

NHS Rotherham Clinical Commissioning

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Strategic Clinical Executive: 23 May 2018

Governing Body (Confidential): 6th June 2018

GP Members Committee: 27th June 2018

Governing Body (Public): 4th July 2018

Rotherham Diagnostics Service

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Purpose:

To note the current diagnostics service and consider the proposed option for future service provision.

Background:

Direct access to diagnostics enables effective primary care management of patients.

In 2008 a service for the provision of diagnostics was set up and following procurement the contract was awarded to Care UK. This service complimented the already well-established diagnostic provision at The Rotherham NHS Foundation Trust (TRFT). Care UK delivered this service until September 2017 when they served notice and handed the contract back to RCGG.

The contract was novated to TRFT and commenced for a one year period on 1st October 2017; this is due to cease on 30th September 2018.

As set out in the original service specification, the current service model delivers the imaging and reporting of four main imaging modalities. These consist of X-Ray, Echocardiography, Ultrasound and Bone Densitometry.

The service utilises Sunquest ICE, as this was already integrated with the local GP systems of SystmOne and Emis and the Choose and Book system used by Care UK was a bespoke system and was not transferred to TRFT when the contract was handed back. Data from the staff base following TUPE, suggested that only 15-20% of all referrals to RCHC were via e-Referral prior to transfer, the remainder being open access or paper based mechanisms. In the wider context of the overall combined TRFT and RCHC activity this would represent around 5% of all primary care referrals for imaging.

The current service model centralises all scheduling for imaging activity, and the subsequent reporting of this activity on common systems. This ensures all images, and all interpretations from those images, are stored on a central replicated server environment.

For X-Ray, patients contact the Radiology central administration team (based at TRFT) and are

offered a choice of location, RCHC or TRFT, and a date/time to suit their personal circumstances.

For Ultrasound, primary care clinicians refer to the central administration team using ICE or paper referral and are posted an appointment for the first available appointment based on sub-specialist availability, length of wait or a previously expressed preference. If patients express a preference for a particular site, appointments are changed appropriately, and their preferences logged on the TRFT systems for future use.

Dexa Imaging and Echocardiography, for primary care referrals, are site specific, and only conducted at the RCHC site.

For X-Ray and Ultrasound imaging, around 70% of activity is delivered at TRFT and 30% delivered at RCHC.

Secondary care referrals and direct access imaging falls under the 6 week wait target (DM01). This target relates specifically to timescales from referral to test. There is currently no national target relating to reporting timescales.

TRFT performance against the 6 week wait target is extremely good. TRFT is regularly in the top 10 nationally across all acute providers, and recently has delivered a number of 1st place positions in relation to current access waiting times for TRFT imaging in regard to Plain Film (X-Ray) and Bone Densitometry (DEXA). All four modalities are consistently achieving the diagnostic waiting time contractual requirements.

Local key performance indicators are also monitored in relation to the provision of the community diagnostics service at RCHC.

Achievement of these KPIs has been a challenge for both Care UK and TRFT. Most recently, non-achievement of these local KPIs relate specifically to Echocardiography and General Ultrasound and it is important to note that for Ultrasound imaging, around 70% of activity is delivered at TRFT and 30% delivered at RCHC. Therefore, this underperformance does not fully represent the Rotherham population in terms of access to diagnostics.

General Ultrasound

This modality has had the most significant challenges in terms of waiting lists with an average increase in waiting time of 10 days. This is multifactorial, but based predominantly on

- Ultrasound appointment slots at RCHC are 30 mins by default (were previously under Care UK and are unchanged), appointment slots at TRFT are 15 minutes, therefore the difference in appointment length is 100% longer for ultrasound – this is mainly associated with the data transfer speeds and limited machine availability;
- The loss of 2.2 days (33 appointment slots per week) of scanning capacity at RCHC from the loss of staff, along with 11 hours of clerical time due to the difficulties in replacing staff when the contract is fixed term. This occurred prior to any service delivery changes to evenings and weekends.

Analysis of key issues and of risks

A number of significant challenges arose from the transfer of services from Care UK to TRFT and impacted the transition of both the service model and continued overall sustainability. External review of images from both TRFT and RCHC where given to suitably qualified reporting staff concluded that, the RCHC image quality was significantly inferior to that of

TRFT, even referenced against equipment of a similar age.

Noting this and the intention at the commencement of the TRFT contract to undertake a full review of diagnostics provision to inform future commissioning arrangements, RCCG have reviewed the current diagnostics service and developed a number of options for future service provision. The intention from this review is to improve the **quality** of provision whilst maintaining **access** to the service. The full options appraisal is included in Annex A.

The options are outlined below:

1. Do Nothing
2. Retain current service model with upgrading of infrastructure and equipment
3. Revised service model to centralise all diagnostics at The Rotherham NHS Foundation Trust site
4. Retain Option 3 service model but with retention of Bone Densitometry (Dexa) at RCHC site.

