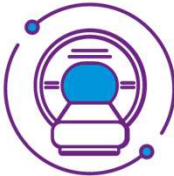


# Scottish Radiology Transformation Programme



Health Board Engagement Event 2022



# Housekeeping



## Welcome to the Scottish Radiology Transformation Programme (SRTP) Health Board Engagement Event

- The session will last one hour
- Please ensure that your microphone is on mute
- Please use the chat function to add any comments or questions in the session (Please note: chat will be visible to all attendees).

We would welcome your valuable feedback both during and following this session. To allow everyone the opportunity to engage and provide their thoughts and opinions, please use any of the platforms outlined below:



Open group discussion



Questions & comments in the Microsoft Teams Chat



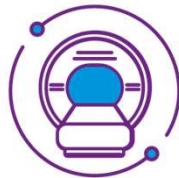
[nss.s.r.t.p@nhs.scot](mailto:nss.s.r.t.p@nhs.scot)

Feedback through the SRTP e-mail address

# Scottish Radiology Transformation Programme



Supporting the delivery of a world class,  
person-centred sustainable radiology  
service that continually improves the health  
and wellbeing of the people of Scotland.



This is the vision statement **for radiology in Scotland**.

Everything we are doing at a national level in SRTP comes back to supporting this statement.

# Transforming Radiology Services

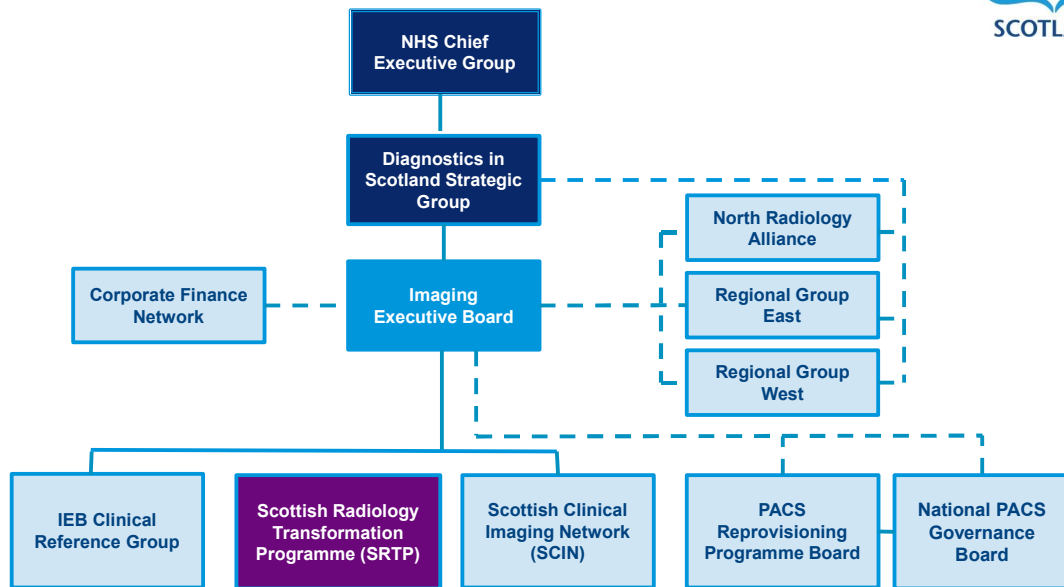


- The Programme is looking at areas spanning workforce, technology & innovation and service models
- Phase One laid the foundations to support the delivery of the vision for Radiology in Scotland
- Phase Two is building on this



