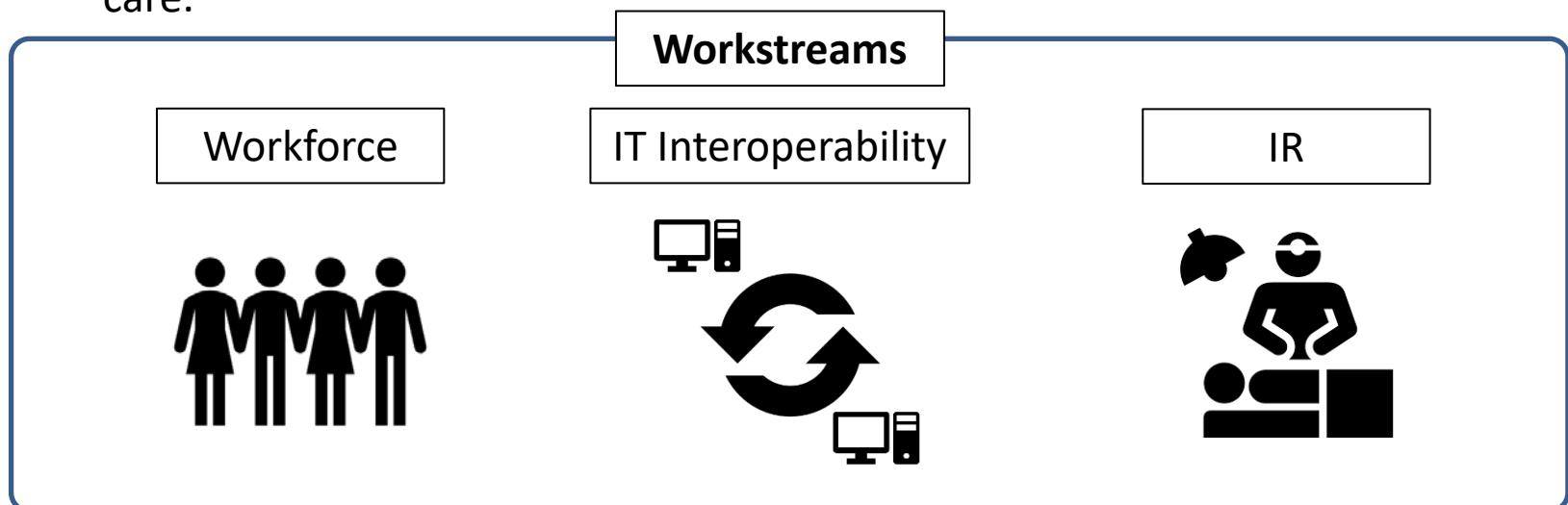
Cumbria & North East
The output:

Workforce	• Clinician passport memorandum of understanding drafted and agreed
	• Analysis of vacancies and age profiles conducted to assess areas of risk
	• Analysis of JDs to understand regional variation
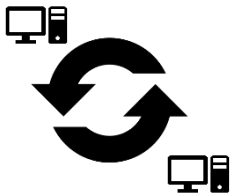
IT Interoperability	• Analysis of existing infrastructure completed
	• Liaised with other groups investigating IT interoperability
	• RIS/PACS supplier functionality matrix
	• Clinical needs for IT functionality defined
	• Output based service specification drafted

IR	• Current state analysis
	• Patient pathway mapping
	• Initial designs of hub & spoke model

Cumbria & North East
Next steps:

Workforce

- Solve the administrative barriers to passports such as parking and IT logins.
- Design assistant practitioner framework.
- Formulate recommendations to executives