The outcome of the benefits analysis highlights Option 3 as the option which presents the most significant benefits, in summary these are as follows:

- Improved diagnostic accuracy and quality of imaging from higher resolution equipment; included in a fully managed asset register.
- Improve speed of tests resulting in less patient discomfort and a rapid transit through imaging.
- Increased throughput of scanning in Ultrasound in particular.
- Avoids replication of imaging which ensures a reduction in radiation dose and no double reporting.
- Future proofs and ensures sustainability of a Rotherham Place Diagnostics Service.

Option 3 includes a proposed service model of centralisation and facilitates the use of shared clerical, IT and administrative, clinical staffing and resources. This model is common practice for most high value, fixed asset services, to maximise productivity and reduce cost.

TRFT have committed to the delivery of the following local KPIs for **direct access ultrasound** by implementing Option 3:

From April 2019:

- Diagnostic assessment (investigation) completed within 4 weeks from receipt of referral;
- Electronic report received by the referrer within 1 week of diagnostic assessment (investigation).

From April 2020:

- 4 weeks from referral to report.

Patient, Public and Stakeholder Involvement:

An engagement assessment has been completed indicating that formal patient and public consultation is not required for the following reasons:

- Although this will be a change of location, there will be no change in service delivery;
- The changes will ensure a safe, reliable and sustainable service with improved quality

for patients by overcoming the current challenges presented at RCHC;

- This is a referral only service and therefore based on clinical need;
- This is not a large scale change.

However, the need to engage and consult with patients and the public has been acknowledged and engagement commenced through the Rotherham Patient and Public Participation forum on 5th June. A number of issues were raised particularly in relation to the potential negative impact for patients with a disability who require access to the service. These challenges and the actions taken to review and as far as possible, justify, eliminate, minimise or counter balance by other measures in line with the CCG's Equality Analysis and Engagement process are detailed in the Equality Impact section below.

Patients and the public will continue to be:

- Kept informed of the proposed service change and the reasons for this;
- Kept engaged through any opportunity during the process (where appropriate) in line with the equality impact assessment as below.

Equality impact

An equality impact assessment of the proposed changes is being finalised.

One of the key benefits to note is that Option 3:

- Reduces inequality in service provision particularly in relation to the differences in image quality between sites;
- Patients currently utilising patient transport services to access the service will not be impacted as this facility will continue;
- Patients who are currently entitled to reimbursement for travel expenses for hospital appointments would be eligible for this at TRFT;
- Approx. 30% of direct access patients are choosing to access appointments at RCHC, therefore this does not fully represent the Rotherham population in terms of access to diagnostics.

The key issues to note in relation to Option 3 are in relation to accessibility constraints due to challenges in parking, drop off points near to the main hospital entrance and perceived long waiting times within the department once the patient has reached the Diagnostics Service in the hospital.

Following feedback from the Rotherham Patient and Public Participation forum on 5th June has been in discussions with TRFT and notes the following:

Car Parking

TRFT are currently updating their Car Parking policy and this is in the process of being ratified through the appropriate governance structures. Key points/commitments to note within this policy are as follows:

- Public car parking will be provided primarily for patients and visitors adjacent to the main entrances to the Hospital;

- Requests for exemption from public car parking charges may be made in respect of patients and visitors where certain exceptional circumstances may exist;
- A weekly parking pass is available at a concessionary rate for those family members or carers who have an individual in the Hospital for a period longer than 7 days, or patients attending Outpatient clinics frequently (3 times a week or more) giving unlimited access to pay on foot and pay and display facilities:
- In line with the Trust environmental policies and Travel Plan (2016) a Car Sharing Scheme has been established in order to assist in reducing the volume of traffic visiting the Hospital and to encourage a shift away from single occupancy vehicle journeys:
- The Trust will provide patients and visitors with information on alternative ways of travelling to the hospital and will encourage the use of more sustainable modes of travel in preference to single occupancy car travel.

Drop off points

- Drop-off spaces are provided in the short stay car park;
- Drop off spaces have more than doubled in size and the Trust has confirmed that monitoring has shown that there is now always a space for drop off;
- RCCG is in the process of discussing potential options for the use of volunteer services to support patients to safely access the hospital from the drop off point.

Patient access to the Diagnostics Department

Work is on-going with TRFT to ensure access to the diagnostics department from the perspective of patient experience when waiting for an appointment is equitable to that of RCHC. To inform this, a snap shot audit across a number of days has been completed to review and compare scan appointment times, arrival times, scan start and scan stop times to understand and rectify any particular delays in the system.

The outcome of this work shows that an equitable service between the two sites is being provided with the latter dates showing that the average waiting time from appointment time to diagnostic exam being completed is the shortest at TRFT (5 mins).

