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Excellence in Radiology

Making Change Locally

Excellent Compassionate Respectful

One team working together for excellent patient care

Our context

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The Mid & South Essex System - Key Facts

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MSB Group is comprised of Mid-Essex Hospital Service NHS Trust, Southend University Hospital NHS FT and Basildon & Thurrock University Hospitals NHSFT: three hospitals struggling to be independently sustainable, and were part of the Essex Success Regime prior to the formation of the Mid and South Essex Sustainability & Transformation partnership in 2016:

Our three trusts work as an acute group model, with a shared Executive and joint working Board, to support **substantive leadership, clinical reconfiguration** and taking **advantage of scale,** including **sharing of risks and financial burden** as key enablers.

Radiology Vision

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To use the combined resources and talent in each MSB group department to come together and have a seamless department with the capabilities, ethos, expertise to be able to deliver the highest standard of care to our patients and clinicians. The combined department should be exemplar and be able to challenge the regional leading centres.

Why we need change

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The challenge we're facing: maintain quality during increasing demand, with limited resources

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Need timely diagnostic to maintain safe and high quality care for patients in challenging environment

- Ensure patients are seen in a timely manner; get it right first time
- Prompt diagnostic for A&E to meet the 4 hours target
- Continue to meet Cancer, RTT and waiting list targets

Demand for CT and MRI is growing at 8-10% per year

- Becoming increasingly challenging to meet demand within current resources
- CT & MRI examinations complexity increased by 10%
- Waiting time for diagnostic ranging from 2 – 6 weeks

Radiology needs to make efficiency savings to help the trusts deliver sustainable services

- Spent ~£3M on outsourcing in 2017/18

We need to support our staff

- Lack of time for staff training and development
- Remove the frustrations that stop you from doing their job properly

Where we were in Aug 2017 - different outcomes across sites as a result of pressures of capacity demand and performance[1]

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Total of 7,132 patients waiting for scans across 3x trusts

~30% variation in waiting times for scans across sites and modalities

- MRI: waiting times between 4.1 weeks and 3.2 weeks
- CT: waiting times between 3.2 weeks and 2.3 weeks

Cancer referral to scan times vary by 86% across sites

- 621 patients currently on cancer waiting lists
- Cancer waiting lists range from 8.1 days (site 1) and 15 days (site 2)

Throughput/hr differs across sites – driven by machine age, scan mix and operational efficiency

- CT: 3.67 (Site 1) vs 2.86 (site 2)
- MRI: 1.99 (site 1) vs 1.64 (site 2)

DNA rates range from 10.4% to 2.1%

1. Performance dashboard for week 8-14 August 2017

What we did

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In response to these challenges, we addressed five problems…

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Working directly with the frontline staff, service management team and clinical leads, we identified three areas which make a difference:

1. **Make the best use of available capacity across the three hospitals**
2. **Ensure patients are available for scheduled appointments reliably and on time**
3. **Ensure that appointments are clinically appropriate, and patients are ready for their scans**

Plus, we have identified two cross-site enablers for change:

i. **Reduce variation in protocols and scanning times for same indications across hospitals**
ii. **Improving booking templates to so we can efficiently scan less complex cases ('blitzing')**

…through five workstreams

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Workstream	Description
1. Cross-site working	**Enable load-sharing of patients across sites, leading to** • More equitable waiting times and improved patient choice with appointments across multiple sites • Spreading of risk due to increased supply (6 scanners vs 2) within the booking system • Extended open hours • Reduced outsourcing cost as more scans are insourced
2. Minimised DNA rates / Contingent booking	**Minimise the impact of patient DNAs. Potential levers include:** • Contingency booking to minimise downtime resulting from patient DNAs • Improved patients communications through letters, text reminders and phone calls
3. Optimised IP flow	**Improve quality of referrals to support the vetting process in specifying appropriate sequences** • Streamline patient pathways to reduce demand for simple scans and increase availability of beds **Optimise the flow of IPs from Ward-Suite to reduce utilisation gaps for scanners**

…through five workstreams (cont)