IT Interoperability

- Complete output based service specification
- Define the governance of the IT interoperability system
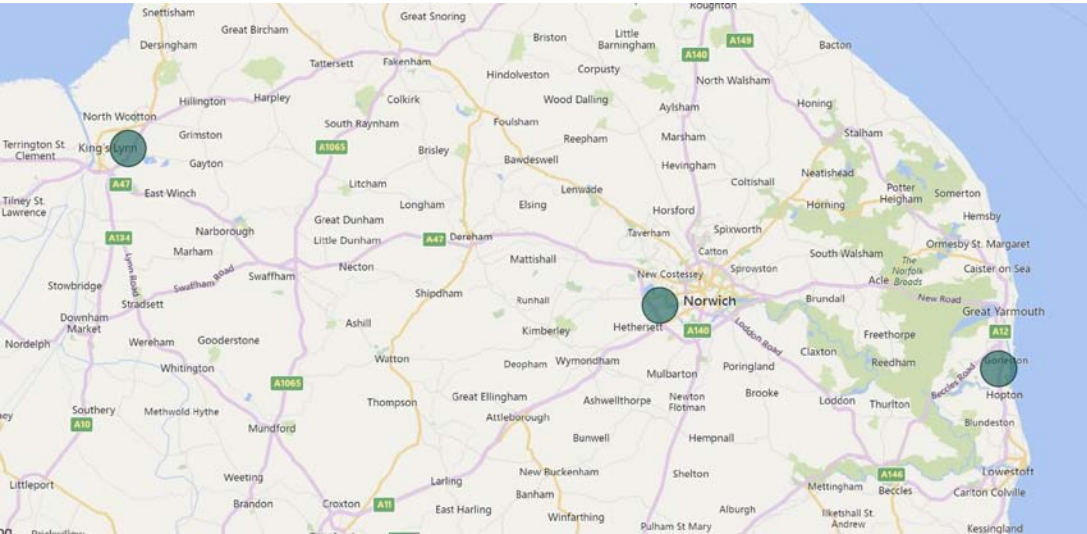- Market and supplier engagement event
- Plan procurement

IR

- Draft full report on network IR hub and spoke model to be presented to STP in Autumn

Norfolk Imaging Alliance

James Paget University Hospitals NHS Foundation Trust

Norfolk and Norwich University Hospitals NHS Foundation Trust

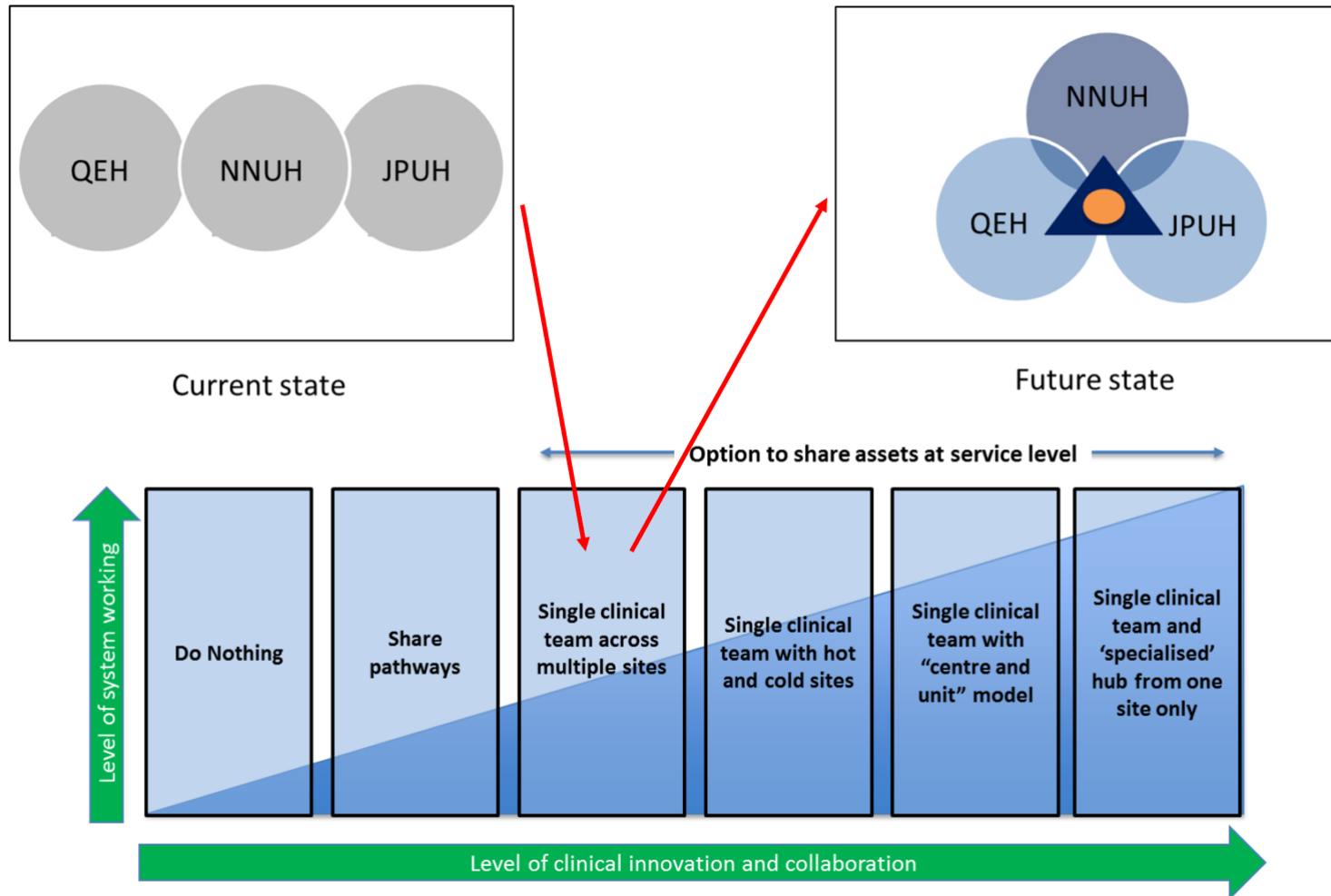The Queen Elizabeth Hospital, King's Lynn. NHS Foundation Trust