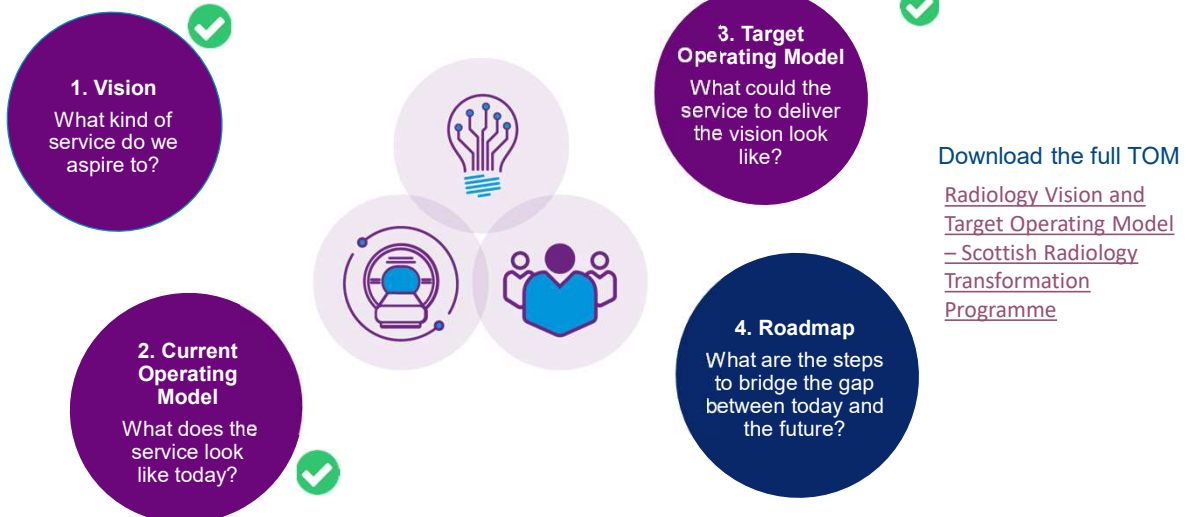
- Obviously we know Radiology is critical to patient pathways across the system, and that there were various challenges in terms of demand, workforce, costs etc.
- SRTP was established in 2016 to address these service challenges in radiology
- We have achieved a lot already including national IT connectivity for reporting, a national dashboard and a national reporting bank.
- We are looking at areas covering workforce, technology & innovation and different ways of working.
- Covid and the need for recovery has compounded service pressures, and we understand that the impact of this is felt by staff working in the service. As such, the need for transformation is greater than ever.

# Governance



- The SRTP is accountable to Board Chief Executives.
- The governance we have in place ensures that the programme is held to account and that we focus on the most important priorities for the service.
- We work closely with individual Boards, the regions, SCIN and PACS colleagues.

# Vision and Target Operating Model



- In 2020, Board Chief Executives asked us to set out the strategic direction for radiology for the next 10-15 years.
- This was developed through engagement with staff, patients and referrers.
  1. The vision describes the Radiology service we aspire to.
  2. The Current Operating Model describes what the service looks like now.
  3. The TOM sets out recommendations for what the future service should look like.
  4. The Roadmap sets out the steps to get from now to the future.

# Collective Recommendations



## Workforce, Demand and Culture

- Resilient, sustainable and flexible workforce
- Radiology vacancies are marketed widely
- Rural hospital posts provide equal career opportunities to large hospital posts
- Rural posts are supported by communities of practice with enhanced multi professional teams
- All departments can access appropriate equipment housed within appropriate estate
- Nationally coordinated approach to maintenance and procurement of radiology equipment

## Digital Technology

- Fully integrated IT systems
- National picture archiving communication system
- Functionally national radiology information system
- Appropriate IT support for 24/7 working
- Radiology requesting using order communications supported by clinical decision support software
- Artificial intelligence to enable enhanced working
- Patient access to book their own appointment slot for agreed imaging
- Remote access to radiology expertise if unavailable locally

## Business Information and Data

- Nationally standardised data sets
- Transparent business information
- Access to all radiology data across the Scottish radiology service
- National quality standards based on patient feedback, workforce data and service improvement goals

## Organisation of Radiology Services

- Locally managed services with regional and national links
- Regional and national services where required
- Border free patient services
- Sufficient funding to support services
- Regional workforce planning with national oversight
- Subspecialty delivery commissioned nationally and provided locally

## Education and Training

- Clearly defined training pathways
- Adapted apprenticeship methodology delivering appropriate skills across the radiology team
- Urban and rural placements
- Specialisation within the radiology team
- Attractive and rewarding career paths
- Blended education using virtual, 'on the job' and formal training routes

## Processes

- Radiology services will employ 'Realistic Radiology principles'
- Standardised protocols for imaging of common conditions
- National image reporting available where required
- IT equipment and infrastructure to support home based working including radiology reporting where appropriate
- Non-medical prescribing to improve efficiency
- Nationally agreed guidelines to support MDTs and other collaborative working
- Radiology is a recognised core component of all clinical service developments

The TOM sets out recommendations in six areas, including workforce, education, data, technology, and how services are organised.