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i. Optimise protocols

Cross-site

Optimise protocols across sites, to improve quality and efficiency of scans

- Optimise sequences required for the most common types of scan
- Ensure booking slots match the length of scans
- Enable cross-site working and reporting across the group

ii. Blitzing

Cross-site

Improve scanner productivity by optimising scan scheduling

- Batching similar scan types to reduce the changeover and scan times

Example Monthly Dashboard: Site 1 CT

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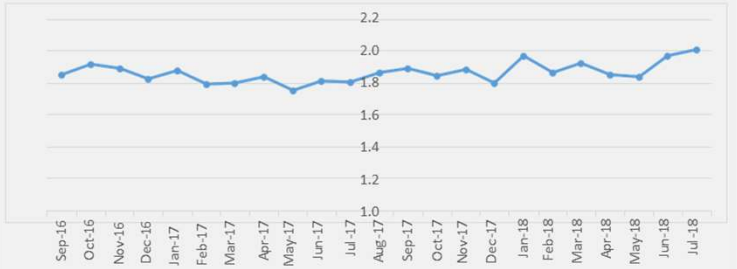
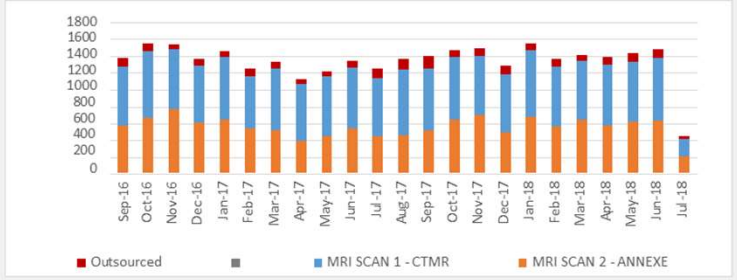
Throughput (Scans/Hour) - *fully staffed hours, excl. major downtime*



12 month % change:

0.8%	4.8%	8.9%	4.8%
Apr-18	May-18	Jun-18	3 month average

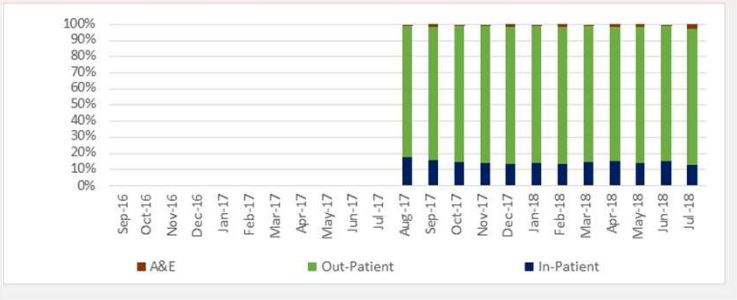
Volume (# Scans) - *all hours*



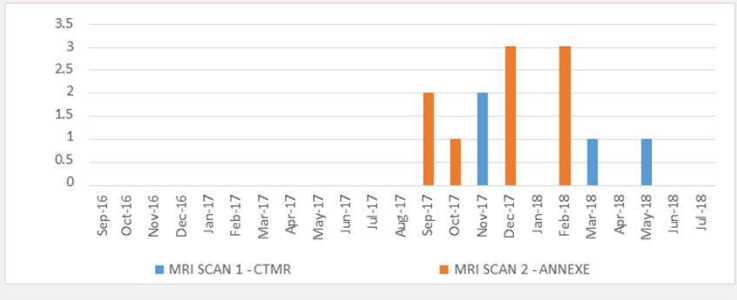
12 month % change:

4%	15%	9%	30%
MRI SCAN 1 - CTMR	*MRI SCAN 2 - ANNEXE*	Total In-House	*Outsourced*

Case Mix (%) - all *hours*



Major downtime (# days)



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Example Monthly Dashboard: Site 2 MRI

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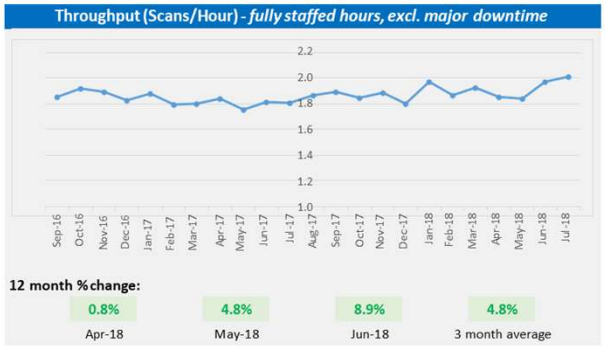