Appointment Date	Average Waiting Time from Arrival in Department to Diagnostic Report	Average Waiting Time from Appointment Time to Diagnostic Exam being Completed	Longest Waiting Time from Appointment Time to Diagnostic Exam being Completed	Shortest Waiting Time from Appointment Time to Diagnostic Exam being Completed
Rotherham Community Health Centre Site				
22 nd – 24 th November 2017	22 minutes	8 minutes	24 minutes	0 minutes
3 rd /4 th April 2018	28 minutes	9 minutes	21 minutes	0 minutes
The Rotherham NHS Foundation Trust Site				
22 nd – 24 th	23 minutes	12 minutes	24 minutes	0 minutes

November 2017				
3 rd /4 th April 2018	20 minutes	5 minutes	19 minutes	0 minutes

Whilst the Equality Impact Assessment has identified a potential negative impact for patients with a disability, it is noted that approximately 30% of direct access patients are choosing to access appointments at RCHC, therefore this does not fully represent the Rotherham population in terms of access to diagnostics.

During the implementation process, we will seek to further engage with patients and the public and consider how likely these issues are to impact on service users and any improvement measures that may be possible to take.

Financial Implications:

Option 3 has the potential to release recurrent revenue savings of up to **£345,000** per annum whilst also supporting TRFT deliver sustainable services through more efficient use of staffing and equipment resource, presenting good value for the Rotherham pound.

Human Resource Implications:

The main risks to service are the staff groups employed to cover X-Ray and US services. Both these groups feature very highly on the DoH ‘recruitment and retention risk’ top 10 list. RCHC staff have become increasingly concerned about the lack of clarity in future planning of the unit, and have expressed concerns on a number of occasions.

Procurement:

In pursuing Option 3, RCCG would decommission the RCHC site for the delivery of a diagnostics service and this activity would subsequently be transferred to the TRFT site. On this basis there will be no requirement for a formal procurement process. This approach supports the following benefits:

- Ensures efficient utilisation of the service as appointments are currently underutilised at RCHC;
- Negates the costs associated with upgrading equipment at RCHC that would be incurred by RCCG should a formal procurement process be followed.

Approval history:

- OE and SCE recommended to Governing Body (confidential) the development and implementation of option 3;
- Governing Body (confidential) approved the development and implementation of Option 3 subject to enhancement of the following areas and endorsement from GP Members Committee;
 - Commitment from TRFT to the delivery of local stretch KPIs for direct access ultrasound to reduce current waiting/reporting times;
 - Review and consideration of actions to, where possible, mitigate issues raised in relation to access and equity by patients and the public.

The areas raised previously in confidential Governing Body have been addressed in this paper.

Recommendations:

Governing Body is asked to:

- note the challenges with the current service model for diagnostics;
- note the detailed options appraisal;
- endorse the development and implementation of option 3.

OPTIONS APPRAISAL

ROTHERHAM OPEN ACCESS DIAGNOSTICS

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1 Options Appraisal History

Document Location

This document is only valid on the day it was printed.
 The source of the document will be found on the project's PC in location.

Revision History

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Date of Next revision:

Revision date	Previous revision date	Summary of Changes	Changes marked
23/04/18	N/A	First Draft	
10/05/18	23/04/18	Second Draft – updates following internal review	
14/05/18	23/04/18	Final - updates following further internal review	

Approvals

This document requires the following approvals.
 Signed approval forms are filed in the Management/Specialist/Quality section of the project files.

Name	Signature	Title	Date of Issue	Version

Distribution

This document has been distributed to:

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3 Purpose

To outline the current diagnostics service and potential options for future service provision.

4 Background

In 2008 a new discrete service for the provision of diagnostics was set up and following procurement the contract was awarded to Care UK. This service complimented the already well-established diagnostic provision at The Rotherham NHS Foundation Trust (TRFT). Care UK delivered this service until September 2017 when they served notice and handed the contract back to RCCG.

The contract was novated to TRFT and commenced for a one year period on 1st October 2017; this is due to cease on 30th September 2018.

Since taking over the contract, TRFT has been working to increase the utilisation of the diagnostic service at Rotherham Community Health Centre (RCHC). A positive campaign of encouragement for patients was undertaken, particularly in respect of improving the use of the RCHC site. Despite several iterative changes to patient and referrer information, many patients still attend TRFT irrespective of the defined location on the appointment letters.

Secondary care referrals and direct access imaging falls under the 6 week wait target (DM01). TRFT performance in this regard is extremely good, is regularly in the top 10 nationally across all acute providers, and recently has delivered a number of 1st place positions in relation to current access waiting times for TRFT imaging in regard to Plain Film (X-Ray) and Bone Densitometry (DEXA).

There was a noted deterioration in Echocardiography (Echo) over the first 5 months, in the main due to staffing capacity within the current 3rd party provider (In-Health) for this imaging modality. Echocardiology is completely outsourced by TRFT and was previously by Care UK; this provider is also used regionally and nationally. This staffing challenge has been recovered in February 2018.

