

NTC Workforce Planning

NTC – DGH – MRI SERVICE

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Authors	Grace Ball Sharon Jones Laura Farquharson Janine Johnson Morag Howard
Service & Delivery Leads	
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Executive Summary

The Outline Business Case submitted to the Scottish Government in September 2019 has identified the development of the Elective Care Centre on the Foresterhill Campus with increase in imaging capacity at Dr Gray’s Hospital in Elgin. This workforce plan is specifically related to the NTC MRI facility at Dr Gray’s Hospital, Elgin and describe the future workforce which is needed to provide a safe and effective service.

This Workforce Plan for the MRI facility at Dr Gray’s Hospital site follows the “Six Steps Methodology to Integrated Workforce Planning” principles shown in Figure 1 below that ensure NHS Grampian have a workforce of the right size, with the right skills and competences, which supports “Everyone Matters: 2020 Workforce Vision”. The method shows elements that should be included in any workforce planning and considers current and future demands for services, as well as local (and in this case regional and national) demographics. This plan also aligns with the national Radiology Target Operating Model vision of “a world class, person-centred sustainable radiology service that continually improves the health & wellbeing of the people of Scotland”.

Figure 1 - The Six Steps Methodology to integrated workplace planning (Skills for Health 2022).



1. Defining the Plan (Step 1)

1.1. Introduction

Radiology performs as a pivotal enabler to support the highest standards of care to be delivered at all stages of referral, assessment, diagnosis, treatment, and recovery. Radiology, as a key clinical service will facilitate transformation in planned care and a programme of redesign aimed at improving access, delivering additionality, and at driving efficiency to meet anticipated need and demand for treatment in the future up to 2035. Locating one of the two NHSG National Treatment Centre MRI facilities in Dr Gray’s Hospital (DGH) Elgin, is a recognition of the importance of placing Communities at the centre of what NHS Grampian does.

The investment in Dr Gray’s Hospital, Elgin will support not only an enhancement of the existing Radiology department and opportunity for development of existing and recruitment of

new team members, but at a wider level, this investment also represents improvement in the places where people live and tackles the issues that matter to them, with the expansion of specialist services available locally. A purpose-built facility, designed to jointly optimise the patient experience and clinical service represents a vibrant opportunity in supporting population health.

The MRI service is a key service responding to the drive to deliver high quality care in the right place, through providing safer effective and sustainable services. The establishment of a new National Treatment Centre NHSG MRI service at Dr Gray's Hospital, Elgin represents an investment decision around services, staff and facilities which is supported by coherent planning taking account of the NHS Grampian Health Board position, and those services that would benefit most from transformation, and deliver on providing additionality in clinical service.