# S RTP Team



## Scottish Radiology Transformation Programme (S RTP)

Dr Hamish McRitchie  
Medical Director

Greg Thomson  
Programme Director

## Scottish National Radiology Reporting Service (SNRRS) Other Opportunities

Dr Shalini Datta  
Clinical Lead

Jen Robertson – Programme Manager

Donna O'Rourke - Project Manager

## Advancing Practice

Clint Heseltine  
Clinical Lead

Dr Simon McGurk  
Steering Group Chair

Adam Pinner  
Project Manager

## National Data

Dr Raj Burgul  
Clinical Lead

Laura Dodds  
Programme Manager

Sarah Walkinshaw  
Project Manager

## Workforce Planning

Clint Heseltine  
Clinical Lead

Laura Dodds  
Programme Manager

Amy Currie  
Project Manager

## Artificial Intelligence

Dr Mark Hall  
Clinical Lead

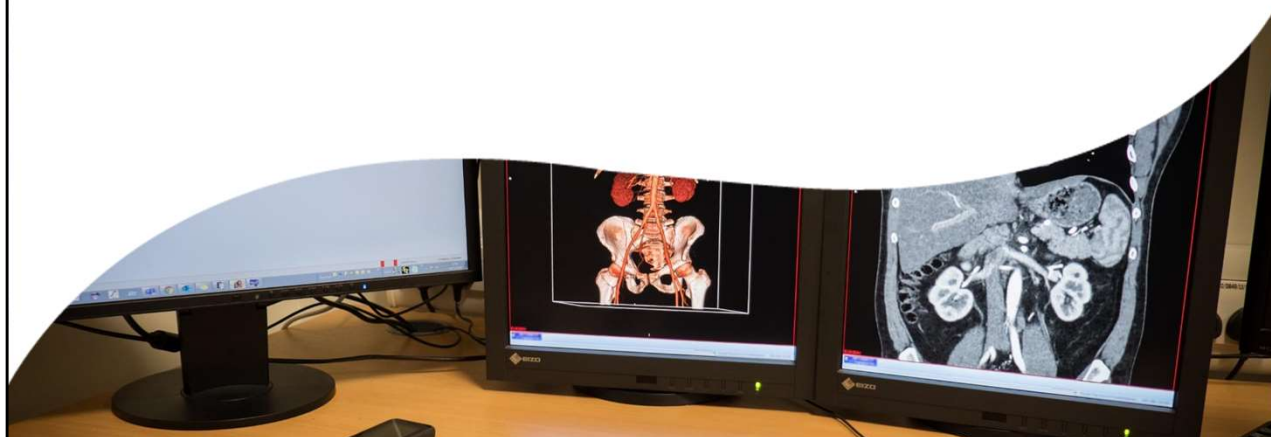
Suzanne Tate  
Programme Manager

Sarah Walkinshaw  
Project Manager

- Clinical input is key to the success of our programme. This slide shows who's who in the programme including our Clinical Leads.



# Advancing Practice



# Advancing Practice



The aim of the Advancing Practice project is to **increase capacity in the radiology service by expanding and optimising the capability and expertise** of various roles in the radiology team.

## Objectives



- Advancing Practice is looking at increasing capacity in the service by supporting radiographers to advance their practice and we are also looking at the key role of Assistant Practitioners.
- The project is about championing people to extend their practice and support their career progression, but critically, it is about benefitting patients and the service as a whole.

## Key achievements so far..



- **Eight MSK trainees successfully completed course** from the first cohort of trainees
- One trainee doing a two-year extended course and due to complete training in summer this year
- **Seven trainees started training** across five different boards in MSK, GI studies & reporting and Chest X-ray reporting
- **11 Assistant Practitioner trainees started training** to extend their practice
- Imaging Executive Board approved proposal to support **Reporting Radiographer Chest X-Ray** reporting
- Pilot set up to **mentor Chest X-Ray trainees remotely** via SNRRS using Share+ system
- **Ultrasound DCAQ data analysis** to identify national service needs and help with Imaging Recovery Plan
- **Identified key priorities** nationally.



- So what have we achieved so far?
- For the first time, we now have national agreement that radiographers can carry out chest X-ray reporting, whereas this had previously only been the case for one radiographer in one Board (Ayrshire & Arran).
- We have supported 16 radiographers to access MSK, GI and Chest X-ray reporting training and there are now 11 Assistant Practitioners training to extend their practice.
- The training is funded by the Scottish Government and SRTP has a co-ordinating and quality assurance role to confirm that staff are being supported in their department during and after their training.
- We are also piloting the use of the Share plus system to remotely mentor Chest X-ray trainees in two Boards (NHS Tayside and NHS Shetland).
- Another key achievement is the setting up of an Ultrasound Academy, which should be up and running in September this year.
- We are working closely with Scottish Government, NES, Golden Jubilee and higher education providers on this initiative, which will provide additional training to help Boards with the significant sonographer staffing issue.