The problem:

- The sustainability of the imaging service in the Norfolk region is at risk due to;
    - Increasing demand
    - Recruitment and retention difficulties
    - Access to capital to improve technology and equipment
- Networking has been identified as a potential solution to these difficulties however how do 3 Trusts, who are traditionally competitors, come together to collaborate for the sustainability of the service?
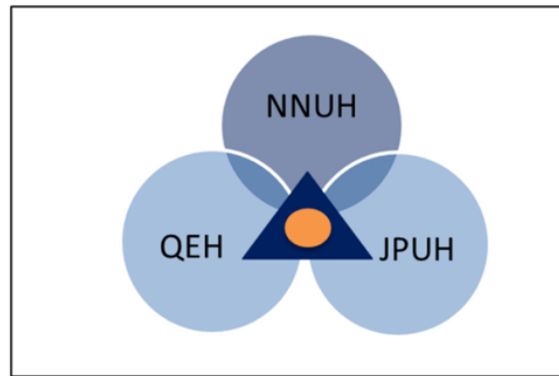
Norfolk Imaging Alliance
The solution:

- The Norfolk Imaging Alliance [NIA] has been established.

Current state

Future state

Option to share assets at service level

| Do Nothing | Share pathways | Single clinical team across multiple sites | Single clinical team with hot and cold sites | Single clinical team with "centre and unit" model | Single clinical team and 'specialised' hub from one site only |

Level of system working

Level of clinical innovation and collaboration

Norfolk Imaging Alliance
The solution:

1. Establishing Terms of Reference & Group Remit

2. Assessing potential commercial options for the alliance

3. Establishing ways of working and building trust

4. Establishing workstream briefs to tackle sustainability issues in the region
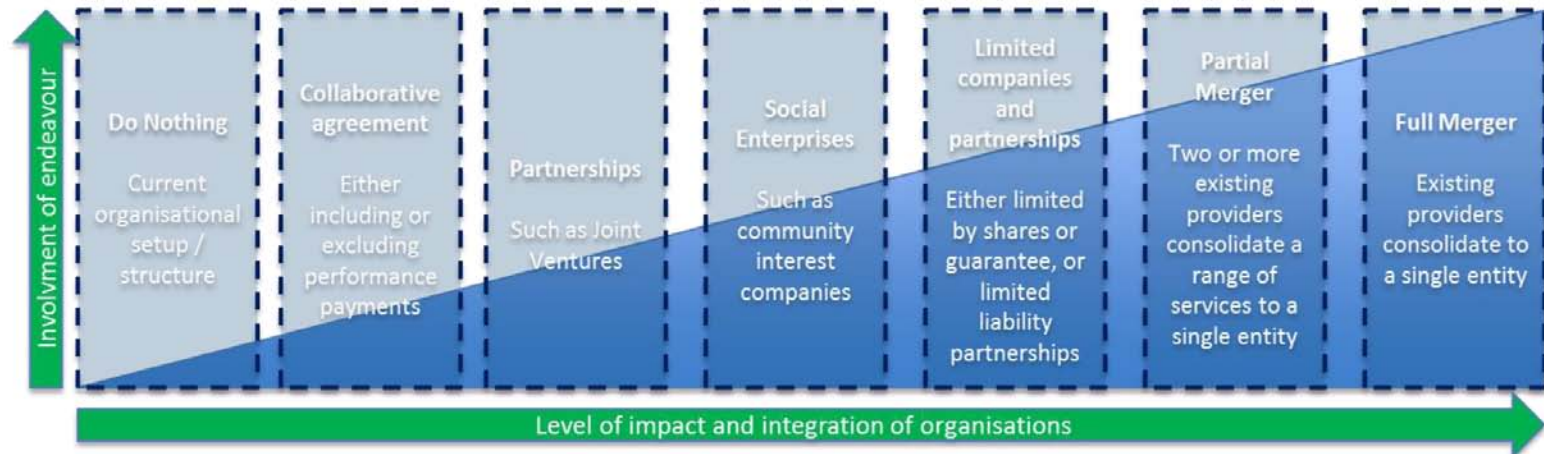
Norfolk Imaging Alliance
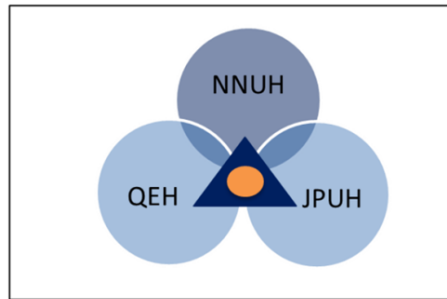## The output:
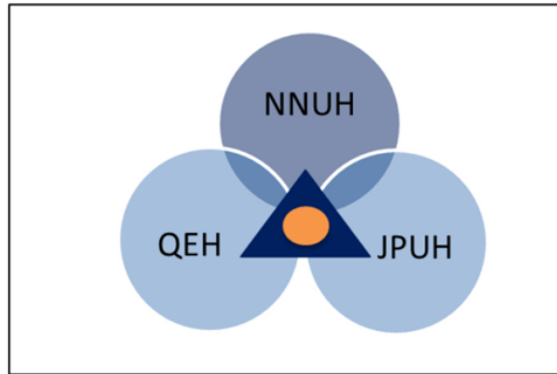
1. Terms of Reference Agreed;
   1. The purpose of the Norfolk Imaging Alliance is to deliver quality, safe and efficient imaging services to the patients of Norfolk & Waveney at an appropriate cost.
   2. To provide strategic direction to the imaging services of Norfolk & Waveney, including a case for future investment across the STP.
   3. To ensure a sustainable and future proofed imaging service.
   4. To clearly define the benefits of networking imaging services.