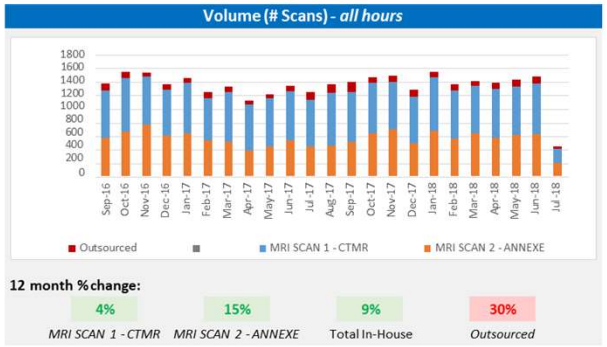

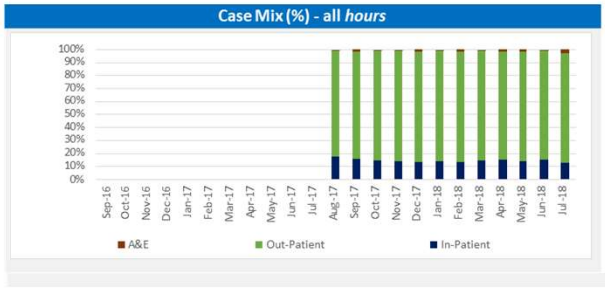

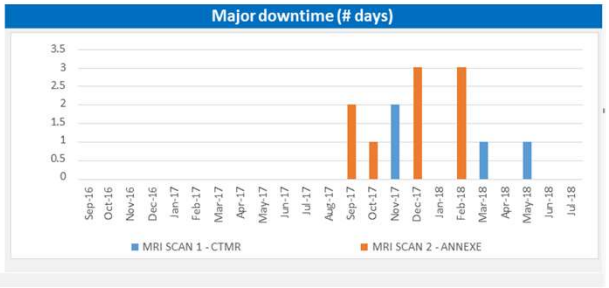

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Our results

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Results over the last year

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Focus	Impact
Volume	• Improvement in CT throughput at all three sites, one site reporting over 25% increase over 12 month period. • Increase in MRI throughput at all three sites ranging from 8% to 12% compared to previous year
Patient	• Cancer waiting lists now range 5-9 days across the three sites (average referral to test). • DNA rates now between 1% and 6% and group average at 3% • 620 fewer patients on the waiting list for CT & MRI compared with same period last year.
Staff (Radiologists, radiographers, admin teams)	• **Positive:** Increased satisfaction of patients, decrease in load for re-booking; less disruption; increased job satisfaction • **Negative:** Increased demand for reporting and booking; less 'built-in redundancy' in system

1Current waiting list is 6,512 compared to 7,132 patients across the 3 sites
Source: Performance dashboard for week 8-14 August

TBC

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CT and MRI scanners were audited across all three sites; all demonstrated a **significant improvements (7–15pp increase in utilisation)**

Key efficiency enablers observed, included

- Radiographers proactively fillings gaps with IPs, through advance notification to ward staff
- Filling of late cancelled slots by moving patients forward and adding extra IP's
- Radiographers parallel processing patients (scanning/preparing next patient)

Key improvement opportunities identified, included

- Reduce in-room patient prep time (e.g., by avoiding Radiographer interruptions)
- Avoid scan interruptions due to unremoved jewellery/mobile phones
- Ensure arrival of patients 15 mins before scan to complete consent/cannulation steps

Maximum scan rates observed during the audit suggest a **realistic ambition** for all sites going forward should be **CT: 5 scans/hour** and **MRI: 2 scans/hour**