# Advancing Practice Priorities



- **Ultrasound**
  - Support recovery planning work and national academy
  - National job descriptions developed
  - Ultrasound National Vision document in review
- **Chest X-Ray**
  - Chest X-ray reporting by radiographers framework in review
  - Chest X-ray mentoring pilot via SNRRS
- **CT Colonography**
  - National framework and training package in review
  - Gain endorsements and accreditation for standard training module
- **Assistant Practitioners**
  - National job descriptions and framework
  - Extend scope of practice
  - Education – progression to radiography more accessible for assistants
- **MSK**
  - Work out scope and plan once new workstream lead in place.

## Training

Ongoing work with the Boards to **organise 2022/23 training places** to meet the Scottish Government's initial commitment of 30 reporting radiographers by 2023.

Preparing proposal to secure **ongoing funding** after 2022/23 financial year.



- So what's next for Advancing Practice?
- We are working with Boards to organise this year's training places for staff to benefit from the final year of the Scottish Government's funding commitment.
- The project is also focusing on developing national frameworks, training materials and job descriptions for a number of priority areas to ensure that a national approach is taken where it is beneficial to do so.
- We appreciate how short staffed you are and we want to continue to develop roles to help make radiography an attractive career path.

# Workforce Planning



# Workforce Planning



Deliver a **national workforce plan** for the radiology service in Scotland by March 2023

- Based on **data** and **professional judgement**
- Using the recognised **Six Steps** approach  
service model > demand and supply > gap analysis > solutions >> implement
- High-level **first iteration** for diagnostic imaging on a national scale
- Building on the recent Radiology Service Target Operating Model
- Close **collaboration** essential (Steering Group & wider engagement)

**Step 1:**  
Define the Plan

**Step 2:**  
Map Service Change

**Step 3:**  
Workforce Required

**Step 4:**  
Workforce Supply

**Step 5:**  
Plan to Deliver

**Step 6:**  
Implement, Monitor, Refresh

- We are currently in the process of creating a national radiology workforce plan that will be delivered by March 2023.
- Until now, workforce planning has been done locally, or for single groups of staff at a national level.
- So for the first time, we are developing a workforce plan that includes staff across radiology in Scotland.
- We know that the service doesn't have enough staff to meet demand and we hope that this plan will help provide crucial intelligence to highlight and help address this issue.

# Workforce Planning



## Workforce

- Clinical Radiologists, including Interventional Radiologists
- Diagnostic Radiographers, including Advanced Practitioner Radiographers, Healthcare Support Workers and Assistant Practitioners
- Sonographers (*non-obstetric*).

## Planned Steps

- Map **current** state of radiology workforce and supply
- Project **future** demand from data and scenario modelling
- Identify **required** workforce to meet that demand
- Hold wider regional **engagement** workshops autumn 2022
- Recommend **solutions** / ideas to fill gap
- Recommend approach to **embed** workforce planning and delivery.



So how will we do this?

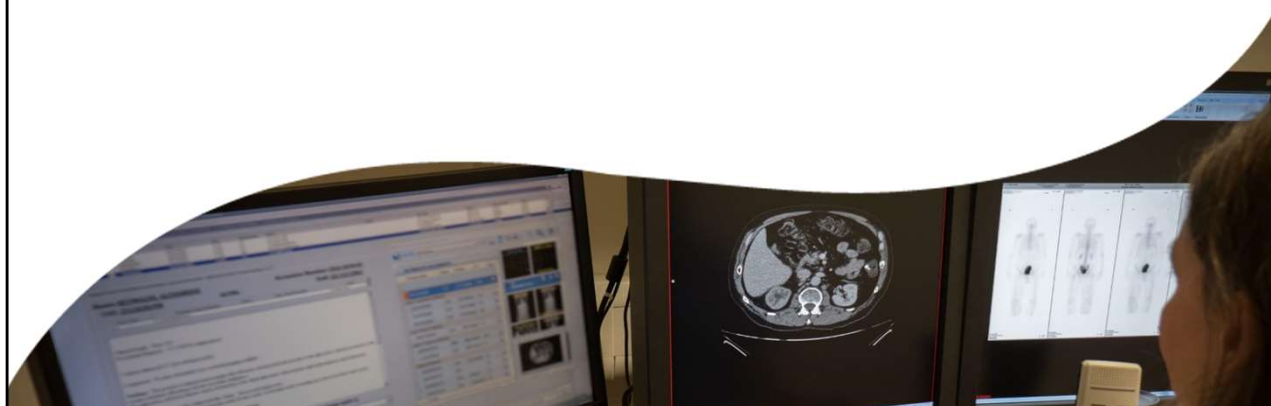
This slide outlines the staff groups we will look at in more detail for the plan. We are aware that there are other staff involved in radiology and they will be included in the narrative where we don't have explicit data at this time.