2. Commercial model options outlined with examples. An assessment criteria has been agreed.
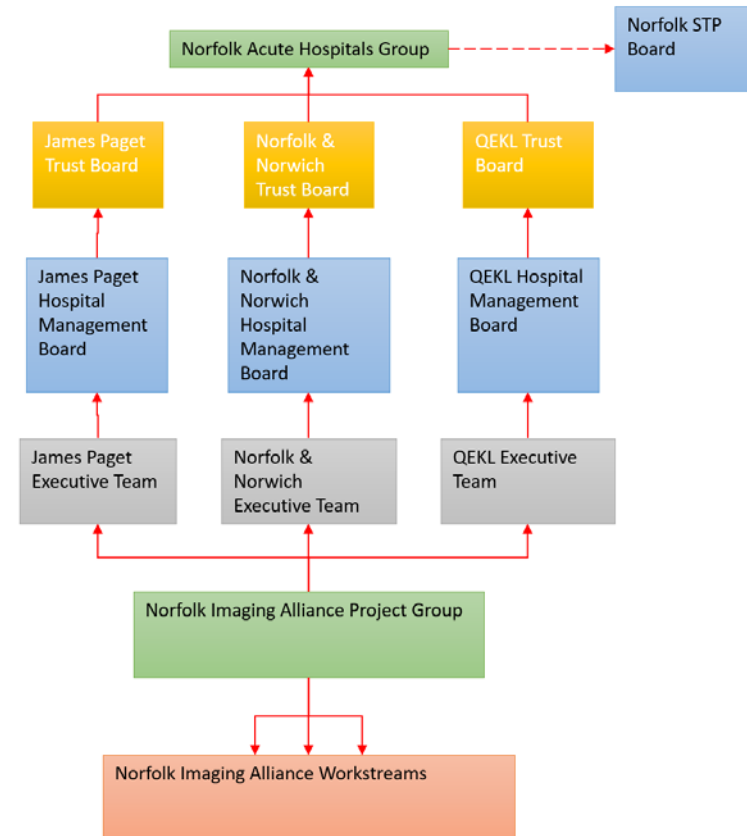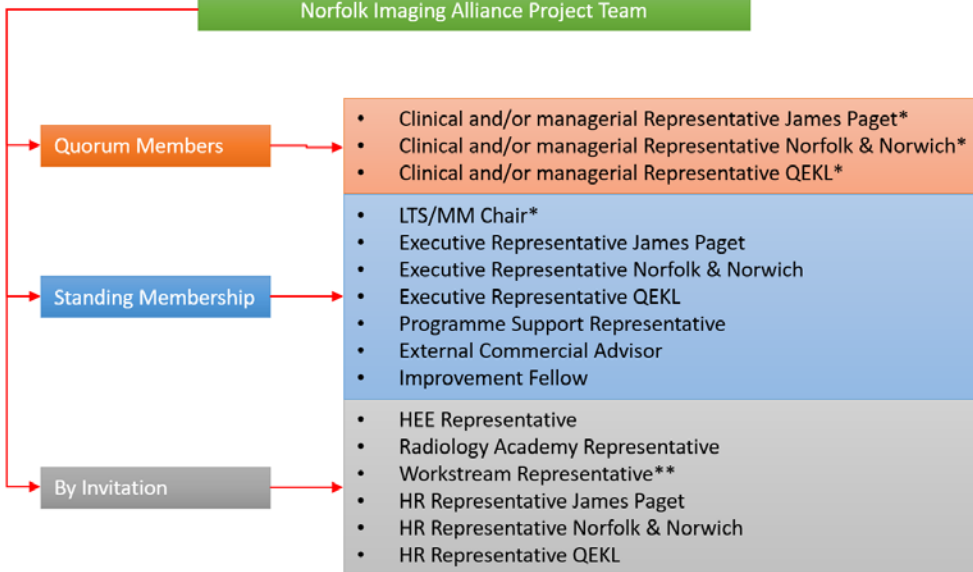
Norfolk Imaging Alliance

The output:

3. Governance model created alongside ToR. Organisational Development specialist brought on board to establish readiness for change.
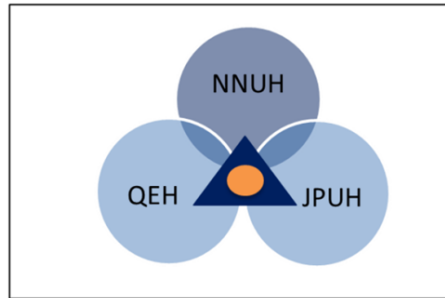
Norfolk Imaging Alliance

The output:

4. Three initial workstreams created;

Workforce	Networked IT	Radiology Academy

So what about the other networks?
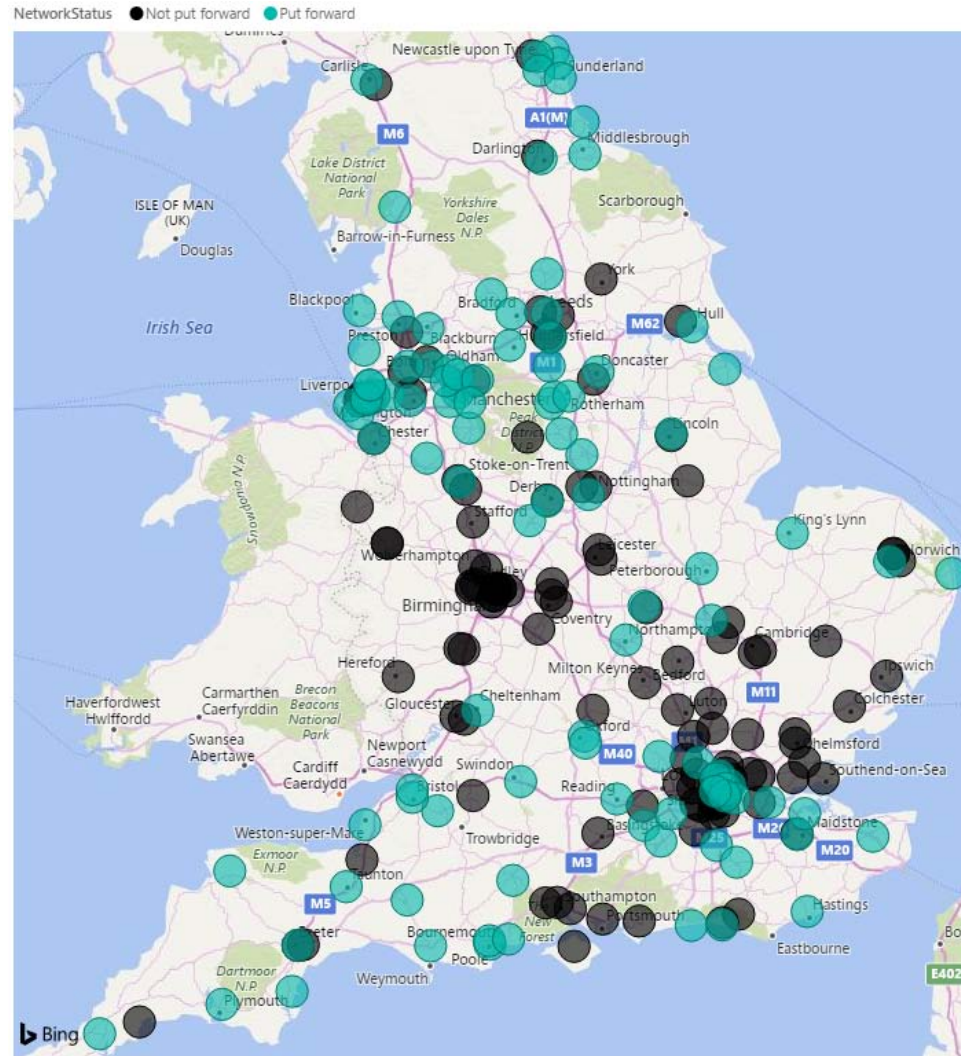
Developing One NHS in Dorset
Acute Care Collaboration Vanguard

One Radiology Service for Dorset

Options appraisal for **Future Out of Hours Reporting**

Implement **image sharing** solution

Single **Pan Dorset Radiation Safety Policy**

Achieve **ISAS accreditation** all sites

Pan Dorset Service in place for all radiology services

Enable **joint procurement** for major equipment

Develop and implement **workforce plan**

Danger radiation risk

Working Together

Areas for consideration

- **Increase the reporting and image capturing workforce**

      - Radiographers, radiography technicians, sonographers

      - Radiologists

- **Decrease inequalities of access – One NHS Institution**

      - Remove barriers to staff movement

      - Technical solution

      - Co-ordinated regional approach

- **Demand management**

Workforce

Radiography Academy Pilot - Benefits

- Train as a regional cohort

         - Peer support

         - Decreased burden on trainers

         - Minimises impact on service delivery

- Critical mass for University and Academy

- Protected time out of workplace

- Linked to University Advanced Practice modules

- Regional standardisation of scope of practice

- Backfill and course fees funded (HEE)

- Replicable

Coordinates the current ad hoc approach, with a comprehensive evaluation

National Imaging Network – Sharing Event

Create a networking & learning opportunity

Horizon Scan – future developments

Sharing Event

It felt like everyone there was engaged in trying to overcome the traditional barriers to working together, a "can do" attitude seemed to be common.

I thought it was a really good event, with a lot of energy from participants. Imaging networks can and will help to drive change, but will also need nurturing.

Thanks for arranging such a brilliant event. I feel we must do more, since the interest and turnout was amazing.

I thought the day was very useful. My only wish is that I could have attended all the breakout sessions as it was difficult to choose between them.

It was a thoroughly interesting and useful day.