General Ultrasound (US) has probably had the most significant challenges in terms of waiting lists with an average increase in waiting time of 10 days. This is multifactorial, but based predominantly on growth in secondary care referrals, RCHC productivity due to significant issues with the network link, and the loss of 2.2 days of scanning capacity at RCHC from the loss of staff, along with 11 hours of clerical time.

A number of significant challenges arose from the transfer of services from Care UK to TRFT, which are outlined below, and impacted the transition of the service model and continued overall sustainability. These challenges can be categorised as follows:

1. Timeframes and response:

Input from the incumbent provider was both limited and lacking in quality. Sufficient engagement was only secured within the final 30 days of Care UK tenure, by which

time TRFT had already had to make the relevant financial, operational and HR decisions, to ensure a clinically safe transition. Access to contractual details, performance data, personnel data, third party information and financial details was restricted across the timeframes of the project.

2. Technology and IT

At the point of transition, TRFT inherited an RCHC infrastructure, which although clinically safe, had received no additional investment since the inception of the original contract in 2008. Elements of the remaining infrastructure were no longer fit for purpose, not reflective of current mandatory data returns or operational requirements. At this point the contract was 9 years in duration, and at the point where a physical and technological refresh was required. In addition, the details of the asset register shared with TRFT suggested all PCs required re-imaging, testing and support of a number of IT servers and systems.

The testing of the IT link revealed significant capacity challenges based on the transfer of large imaging data files. The capacity (bandwidth) of this link has impacted on productivity, with on average each US examination taking 30% longer than if undertaken at TRFT and therefore an appointment at RCHC taking on average of 20 minutes as opposed to 5 minutes at TRFT. It is not considered that this issue would be isolated to TRFT if an alternative provider came in to provide this service.

3. Image acquisition equipment

The imaging equipment procured by Care UK was also of limited specification resulting in aging and mature technology, with very limited scope for upgrade, necessitating the need for replacement. Royal College of Radiologists, Industry standards and College of Radiographers all recommend asset life of this equipment to be 7 years, with 5 years for US and Echo.

TRFT has had to manage failure of the high value detector plate from the plain film room with no subsequent increase in image quality at replacement, due to out-dated technology. In this regard, and to ensure business continuity, TRFT also had to divert its single computed radiography reader and cassettes, to improve resilience to the RCHC site.

4. Quality

There are clinical limitations of the equipment base at RCHC. In the interests of objectivity, images from both TRFT and RCHC were given to suitably qualified reporting staff, both internally and externally, for review. The overall conclusions were that, the RCHC site image quality was significantly inferior to that of the TRFT site, even referenced against equipment of a similar age.

5. Current Service Model

As set out in the original service specification, the current service model delivers the imaging and reporting of four main imaging modalities. These consist of X-Ray, ECHO, US and DEXA.

The service utilises Sunquest ICE, as this was already integrated with the local GP systems of SystmOne and Emis and the Choose and Book system used by Care UK was a bespoke system and was not transferred to TRFT when the contract was handed back. Data from the staff base following TUPE, suggested that only 15-20% of all referrals to RCHC were via e-Referral prior to transfer, the remainder being open access or paper based mechanisms. In the wider context of the overall combined TRFT and RCHC activity this would represent around 5% of all primary care referrals for imaging. For X-Ray, patients contact the Radiology central administration team (based at TRFT) and are offered a choice of location, RCHC or TRFT, and a date/time to suit their personal circumstances.

For US, primary care clinicians refer to the central administration team using ICE or paper referral and are posted an appointment for the first available appointment based on sub-specialist availability, length of wait or a previously expressed preference. If patients express a preference for a particular site, appointments are changed appropriately, and their preferences logged on the TRFT systems for future use.

Dexa Imaging and Echocardiography, for primary care referrals, are site specific, and only conducted at the RCHC site.

For X-Ray and US imaging, around 70% of activity is delivered at TRFT and 30% delivered at RCHC.

The current service model centralises all scheduling for imaging activity, and the subsequent reporting of this activity on common systems. This ensures all images, and all interpretations from those images, are stored on a central replicated server environment. This supports a seamless transition to secondary care which is safer and significantly quicker, than previous models. The avoidance of replication is also worthy of note, in terms of both cost and radiation dose reduction.

6 Options

It was agreed that RCCG would undertake a full review of diagnostics provision to inform future commissioning arrangements.

1. Do Nothing - retain current service model

See Section 5 above.

Benefits

- Evidence from the last 7 months suggests that patient experience, for those patients familiar with RCHC, is at a high level. This would be maintained by continuing to use the facility, allowing additional time to introduce new patients to the service and location.
- Current RCHC non rotational staff prefer to work in this location, supporting retention initiatives in the staff group.
- The physical layout of the RCHC Diagnostics service, although requiring some upgrading is currently fit for purpose in terms of managing the required activity levels.
- Streamlining of referrals via ICE can be maintained supporting unified referral pathways into the centralised scheduling services.
- The proximity of X-Ray, Dexa and Ultrasound ensures speedy access to some diagnostic services for MSK CATS, Podiatry and Bone Health services, due to location at RCHC.