Essentially we will be working out for each of these staff groups:

- How many staff are needed
- How many we will have if we don't change how we recruit and retain staff
- And what the gap is between the two
- We will then develop recommendations and a plan for filling the gap.

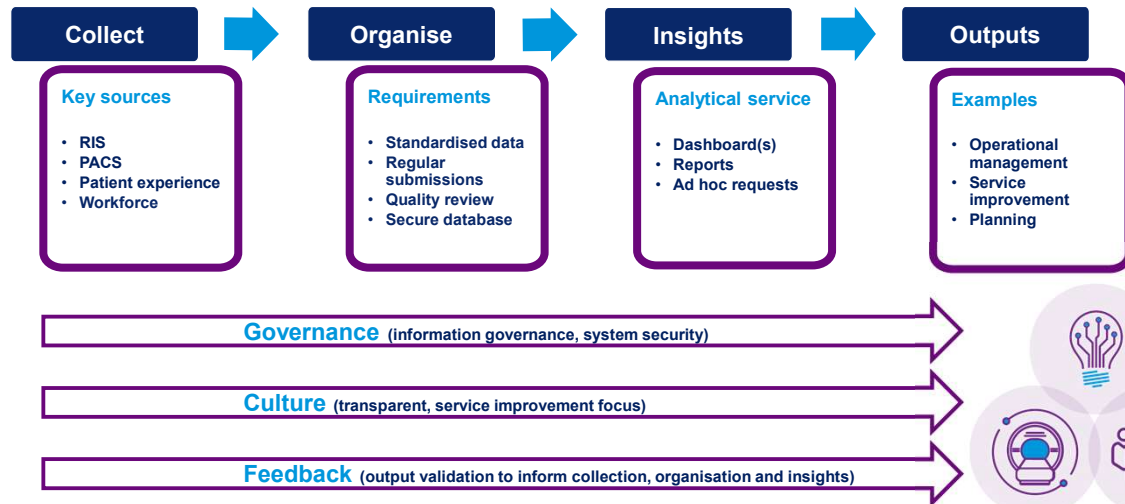
We know that March is some time away for the plan to come out so, in parallel, we will be holding regional engagement sessions in the autumn to explore ideas and solutions to fill the gap.

# National Data





# National Radiology Data Journey



- One of the challenges we've faced with the workforce plan is data, and we are keen to support a service that is informed by good quality data.
- This slide shows the journey from when staff enter data into different systems, like RIS and PACS, to organising the data so that it can be used to inform service improvements and plans.
- We are also aware that to be able to meaningfully use data, we need to have good governance and a service culture that is open to sharing data and learning from it.

## National Data Successes



Philips Proof of Concept Performance Bridge Dashboard Project commenced

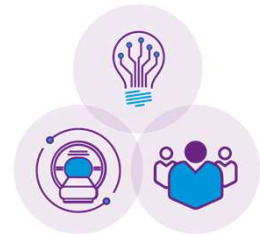
**14** Health Boards submitting data to NRIIP on a monthly basis

**Data Output Priorities Agreed for 22/23:**

- Workforce Planning
- Recovery Planning
- Service Insight Reporting

**Agreement** from key stakeholders on requirement for nationally standardised coding

**11/89** data items identified as a **priority** for data **quality improvement**



- So what have we achieved?
- We have agreed priorities for where we want to focus on improving data quality and this includes recovery planning and workforce planning.
- We now have all Boards submitting RIS data to NRIIP. This has not been an easy task, so thank you for your help with this.
- We are also working with Philips to see how we can use PACS data.