Single Oversight Framework segment 2 - Targeted support offer

Opportunity Scanner

Quality of Care

Finance & Use of Resources

Operational Performance — 1

Strategic Change

Leadership & Improvement — 1

Operational Productivity

CLINICAL SERVICE LINES

Emergency Medicine — 5

Orthopaedic Surgery — 2

General Surgery — 1

Urology — 4

Obstetrics & Gynaecology — 2

Ear, Nose & Throat — 2

Cardiothoracic Surgery

Oral & Maxillofacial

Dentistry — 1

Neurosurgery

Breast Surgery

Paediatrics — 2

Vascular — 1

Ophthalmology — 2

Plastic Surgery & Burns — 2

OPERATIONAL

Inpatients

Theatres — 1

Pharmacy & Medicines

Pathology

Estates & Facilities — 4

Procurement — 1

IM&T

Finance Function

HR Function

Governance & Risk

Payroll

Legal

Visitor Cost Recovery

Commercial Income

Imaging — 3 alpha

PEOPLE

Doctors — 1

Nursing & Midwifery — 2

Allied Health Professionals — 1

Workforce Analysis

Monthly Workforce

Temporary Staffing

Non-Clinical Staff

Other Clinical Staff

PATIENT EXPERIENCE

Patient Experience

Patient Booking & Scheduling

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here to search

NHS

St Helens & Knowsley Hospital Services NHS Trust (RBN)

Period: **Latest** Peers: **Shelford Group**

Home | Operational | Imaging

Headline Metrics

Activity
- Activity
- KPIs

Costs
- Total costs
- Non-pay costs by cost area

Assets
- Equipment
- Equipment utilisation
- Equipment costs
- IT

Substantive staff
- Substantive staff by FTE
- Programmed Activity Time
- Vacancies
- Sick rates
- Trainees

Agency and bank staff
- Agency
- External Bank
- Internal Bank
- Overtime

Compartment notifications (3)
"CT: % appointments not attended" is above the recommended benchmark
"MRI: % appointments not attended" is above the recommended benchmark
"Ultrasound - Non Obstetric: % appointments not attended" is above the recommended benchmark

Total cost of Imaging services	Total pay costs as % of all Imaging costs	Non-pay costs as % of all Imaging costs	Insourcing costs as % of total Imaging costs
£11.22m	**77.8%**	**19.9%**	**2.0%**
31/03/2017	31/03/2017	31/03/2017	31/03/2017

Outsourcing costs as % of total Imaging costs	Agency, bank, and overtime costs as % of overall Imaging costs	Plain X-Ray reports by Radiographer
0.3%	**4.7%**	**14.9%**
31/03/2017	31/03/2017	31/03/2017

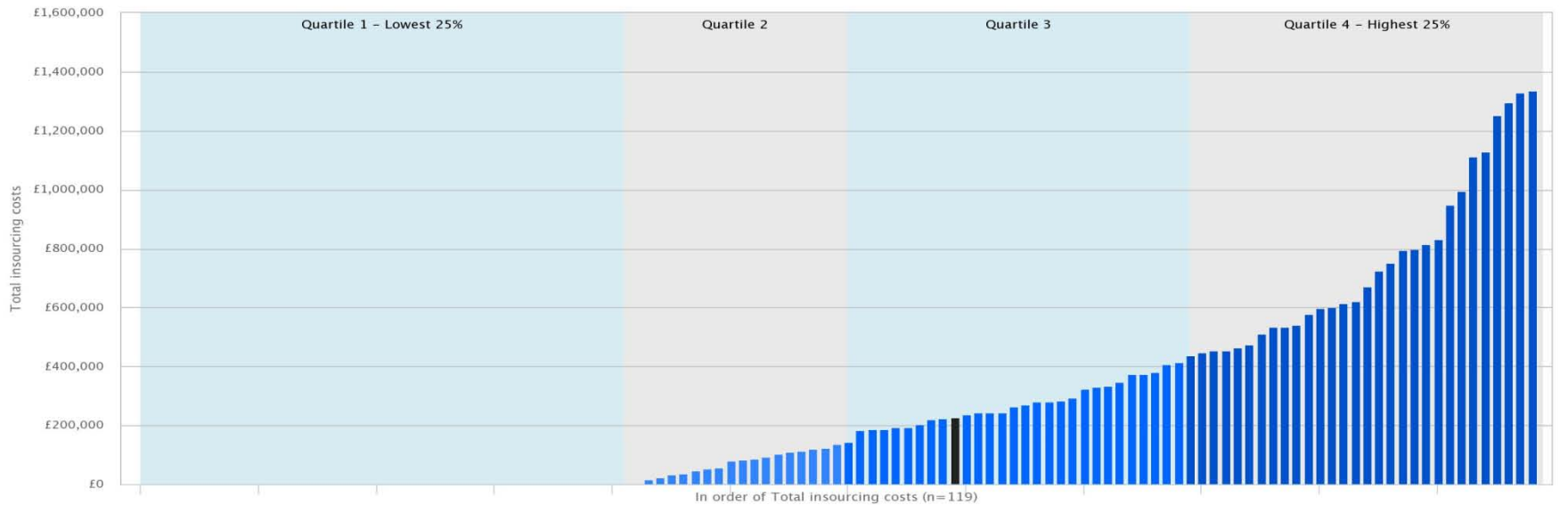| Pay cost per report	Medical roles vacancies: Consultant Radiologist	Radiographer: Total AFC staff vacancy rate
£31.35	**3.1%**	**3.2%**
31/03/2017	31/03/2017	31/03/2017