Disadvantages

- Elements of the remaining infrastructure are no longer fit for purpose and not reflective of current mandatory data returns or operational requirements.
- The IT link has significant capacity challenges impacting on productivity, with on average each US examination taking 30% longer than if undertaken at TRFT and therefore an appointment at RCHC taking an average of 20 minutes as opposed to 5 minutes at TRFT.
- The imaging equipment is of limited specification resulting in aging and mature technology, with very limited scope for upgrade, necessitating the need for replacement. Deterioration in diagnostic accuracy, image quality and increased radiation dose, are aspects of aging equipment increasing exponentially with age.
- The costs associated with the RCHC site are prohibitive in the long term.
- Scientific, industry standard quality assurance tests reveal the RCHC site to be the lowest quality of any equipment in the current RCCG footprint.
- Quality, in terms of an immediate response to acute pathology presentation on images, is restricted due to the lack of senior and reporting staff at RCHC.

Current costs

The current financial envelope equates to £971,402 for service delivery, this is based on different tariffs for each modality and is paid at a higher rate than the locally agreed tariff for diagnostics in the main TRFT contract.

TOTAL ANNUAL COSTS: £971,402 + £108,000 (rent) - £1,079,402

2. Retain current service model with upgrading of infrastructure and equipment

See Section 5 above. The operational model replicates patient and staffing expectations across both sites where there is duplication of services. In this model TRFT would support the required weekend and evening provision for primary care activity, by centralising RCCG expectations on the TRFT site. In essence the Saturday and Evening service provision would be provided at TRFT*.

*(Note this change has already been agreed).

This option requires the development of an asset management strategy for RCHC to ensure any current or future provider is able to effectively manage the risk of failing high value capital equipment. Once installed, any new equipment at RCHC would be expensive to remove and relocate, should the strategic direction be changed over the next contract period.

The current service model outlined in Section 5 will remain in place with the differences between option 1 and option 2 relating to the upgrading of the infrastructure and equipment of the service which will have an impact on quality and timeliness of provision. The following upgrades would be made in option 2:

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- Replacement image acquisition equipment for Plain film, General Ultrasound and Dexa services.
 - Changes to room layout and installation.
 - Replacement and upgrade of existing IT infrastructure, including network link bandwidth improvements, server upgrades, licences and desktop PC refresh.

Benefits

-
- Productivity following network speed improvements in X-Ray and US on Saturdays and weekday evenings.
 - Risk reduction of capital equipment failure, through asset management strategy.
 - Staff development due to unification of staff base, generating increased flexibility and resilience.
 - Equity of access for all primary care referrals irrespective of referrer preference.

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- Efficiencies and cost reduction from avoidance of duplication on weekend and evening services.
 - Evidence from the last 7 months suggests that patient experience, for those patients familiar with RCHC, is at a high level. This would be maintained by continuing to use the facility, allowing additional time to introduce new patients to the service and location.
 - Current RCHC non rotational staff prefer to work in this location, supporting retention initiatives in the staff group.
 - The physical layout of the RCHC Diagnostics service, although requiring some upgrading is currently fit for purpose in terms of managing the required activity levels.
 - Streamlining of referrals via ICE can be maintained supporting unified referral pathways into the centralised scheduling services.
 - The proximity of X-Ray, Dexa and Ultrasound ensures speedy access to some diagnostic services for MSK CATS, Podiatry and Bone Health services, due to location at RCHC.

Disadvantages

-
- Duplication of revenue estate and staff costs by retaining two locations
 - Recruitment and retention challenges due to location and lack of flexibility across the staff base.
 - Quality, in terms of an immediate response to acute pathology presentation on images, is restricted due to the lack of senior and reporting staff at RCHC.
 - Potential that the population still continue to decline to attend RCHC continuing the issue with utilisation.
 - Capital costs of replacing the equipment at RCHC to bring it to the standard required

Anticipated costs

The current financial envelope equates to £971,402 for service delivery, this is based on different tariffs for each modality and is paid at a higher rate than the locally agreed tariff for diagnostics in the main TRFT contract.

In addition to this, the following capital would be required to bring the unit to an acceptable standard. It is anticipated that the above financial envelope provides sufficient for the provider to invest in the required equipment. From review, it is considered that the annual payment is approximately £237,000 above TRFT tariff and therefore the investment would be repaid in less than 2 years.