## What's Next for National Data?

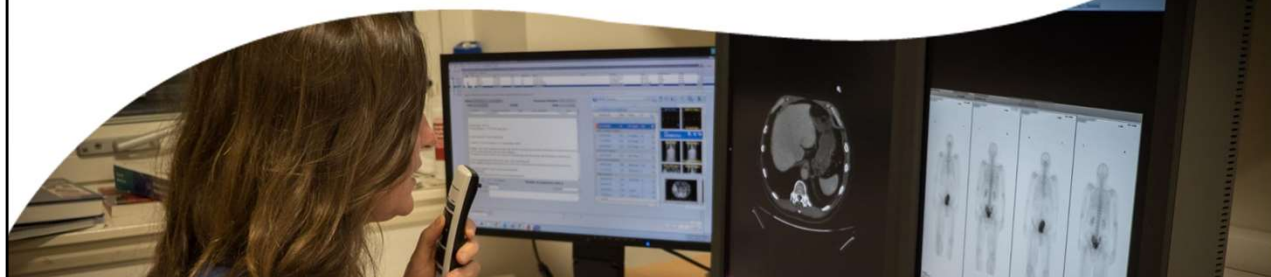


- Evaluation of radiology data dashboards – NRIP and PACS
- Agreement on the way forward for **a national radiology data dashboard**
- An agreed national approach and phased implementation plan for **coding standardisation and mapping**
- **Data quality improvements**
- **Understanding of the current state of real-time data** at local board level and a recommendation for how **good practice can be shared nationally.**



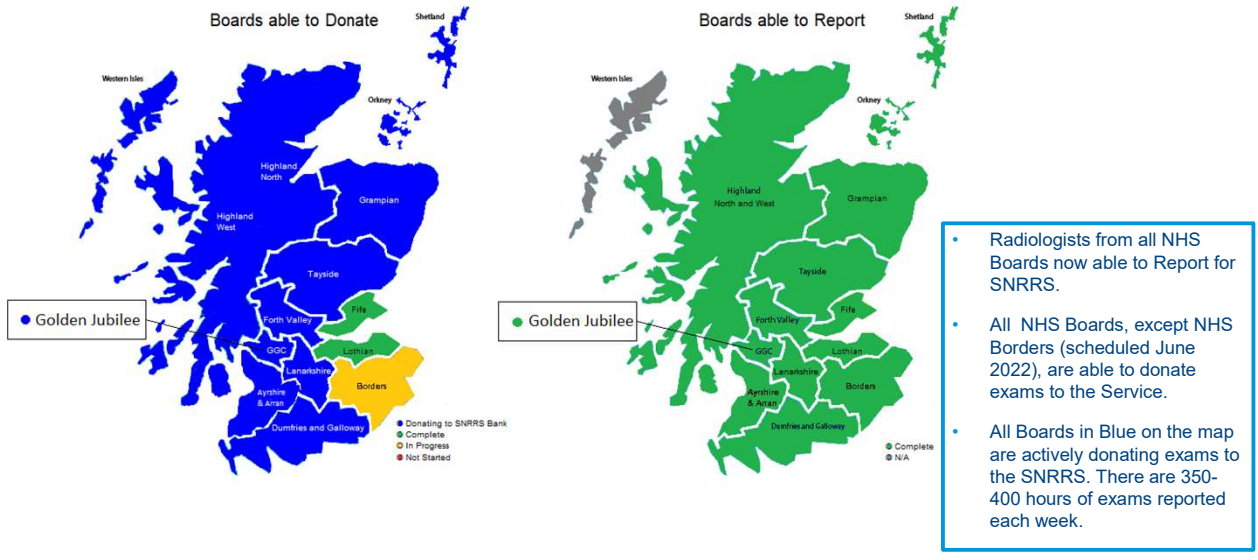
- So what's next?
- We are focusing on improving data quality and agreeing an approach for coding standardisation.
- We would also like to understand how Boards use data locally to see if there are examples of good practice that can be shared.
- We are currently evaluating NRIP and the PACS dashboard test of change, to make a recommendation on how to achieve a national radiology dashboard that not only provides intelligence, but that is easier for Boards to use and contribute to.