Overall project impact

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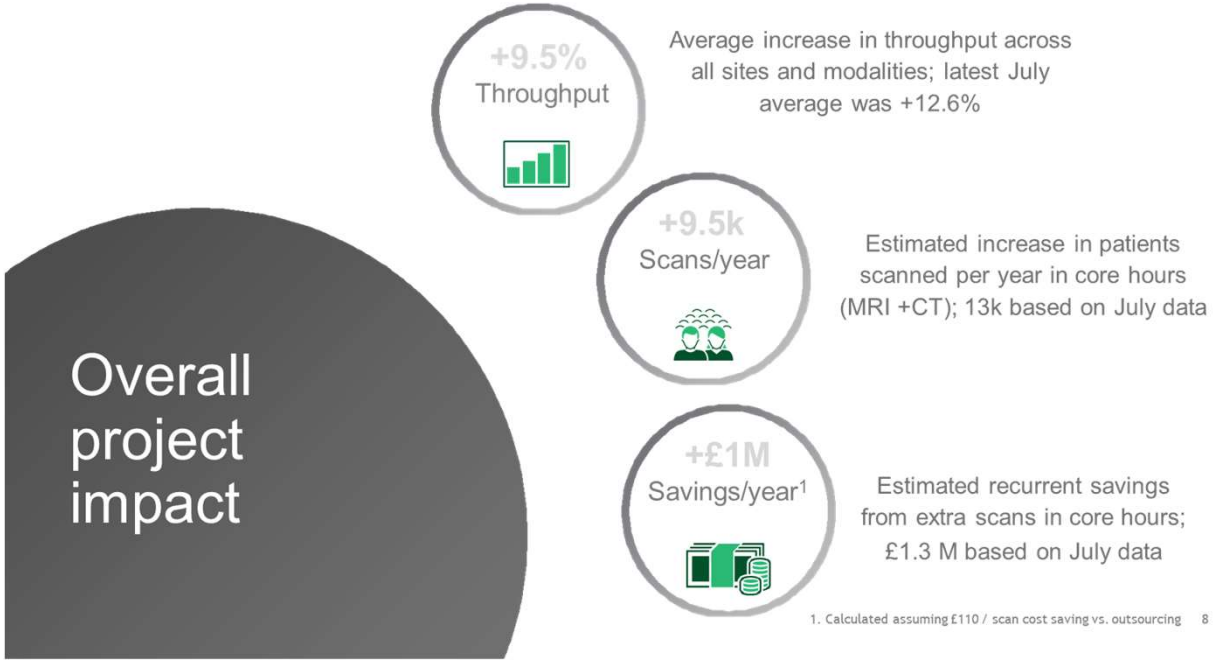

Key Success Factors

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- Executives involvement and engagement to unblock obstacle
- Frontline involvement and ownership
- Frontline staff engagement to establish the baseline
- Partnership with BCG to carry out shop-floor observation
- Testing each idea before implementation
- Clear key performance indicators
- ???Reward and recognition for the team

Post Covid

- Significant scanning Backlogs
- Significant CXR reporting backlogs

Actions

- Clinical re-validation and prioritization of requests
- Utilise Ai to prioritise CXR reporting backlog
- Cases for Elective recovery funding to increase capacity – Mobile MRI, additional sessions
- Ensure robust booking process in place – DNA rate across all modalities in MSE @2.19%
- Load level scanning and utilise ISP capacity
- Robust capacity and demand modelling undertaken
- Case for additional WTE approved at ISB level
- Maximise Trust assets (scanners and staff)