TOTAL ANNUAL COSTS: £971,402 + £108,000 (rent) - £1,079,402

Capital	Cost
Image acquisition equipment for Plain film, General Ultrasound and Dexa services.	£260,000
Estates and facilities costs via NHS PS to facilitate changes to room layout and installation vary considerably depending on the successful provider choice and technical specification.	Circa £100,000
Replacement and upgrade of existing IT infrastructure, including network link bandwidth improvements, server upgrades, licences and desktop PC refresh	£35,000
Transitional Dexa cover costs to cover the transition, as it is a single point of failure. This would require £20k to cover the transitional period, and involves temporary relocation of existing machine, to cover the transition, alongside installation of new. RPA and estates involvement required for both installations.	£20,000
Total	Circa - £415,000

Timescales for Delivery

Planning suggests 8 weeks for the procurement phase, 8 weeks equipment lead order time, and an 8 week installation phase. This equates to 24 weeks in total from the commencement of planning.

Most of the work will be required in X-Ray and Dexa, and the timeline suggests that plain film will be longest element of the project plan.

Potential delays and project risks would include:

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- NHS Property Service delays due to an unfamiliarity with this provider and track record of scheme changes.
 - Procurement delays via NHS Supply Chain framework procurements, and internal TRFT SFI's and Governance arrangements.
 - Delivery delays and availability of products from suppliers.
 - Issues arising from structural changes to building fabric, due to lack of availability of engineering drawings.

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- Imaging capacity within the overall system to manage the change period activity delivery therefore potentially impacting on waiting times for the installation phase.

3. Revised service model to centralise all diagnostics at Rotherham Foundation Trust

Option 3 would relocate all services, staff and equipment to the TRFT site, vacating the RCHC site completely. TRFT would be responsible for writing off all old equipment at RCHC, carrying out safe disposal and making good the RCHC environment post exit. There will be a requirement to relocate all IT services, local image and report archives and necessary servers back to TRFT. All clinical activity would be undertaken in the same location, as would all scheduling reporting and storage.

It is acknowledged that TRFT has some well documented space constraints within its current configuration. These constraints would apply to any transfer of additional services from RCHC to TRFT. It is felt that a complete transfer of all four imaging modalities is a viable option, but the necessary restructure of Clinical Radiology would require additional capital investment. This investment supports physical reconfiguration of the existing footprint and estate.

Staffing considerations would include recruitment and retention challenges if there is significant delay in defining contract length and investment.

X-Ray

Plain film services within Rotherham (TRFT and RCHC) consist of 5 digital X-ray rooms, with varying technical maturity. This option requires a technological refresh and a rationalisation of the 5 rooms down to 4. This is predicated on capital investment, to improve the speed of the remaining rooms to faster and more accurate digital radiography (DR) installations. With the necessary investment, and current performance in reporting turnaround time, this modality could easily be accommodated on one site.

Ultrasound

Service reconfiguration can be supported at TRFT with relatively low estates costs, but this is predicated on procurement of a new US imaging machine of suitable specification.

Echocardiography

The current provision is outsourced to a third party provider (In Health) who also provide additional activity for TRFT , for non direct access Imaging. This relocation

would significantly improve business continuity/resilience, remove single point of failure, facilitate peer review and streamline accounting, clerical and clinical processes.

Bone Densitometry (Dexa)

This is the most complex of the 4 modalities to relocate at TRFT. The current service is deeply embedded in the Bone Health service, which works across both RCHC and TRFT sites currently. Bone Health is heavily imaging dependent, and the proximity of both Plain Film and Dexa imaging at RCHC is considered very important. The current scanner is 11 years old, and has recently benefited from a £10k software refresh, and would be expensive to move back to TRFT. Space restrictions in both imaging and outpatients mean that service reconfiguration cannot be undertaken by imaging alone.

Benefits

-
- There are significant improvements in patient experience, diagnostic accuracy, patient comfort and speed with DR, supporting the positive elements of rationalisation to 4 rooms.
 - Supports current ECHO challenges in capacity and lone working at RCHC.
 - Supports reduction in the clerical and clinical staff volumes, maximising the use of resources and unification of IT systems and pathways.
 - The model allows for productivity gains, increased sustainability for the Rotherham imaging footprint, and considerable improvements in service continuity, resilience and patient safety/experience.
 - Staffing efficiencies can be made in X-Ray, US, IT and Clerical by making use of a unified imaging location, centred around TRFT.
 - Throughput can be improved in X-Ray and US in particular, with improvements in connection speed currently limiting RCHC.
 - Centralisation of the direct access imaging will facilitate significantly improved business resilience and continuity..
 - Additional cost saving can be delivered through reduced expenditure for buildings and facilities and centralisation of waste management, laundry, consumables, delivery duplication and the inevitable duplication in multi-site delivery.
 - Necessary investment in technology will produce improved diagnostic accuracy from higher resolution equipment. The speed of these tests also means less patient discomfort and a rapid transit through imaging.
 - Without the limitations at RCHC in relation to connectivity capacity a fully unified approach to performance, data integrity, data returns can be delivered.
 - Whilst it is acknowledged that there have been very few incidents at RCHC, clearly there was previously access to medical and nursing support via the walk-in centre however now this no longer exists, patient safety can be

improved as patients are being imaged within an acute care setting; with access to the relevant expertise immediately should any patients deteriorate. This also translates to quicker appreciation of recognised pathologies, via peer review, resulting in a shorter time to reporting and clinical review

Disadvantages

- There is likely to be some dissatisfaction from the patients in the more central practices and those who find parking easier in this location
- Potential disruption from altering rooms
- Potential challenges with accommodation on the TRFT site, particular with Dexa location and resilience.
- Remains a significant challenge with Dexa imaging provision, which is highly dependent on the short to medium term location of the Bone Health service.
- Reduced flexibility and the possibility of increased waits for the MSK CATS, Bone Health and Podiatry services, due to lack of on-site provision at RCHC. Data suggests that 3 patients per working day attend via open access from the above internal referral route.

