



**Scottish Radiology
Transformation Programme
(SRTP) Phase 2**



**Business
Case v2.0**

**Executive
Summary**

EXECUTIVE SUMMARY

1. NHS CHIEF EXECUTIVES HAVE GIVEN A MANDATE FOR FURTHER TRANSFORMATION OF RADIOLOGY IN SCOTLAND

This Business Case is based on a request made by the National Chief Executive (CE) Group in 2016 to explore solutions for a more sustainable and resilient diagnostic radiology service across NHSScotland. There was recognition that cross boundary working was a central requirement going forward and there were fundamental issues concerning disparate, local approaches around Information Technology (IT) Connectivity, data management and workforce which would need significant focus to allow future collaborations.

These three, interdependent requirements underpin a new paradigm for a sustainable, future diagnostic radiology service in Scotland: The National Radiology Model (hereinafter referred to as 'The Model': (Appendix 1); was approved by CEs in August 2016 and underpinned a business case approved in 2017 to deliver Phase 1 of a new programme, the Scottish Radiology Transformation Programme (SRTP). The SRTP was approved as a ten year change programme, with Phase 1 prioritising work on the fundamental issues of IT connectivity and data - collection and analysis - capability. By the end of the financial year the programme will have successfully achieved national IT connectivity, and a national dataset with regular automated data collection and analysis at a national level. It has also laid the foundations for national workforce solutions, workforce planning and clinical decision support.

This business case details Phase 2 of SRTP which represents the next steps in this ten year programme. Completion of Phase 2 will address some of the urgent demand and capacity issues in radiology and facilitate national objectives (such as stroke diagnosis prior to thrombectomy) whilst paving the way for the full transformational change needed to achieve service sustainability.

This approach is consistent with many of the themes in the [Health and Social Care Delivery Plan 2016](#) and is aligned with [Scotland's Digital Health and Care Strategy](#), [Realistic Medicine and Delivering Realistic Medicine](#), [Beating Cancer: Ambition and Action](#), [Healthcare waiting times: Improvement plan](#) and [a National Clinical Strategy for Scotland](#).

2. WITHOUT TRANSFORMATIONAL CHANGE, RADIOLOGY SERVICES IN SCOTLAND ARE UNSUSTAINABLE

The case for further transformational change in Radiology in Scotland is clear. The service continues to face increasing pressures and is at significant risk of failing. This would result in a catastrophic impact across acute and primary care services.

There is an ongoing, year-on-year increase in service demand

The National Records of Scotland predicted in mid 2014 that the Scottish population would grow to 5.4m by 2020. This predicted 2.4% growth was achieved by June 2016 and the population is expected to grow to 5.6m by 2043¹.

As the population has grown, the demand for Radiology services has also increased. The average annual growth in demand has been 3.4% between 2012 and 2018.

We do not have capacity to meet this demand

There is a current vacancy rate of **12.6% or 47.4 WTE²** across Scotland for Consultant Radiologists with a current establishment of 377.5³. Additional training places have been secured but this is far from sufficient to meet the growing demands.

As a result, waiting times and costs are increasing

Patients awaiting radiology tests for over six weeks has risen from 329 to 7,572 from Nov 2015 to Jan 2019: **A 2,302% increase.**

Total net costs for diagnostic radiology have risen from £244m to £287m over a six year period: **An increase of £43m or 17.62% from 2012 – 2018.**

The RCR⁴ reported that expenditure on outsourcing and additional payments had **increased by 297%**, from an estimated £3.5m for 2013/14 to £5.25m for 2014/15 and £10.4m in 2017/18.

Without radiology for diagnostic capability, other clinical services including primary care and acute services cannot make a timely diagnosis or monitor patient progress, which impacts on the ability of clinical services to deliver a treatment plan and appropriate high quality care. **The real risk of doing nothing is that radiology services will fail and this will have a catastrophic impact on patient diagnosis and treatment in acute and primary care settings.**

¹ <https://www.nrscotland.gov.uk/files//statistics/nrs-visual/mid-18-pop-est/mid-year-pop-est-18-info.pdf>

² www.ISDScotland.org/Health-Topics/Workforce/Publications/data-tables2017.asp

³ NRIIP Medical & Dental Workforce Information, March 2019

⁴ RCR SSC (2019) The Clinical Radiology Workforce in Scotland: 2018 Census Report

3. SRTP PHASE 2 DELIVERS STABILITY AND IS THE NEXT STEP TOWARDS A TRANSFORMED SUSTAINABLE SERVICE

The successful delivery of SRTP Phase 1 has begun to address the challenges outlined above. However, our options appraisal clearly shows that minimal benefit will be realised unless we build on what has already been achieved.