Radiology Successes

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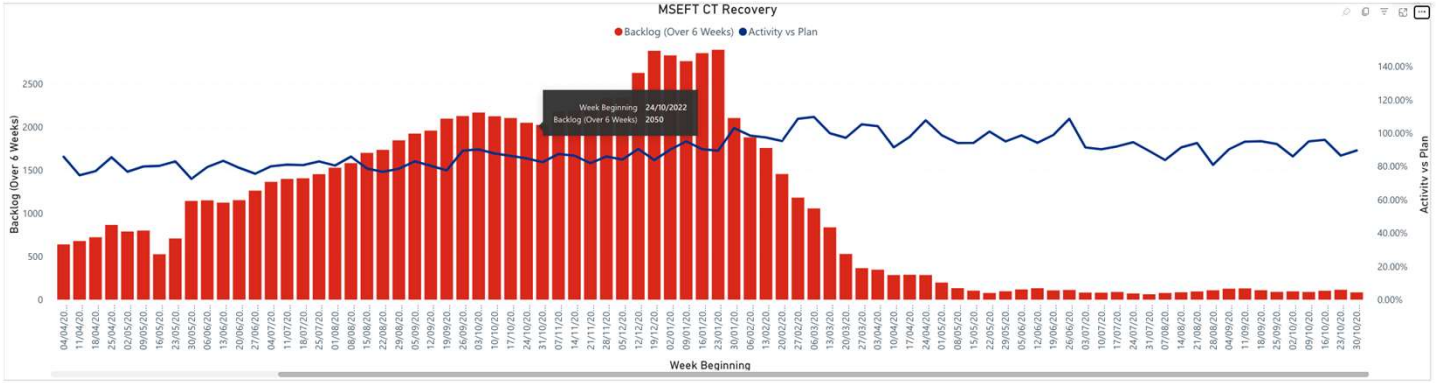
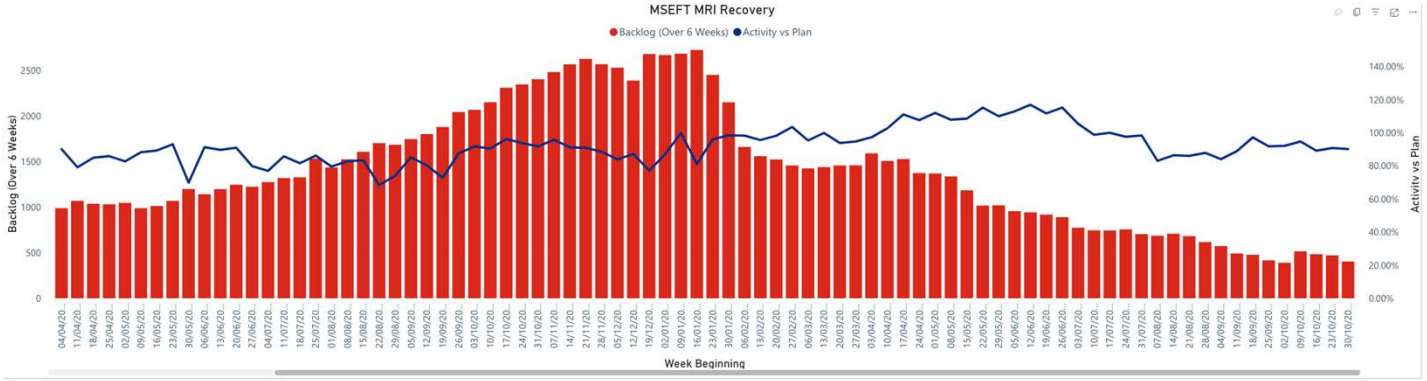
Significant improvement in scanning backlogs scanning backlog reduction





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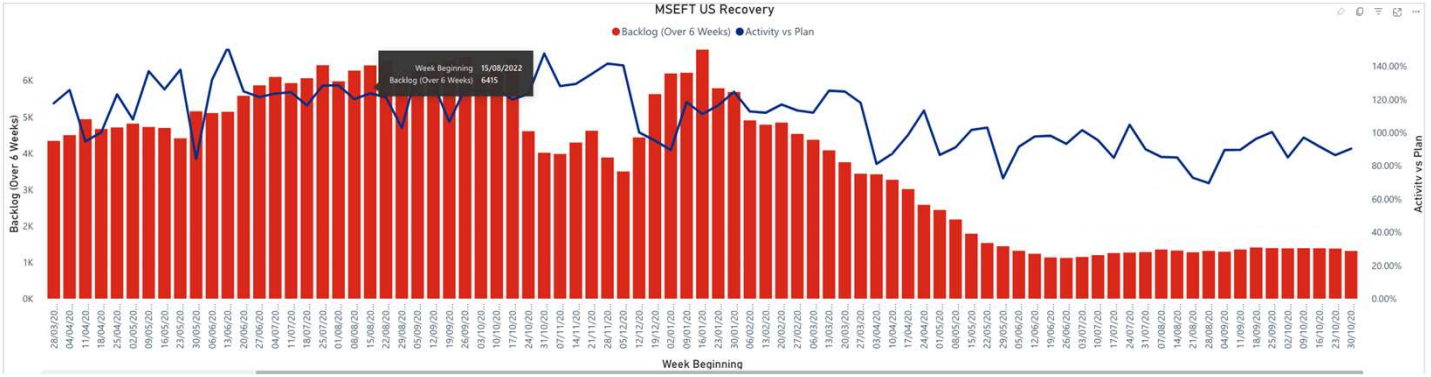

- Improving DM01 compliance - Southend compliant across all modalities
- IRefer rolled out to Southend GP's
- Single Radiology Information System in place
- MSE Radiographer awarded 'Radiographer of the year' for the Eastern Region
- Recruitment - 53.56 leavers FTE vs. 103.79 starters FTE
- Developing 'one Team working together'
- Reporting backlog oversight, grip and control