Anticipated costs

The current financial envelope of £971,402 for service delivery could be reduced by approximately £237,000 by transferring activity on to the locally agreed tariff for diagnostics in the main TRFT contract. This is on the basis of the activity remaining at the same levels as in the current diagnostics contract however it is envisaged that additional revenue costs of £11k will be required to manage this transition in year one, with the following caveats:

- Current services are maintained at RCHC in line with any reconfiguration work undertaken at TRFT. The loss of capacity in X-Ray would be too great, were the loss of RCHC input to be out of synchronisation with reconfiguration project plans. The portability of Echocardiography and General Ultrasound is less relevant but does require some short term planning.
- Dexa services will require some form of interim support from an external provider. It likely that short term arrangement with another local provider, or mobile service would be needed, to ensure business continuity.

The model is predicated on capital investment, but will not rely on increased revenue streams, once delivered. Currently RCCG pay NHS property services £108,000 per annum for the space in which diagnostics are located.

TOTAL ANNUAL COSTS: £734,402

Capital	Cost
Image acquisition equipment for Plain film, General Ultrasound and Dexa services.	£260,000
Estates and facilities costs to facilitate changes to room layout and installation vary considerably depending on the successful provider choice and technical specification.	Circa £140,000
Replacement and upgrade of existing IT infrastructure, including network link bandwidth improvements, server upgrades, licences and desktop PC refresh	£25,000
Unknown risks and financial considerations will need to be applied to safe disposal of the existing equipment in accordance with accepted best practice.	Circa £30,000
Transitional Dexa cover costs to cover the transition, as it is a single point of failure. This would require £20k to cover the transitional period, and involves temporary relocation of existing machine, to cover the transition, along side installation of new. RPA and estates involvement required for both installations.	£20,000
Total	Circa £475,000

Timescales for Delivery

Planning suggests 8 weeks for the procurement phase, 8 weeks equipment lead order time, and an 8 week installation phase. This equates to 24 weeks in total from the commencement of planning.

Most of the work will be required in X-Ray and Dexa, and the timeline suggests that plain film will be longest element of the project plan.

Potential delays and project risks would include:

- Reconfiguration delays due to estates capacity at TRFT and the requirement to undertake additional reconfiguration outside that of options 1 and 2.

-
- Procurement delays via NHS Supply Chain framework procurements, and internal TRFT SFI's and Governance arrangements.
 - Delivery delays and availability of products from suppliers.
 - Issues arising from structural changes to building fabric, due to knowledge of defined replacement product.
 - Imaging capacity within the overall system to manage the change period activity delivery therefore potentially impacting on waiting times for the installation phase.
-

4. Retain Option 3 service model but with retention of Bone Densitometry (Dexa) at RCHC

This service model is similar to option 3, except for the retention of the Dexa scanning service at RCHC.

This proposed service model would involve the following operational details:

-
- Scheduling of activity can be maintained through the use of TRFT systems.
 - Reporting mechanisms will exist as per option 3, but with the opportunity to link to Trust EPR to support clinic reorganisation.
 - Data quality and financial reporting is maintained as per options 3.
 - The opportunity would support the option to transfer of the Bone Health service to the vacated diagnostics corridor at RCHC, relieving some of the space constraints currently experienced by this service. Bone Health currently occupies an area parallel to diagnostics within a space constrained footprint, and its current growth and service model is of concern.
-

Bone Health benefits significantly in terms of operational productivity, through close proximity to DEXA and Plain Film imaging services. If DEXA were to remain at RCHC, it would be necessary to upgrade the current DEXA machine, and any replacement to include the Vertebral Fracture Assessment (VFA) module. This will negate the need for proximity to Plain film imaging, as it is able to produce images close to the quality of a standard radiograph, utilising the radiation source within the DEXA machine.

Benefits

-
- As per Option 3.
 - The opportunity for the Bone Health service to acquire a more appropriate service space, as the diagnostic services are relocated to TRFT.
 - The opportunity to maintain a positive patient experience by ensuring the co-location of Dexa imaging and VFA imaging within the same clinical space as Bone Health. This supports maintaining all imaging needs within the same visit.

-
- Cost efficiencies can be gained from reduction of the TRFT footprint at RCHC, due to relocation of Bone Health to the diagnostics corridor, from vacation of its current location.

