

# Changing from an Institution-based Resident on Call to a Federated Regional Model - Improving Quality of a Regional Radiology Service

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# Previous system

- In our metropolitan region we have four general hospitals, two teaching hospitals and several specialist institutions.
- On call resident radiology service was supported by residents working independently in each of the institutions.
- Resident rotas varied from 1:4 to 1:10
- Hours worked noncompliant with European employment law
- Each institution had a standalone PACS. No image sharing
- Demand for imaging almost unsustainable in larger departments
- Residents in smaller specialist units underemployed

# Acute hospitals in Merseyside UK

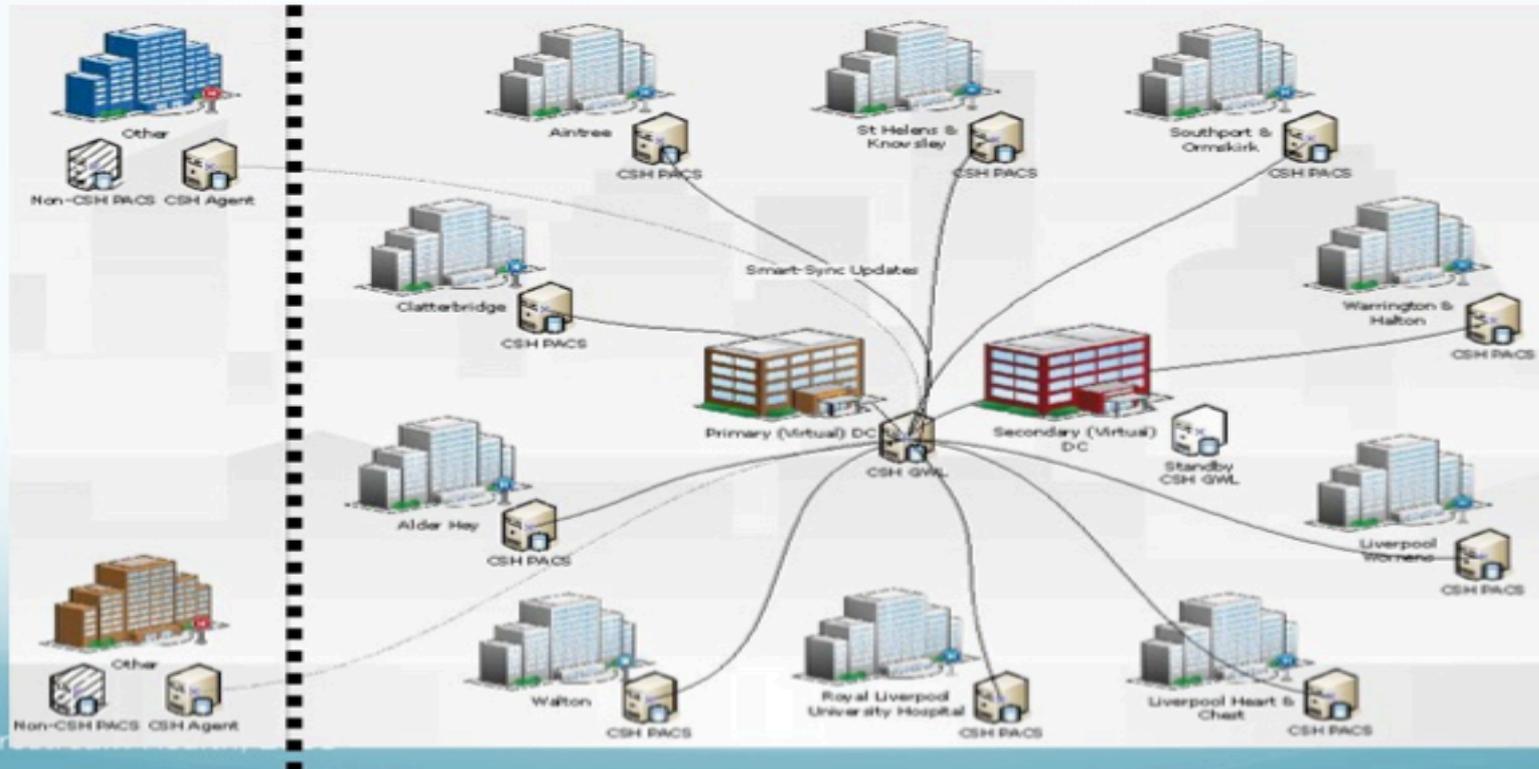


# Regional PACS deployment 2013

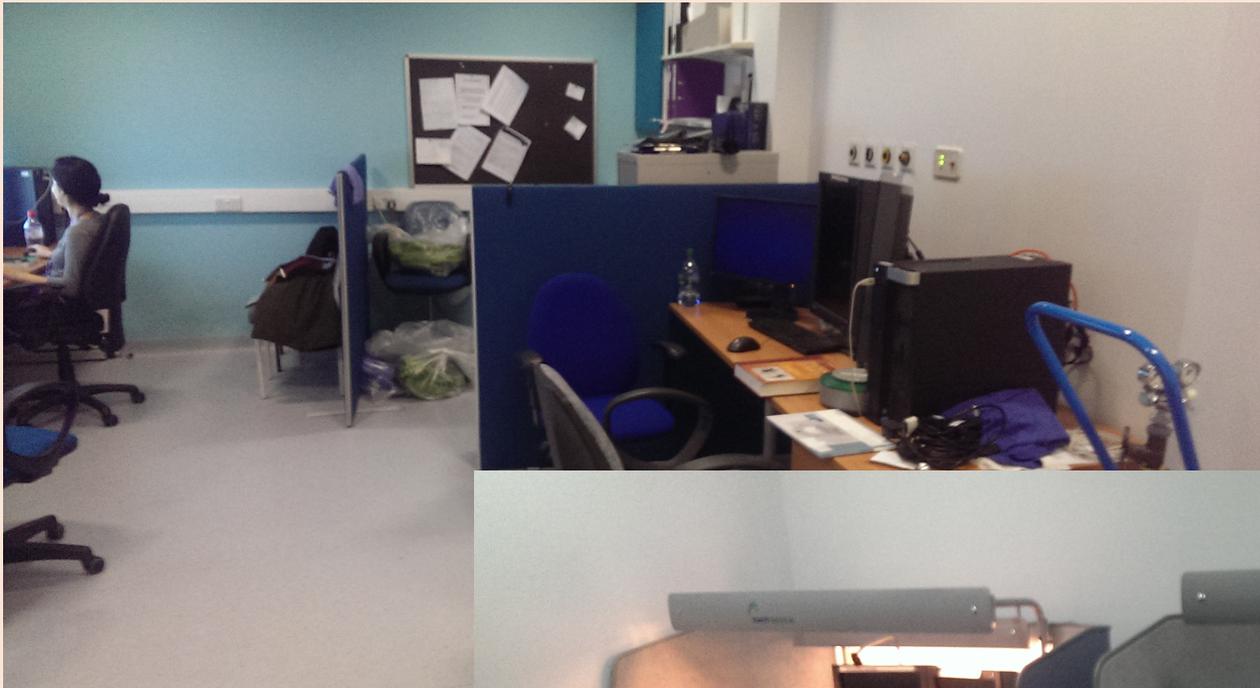
- 10/12 sites procured a single virtual PACS. Full online image sharing and reading.
  - 2/12 sites had existing PACS vendors. Local server installed to allow sharing with regional global PACS
  - Reports sent by HL7 messaging from reporting PACS to 'foreign' PACS
  - Acquisition and reporting completely independent geographically
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- Created a single 'hub' where a team of residents were based.
  - 4 residents of varying seniority rostered