The preferred option (**Option 2 – Enhanced BAU with a new programme aligned to The Model**) commences a new programme of work and delivers a more sustainable service, improved quality and access, a consistent pan Scotland approach and improved staff satisfaction.

Costs for Option 2 are programme team costs **averaging £910k per annum for a 3 year period** and BAU costs averaging £864k per annum **for a 10 year period**. It is estimated that a breakeven point will be reached after 6 years and that following this there would be a **saving averaging £800k per annum in line with recruitment projections from the Scottish Government**.

Option 0 – Do Nothing. Halts all programme activities and meets contractual obligations. This is **not recommended** as very limited benefit would be realised and the crisis in radiology would not be addressed.

Option 1 – Do Minimum. Continues with business as usual as already established by SRTP Phase 1. This is **not recommended** as marginal benefit would be realised and this is not sufficient to address the current challenges.

Option 3 – Enhanced BAU and new programme of work to achieve the model in a shorter timescale. Delivers the benefits of option 2 and also recommends putting in place a national radiology authorising environment and structured change programme to support a paradigm shift being implemented in a shorter timescale. While this could deliver some benefits more quickly by reducing the need for consensus, it is **not currently recommended** as it is felt that the service is not ready for this pace of change and it does not break even within the next 10 years. Increased national coordination within radiology will be required in the medium to long term and is part of the longer term vision to be considered in option 2. Significant challenge and change to existing culture would be required in order to make this option viable in the short term.

The table below highlights key deliverables of Phase 1 and what is being proposed in Phase 2 under the preferred option (option 2).

Table 1: Key deliverables of Phases 1 and 2

| | Delivered in SRTP Phase 1 | Proposed in SRTP Phase 2 (Option 2) |
|---|--|---|
| National IT Connectivity | National cross-boundary reporting (Soliton's Share+) enabling reporters to report on images taken anywhere in Scotland | Establish use of National IT Connectivity as Business as Usual and a platform for the Scottish National Reporting Radiology Service (SNRRS) |
| National Radiology Information and Intelligence Platform (NRiIP) | National data set stored in a data warehouse. National Radiology Dashboards to facilitate the ability to collate, analyse and share national radiology data | Establish use of NRiIP for benchmarking, performance management and planning Expand breadth of indicators and analytical tools, aligning with other relevant data sets |
| National workforce solutions | Safe Working Framework to ensure safe operation of the Share+ system Reporting Radiographer pilot National "bank" model for Radiologists. SNRRS Bank pilot commenced, hosted by Golden Jubilee Hospital Contract for fifty workstations for use across Scotland Home working pilot and initial deployment of home workstations Consultant Job Design Framework, standardised approaches to job design Scoping sonographer workforce and supporting breast advanced practice work | Completion of Scottish National Radiology Reporting Service (SNRRS) Bank pilot Establishment of SNRRS as a Business as Usual service Deployment of SNRRS workstations including home workstations Advanced Practice projects. Scoping the potential for other roles as part of strategic workforce planning Developing and implementing new collaborative models to maximise Advanced Practice skills |
| Clinical decision support | Assessed technical and operational feasibility of implementing existing Clinical | Support to CDS pilot. Development of business case for national rollout of CDS |