Disadvantages

-
- Staffing resources in DEXA in terms of image acquisition and clerical support all 4 current RCHC modalities. Staff recruitment and retention, and variation in job role, would be potentially limited by the need to support an external service
 - This does not fully release the revenue efficiencies from the RCHC estate
 - There is likely to be dissatisfaction from the patients in the more central practices and those who find parking easier in this location
 - Potential disruption from altering rooms
 - Reduced flexibility and the possibility of increased waits for the MSK CATS, Bone Health and Podiatry services, due to lack of on-site provision at RCHC. Data suggests that 3 patients per working day attend via open access from the above internal referral route.
-

Cost

Cost as per Option 3 would remain applicable but in addition there would be the cost of the Vertebral Fracture Assessment (VFA) module and no saving would be achieved from releasing RCHC space.

TOTAL ANNUAL COST: £842,402

Timescales for delivery and risk:

Planning suggests 8 weeks for the procurement phase, 8 weeks equipment lead order time, and an 8 week installation phase. This equates to 24 weeks in total from the commencement of planning.

Most of the work will be required in X-Ray and the timeline suggests that plain film will be longest element of the project plan.

Potential delays and project risks would include:

-
- Reconfiguration delays due to estates capacity at TRFT and the requirement to undertake additional reconfiguration outside that of options 1 and 2.
 - Procurement delays via NHS Supply Chain framework procurements, and internal TRFT SFI's and Governance arrangements.

- Delivery delays and availability of products from suppliers.
- Issues arising from structural changes to building fabric, due to knowledge of defined replacement product.
- Imaging capacity within the overall system to manage the change period activity delivery therefore potentially impacting on waiting times for the installation phase.

6 Benefits Analysis

The table below identifies the benefits criteria utilised to assess each of the options and ensure transparent decision making.

Benefit Criteria	Rank	Weighting
Optimal and consistent imaging provision with that currently provided at TRFT	1	30
Service Costs – VFM	2	25
Efficient utilisation of resources	3	25
Accessibility for patients	4	10
Efficient utilisation of estate	5	10

Scoring of options:

Benefits criteria	1	2	3	4
Optimal and consistent imaging provision with that currently provided at TRFT	0	4(120)	5 (150)	5(150)
Cost effectiveness – provides VFM	1(25)	1(25)	5(125)	0
Efficient utilisation of resources	0	0	5(125)	3 (75)
Accessibility for patients	5(50)	5(50)	2(20)	3 (30)
Efficient utilisation of estate	1(10)	1(10)	5(50)	0
Total	85	205	470	255

The rationale for the scoring is summarised as follows:

Criteria	Rationale
Optimal and consistent imaging provision with that currently provided at TRFT	Options 3 and 4 would enable all equipment to be replaced and improved to the same level provided at a hospital site. Option 2 would only improve the equipment to an 'accepted' level. Option 1 would not improve the imaging provision
Cost effectiveness – provides VFM	Option 3 releases full estates costs for RCHC and reduces tariff costs. Options 1 and 2 would continue to be a more efficient use of the RCHC estate when compared with Option 4 which would result in an inefficient use of existing space.
Efficient utilisation of resources	Options 1 and 2 do not provide for any opportunity to use staff resources or equipment more

	effectively. Option 4 would enable some efficiency with the movement to the majority of services to TRFT however retaining Dexa at RCHC would still require some resources currently used more efficiently to remain. Option 3 enables all services to be streamlined reducing staff costs, maintenance costs and enabling resources to be used more flexibly.
Accessibility for patients	Options 1 and 2 are considered to be the most accessible for patients as RCHC is located close to the bus station, provides free parking for patients and all services are within a few steps of entering the centre. Option 4 would still retain Dexa at RCHC so whilst more restricted there continues to be the same accessibility for Dexa. Option 3 has scored the lowest on the basis of the anticipated reaction of patients currently accessing diagnostics via RCHC.
Efficient utilisation of estate	Only Option 3 fully releases the estate cost of RCHC. Options 1,2 and 4 would not release any estates costs from the system

Option 3 scores highest from the above appraisal and the committee are requested to approve commencing engagement of wider stakeholders that this is the preferred option of RCGG.

Option 3 allows for the delivery of the following local KPIs for direct access ultrasound:

From April 2019:

- Diagnostic assessment (investigation) completed within 4 weeks from receipt of referral;
- Electronic report received by the referrer within 1 week of diagnostic assessment (investigation).

From April 2020:

- 4 weeks from referral to report.

The full savings would not be realised until Year 2 for the following reasons:

A Property Vacation Fee would have to be paid associated with releasing the space in RCHC – this is a 12 month payment

Year 1	£108,000 Property Vacation Fee
	£475,000 Capital requirements
	£734,402 Service cost
Total	£1,317,402

Whilst this would require an investment of £238,000 in Year 1, the recurrent savings would equate to £345,000 per annum