# Architecture

## PACS across Cheshire & Merseyside



# The 'hub'



# Workflow

- Single referral system
- Telephone triage system
- Filtered telephone scripts
  
- Service level agreements for scan and report
  
- Attending radiologists on call for second opinion and support
  
- All scans and reports have senior review in timely fashion
  
- Residents required to follow up the senior review
  
- Significant discrepancies communicated via secure email

# Current system

- All 2-5 yr trainees are on the rota.
- Intensity around 1:10
- Rota predictable
  
- Discrepancy rates are around 2-3%, in line with other data
  
- Regional learning from discrepancy meetings every three months
  
- Significant cost savings related to unifying oncall intensity

# Issues

- IT outages
  - Physical
  - Ransomware
  - Radiology team sent to individual institutions
- Increasing demand
  - Saturation of telephone call center
  - 95% of scans performed and read within one hour.
- Lack of local radiologist
  - Face to face presence
  - Ultrasound
  - Interventional Radiology ( outside this process)

# Conclusion

- Moved from unsatisfactory system
  - Non compliant rotas
  - Large workload variations
  - No peer support and remote supervision
  - No regional learning from discrepancy
- To legal system
  - Sustainable rotas
  - Smoothed peaks and troughs in workload
  - Local peer support
  - Regional learning from discrepancy
- Now national model for UK