Variation in reporting

Plain X–Ray reports by Radiographer , National Distribution
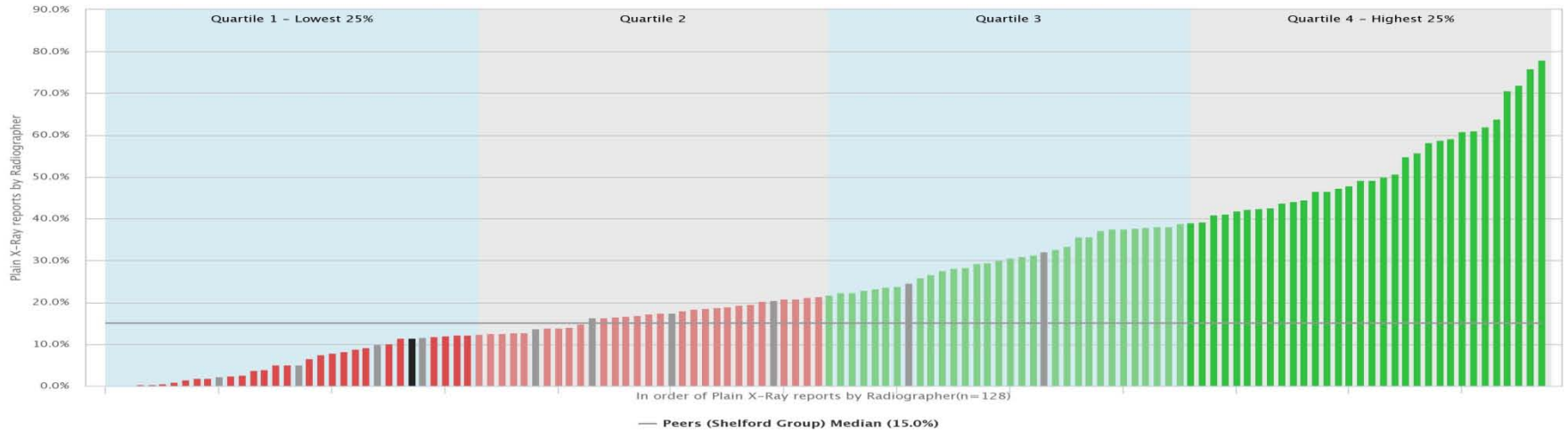
Total insourcing costs, National Distribution

So what next?

- Installed asset base – concerns over age of some capital equipment
- Working with NHS Supply chain to look for opportunities
- 2nd Data Collection – 21st May 2018 (2017/18)
- Develop Model Hospital
- UKRCO – Show case 'Early Adopters' & Case Studies
- Working with NHSE, NHSD, OLS,
- More work understanding & modelling with the data
- Develop a national Target Operating Model

So why are we really here?

To make things better for our patients

To make things better for our staff

……but first we need to understand where we're starting from