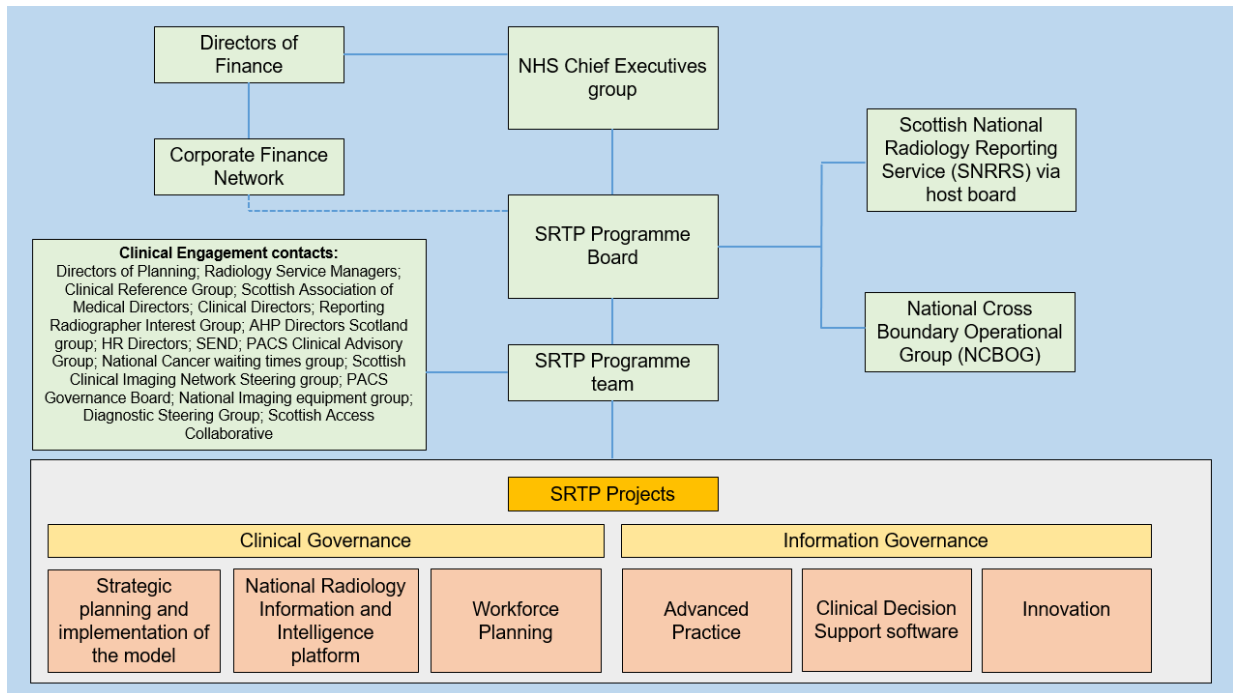
| | Delivered in SRTP Phase 1 | Proposed in SRTP Phase 2 (Option 2) |
|-------------------------------------|---|--|
| | Decision Support (CDS) software. Agreed 12 month pilot across two NHS Boards (2020/21) | |
| Workforce planning | <p>National Workforce Modelling Tool, standardised workforce planning approach</p> <p>Advanced Practice gap analysis, informs future workforce planning and training initiatives</p> <p>Gained approval for 10 additional Radiologist training places</p> | <p>Further development of workforce planning tool</p> <p>Establishing structures and processes to support planning work as part of business as usual</p> |
| Artificial intelligence (AI) | Initial assessment of AI timeline and impact (Scottish Health Technologies Group) (Appendix 2) | <p>Assess likely impact of AI on radiology practice, workforce and service provision</p> <p>Identify the likely place of AI image analysis and natural language processing tools in the radiology workflow.</p> <p>Support development of a coordinated approach to testing and implementation of AI</p> |
| National coordination | <p>Temporary SRTP Programme team</p> <p>Model for the future</p> | <p>Temporary SRTP programme team</p> <p>Ongoing national coordination</p> <p>Planning for delivery of the model and national strategy</p> |

4. TO ACHIEVE AND EMBED CHANGE THE RIGHT GOVERNANCE NEEDS TO BE IN PLACE

Continuing the national approach is recommended in order to maintain momentum and build on existing structures to fully realise programme benefits, in the shortest possible timeframe.

Note that the current governance structure does not involve the new National Planning Board which may have a future role.

Figure 1: SRTP Governance Structure (Appendix 3)



5. CHIEF EXECUTIVES ARE ASKED TO APPROVE THIS BUSINESS CASE

We have been presented with a unique window of opportunity to build on Phase 1 and continue the momentum towards a transformed future service model across Scotland. Since inception, we have built strong working relationships with a range of local, regional and national stakeholders who have helped to influence the Implementation Plan. National, regional and local implementation aligned to The Model is the foundation of a transformed future service. Therefore, CEs are asked to:

- a) Approve this Business Case including the Programme Structure, Governance and Reporting arrangements, and BAU arrangements
- b) Support the approach that Boards should, where possible, send excess reporting to the SNRRS during SRTP Phase 2 before considering outsourcing
- c) Advise a relevant source of investment for both programme implementation and BAU activities.