# Scottish National Radiology Reporting Service (SNRRS)



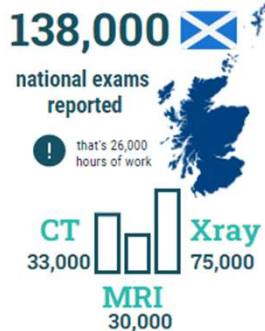
# SNRRS - IT Connectivity

## Progress at Board Level



- SNRRS was established to provide a central bank of radiologists who can report on exams submitted from any Board. This reduces the reliance on outsourcing to commercial providers and evidently the costs of doing so.
- IT Connectivity was needed so we could set up the national reporting service
- All Boards are able to report
- All Boards, except NHS Borders, are able to donate
- 12 Boards are now donating exams to the bank at NHS Golden Jubilee. NHS Lothian are picking up NHS Fife work.

## SNRRS Bank Success July 2020 – April 2022



**£1.15m** cost avoidance for radiology departments

**99%** exams reported within 5 working days

**12** health boards actively donating exams

Ayrshire and Arran  
Dumfries & Galloway  
Forth Valley  
Golden Jubilee  
Grampian  
Greater Glasgow and Clyde  
Lanarkshire  
Highland Argyll & Bute  
Highland North  
Shetland  
Tayside  
Western Isles

donating board satisfaction

**90%**

- ★ SNRRS team interactions
- ★ type & quantity of exams that can be reported
- ★ cost of exams



**9/10**

consultant radiologists are satisfied with their experience with the SNRRS



**70** home workstations deployed to consultant radiologists



**82** consultant radiologists across NHS Scotland working for SNRRS



The service has been a big success and transformed how we deal with excess reporting and has reduced the reliance on outsourcers. It is now fully operated at GJ and here you can see some of the impressive numbers associated with the service.

We have received positive feedback from Boards regarding the quality of reporting, the variety of exams (including Specialisms such as neuro, paediatric and breast) and the response rate of the SNRRS team. Reporters also expressed their satisfaction at having the ability to report from home and work more efficiently as a team.

To date (May 2022), the **Scottish National Radiology Reporting Bank** has recruited **82 Reporters** and reported **138k exams**, resulting in **£1.15 million cost avoidance** for NHS Boards.

## What's Next for the SNRRS?



### Expanding the scope of the SNRRS by:

- Exploring recruitment of **reporting radiographers** to the SNRRS Bank under AfC rates
- Exploring a simplified process for recruitment of **retired radiologists**
- Exploring **radiology reporting networks**
- Exploring options for future funding and ownership of SNRRS workstations.



We are now looking at how we can expand SNRRS

- Increasing capacity by recruiting reporting radiographers and retired radiologists.
- Establishing radiology reporting networks to share work. These might be geographically based, for example sharing work between Boards in a region, or specialty based (e.g. paed's or neuro).

# Artificial Intelligence





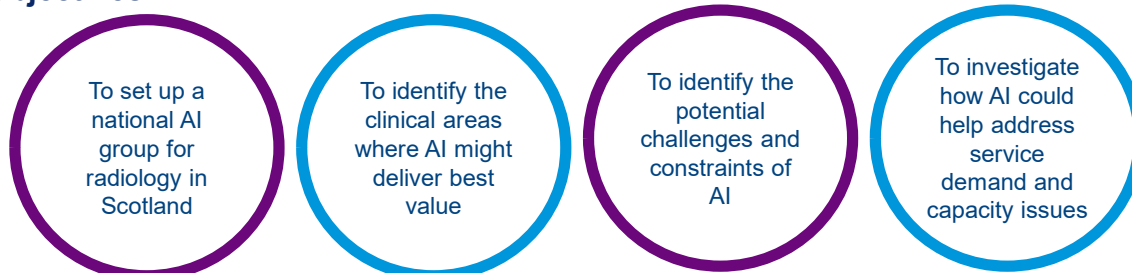
# Artificial Intelligence



## Aim

With Artificial Intelligence (AI) becoming more prevalent in radiology, and with growing interest in this type of technology and its' potential, the aim of the AI project is to put in place a **structured, nationally co-ordinated approach** to help ensure **maximum benefit** and **avoid duplication of effort**.

## Objectives



As we look to transform how Radiology has previously operated, we are looking at innovation and, in particular, Artificial Intelligence to support clinical pathways and service demands.

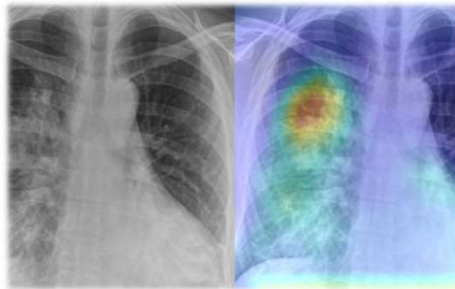
AI presents great opportunities to support clinical processes where safe, but there are also complexities in terms of assessing clinical safety, regulations, value etc.

SRTP is therefore looking to not only monitor specific tests of change, but to provide support and consistency to AI use in Radiology/ NHSScotland.

## AI – Current Examples



Detection of Osteoporosis



Chest X-Ray Assessment



Artificial Intelligence can mean different things to different people, so, some examples:

GG&C Chest X-rays pilot – AI will analyse chest x-rays from GPs for signs of lung cancer and if detected will flag for immediate review. If radiologist agrees then they can request a same day CT. Enables prioritisation based on clinical risk and potentially shortens lung cancer pathway commencing by up to five weeks. Will also pilot normal chest x-rays and using a high threshold, will auto process x-rays with a high degree of confidence of no specific follow up needed.

Detection of Osteoporosis – For certain people meeting criteria of risk of osteoporosis, AI will analyse CT reports for vertebral fractures that are indicative of osteoporosis and if detected will refer to Osteoporosis liaison team. Where possible, AI will also capture CT bone mineral density to reduce the need for DEXA scans

## Key Focus for the AI Project



- Maintain **National AI Register** for Radiology
- AI **Strategy** for Radiology in Scotland to be developed detailing a **national approach to evaluate and deploy** Imaging AI solutions across Scotland
- Development of **AI Deployment Toolkit** containing relevant checklists, frameworks and templates required to evaluate and deploy AI solutions
- Continue to explore **Pilots & Clinical Trials** that are aligned with Radiology Needs.



- Register of AI work to have one view of tests of change and opportunities.
- Strategy will detail what we will do to ensure a national approach to evaluation and deployment of AI Solutions in Radiology in Scotland.
- AI Deployment Toolkit – will detail how we will ensure that a national approach is taken to the deployment and evaluation of AI in Radiology.
- Continue to monitor and explore pilots and tests of change to evaluate AI opportunities.

## Future of SRTP

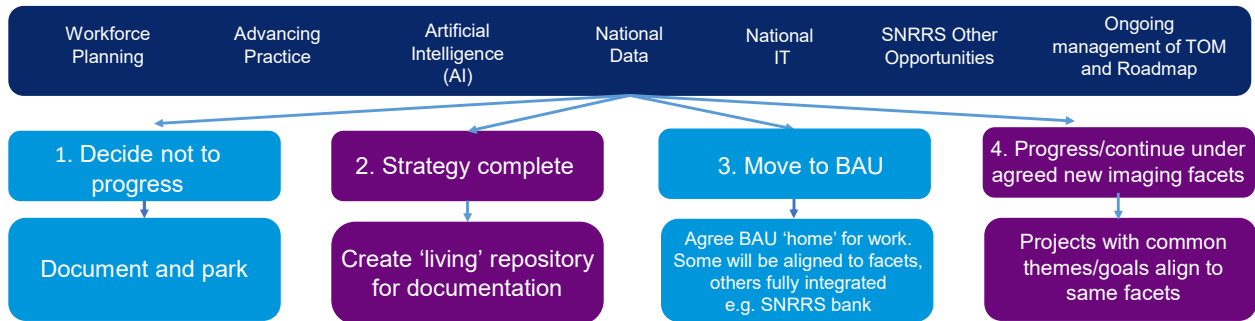


- SRTP is funded until the end of this financial year
- Transformation work will continue, building on the pace and momentum of the SRTP
- Currently assessing existing and planned work and how this will be taken forward.



- SRTP is funded until the end of this financial year
- Transformation work will continue, building on the pace and momentum of the SRTP
- A Diagnostic Strategic Network is being created so we are working closely with the team leading this
- Currently assessing existing and planned SRTP work and how this will be taken forward

# Future of SRTP



Projects and work anticipated from the TOM will be categorised into four areas:

- Decide not to progress
- Strategy is complete
- Move from being a project to becoming operational (e.g. SNRRS bank)
- Progress under the new diagnostics network structure.

The SRTP will continue to work with staff and other stakeholders to deliver a world class, person-centred sustainable radiology service that continually improves the health and wellbeing of the people of Scotland.



# Thank You

[www.radiology.scot.nhs.uk/](http://www.radiology.scot.nhs.uk/)  
[Email: NSS.S.R.T.P@NHS.SCOT](mailto:NSS.S.R.T.P@NHS.SCOT)