1.2. Purpose of the plan

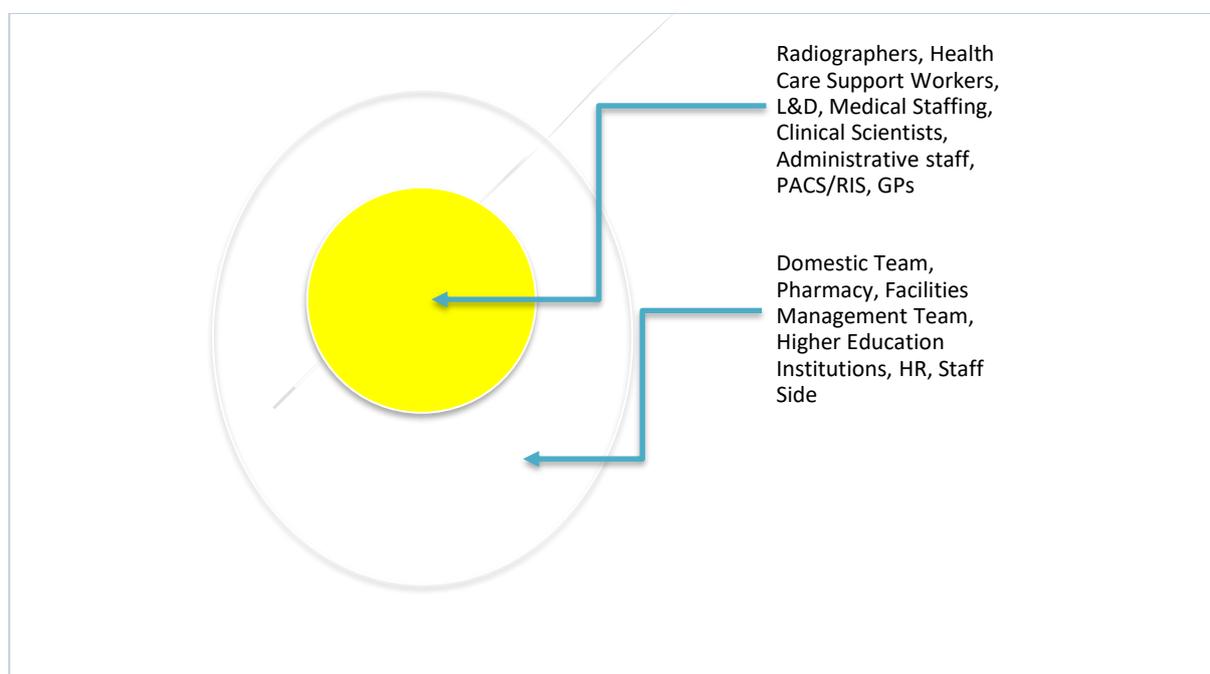
The aims and objectives of the plan:

- To establish a robust core MRI service at DGH
- Recruitment of sufficient specialist staff to provide this new service
- To address the problems in equality of access to MRI in Grampian
- To reduce waiting times and current MRI service pressures within NHSG

1.3. Scope of the plan

This plan covers staff within the Radiology Service as shown in Figure 2 below.

Figure 2: Scoping Egg



2. Mapping the service change (Step 2)

At present, there is currently no MRI service at Dr Gray's Hospital. The service is currently provided by MRI scanners within NHS Grampian and private contract MRI scanners all located in the city of Aberdeen. Due to the geographies of NHS Grampian, patients are currently required to travel large distances to access this diagnostic service in Aberdeen. Current capacity is limited due to equipment limitations and workforce availability in Aberdeen.

Projected trends show an increase in demand for access to MRI from now to 2035. The expansion will ensure that we can meet future demand and enable us to continue to develop and implement innovative models of diagnostic service delivery and efficient patient flow.

Planning has been undertaken to an advanced level for elective work in terms of the proposed service model for the new additional MRI facility at Dr Gray's Hospital, Elgin. Detailed clinical discussions have been undertaken around types of scanning which could be undertaken at Dr Gray's Hospital, Elgin, taking into consideration both patient condition, type of scan required and workforce both in the proposed new MRI facility and across the wider Dr Gray's Hospital.

The type of MRI scanning workload will encompass the following.

- Standard cancer work, including prostate cancer, gynaecological and rectal cancer (the biggest groups which get staged by MR) - should be within the remit of any standard scanner.
- Neurology and neurosurgical referrals for diagnosis and follow-up of diseases such as brain tumours, MS, spine, or cord compression due to disc disease etc.
- Stroke referrals - minor strokes and TIAs
- Endocrine referrals for pituitary imaging
- Orthopaedic referrals for spinal problems such as sciatic, neck pain with arm pain, some spinal pain. A wide variety of joint imaging e.g., meniscus or ligamentous knee problems.
- ENT referrals for evaluating neck lumps, some of which will be cancer, some benign, investigating deafness.
- Whole body imaging, especially for the high-risk genetic patients and myeloma would also be suitable.
- Temporomandibular joints
- Livers and small bowel studies
- MRCP (biliary tract imaging) for jaundice or prior to cholecystectomy.
- Perianal scans for anal fistula
- Benign gynaecological disease.

It is anticipated that the availability of an MRI facility at Dr Gray's Hospital may offer potential around further scanning and treatment options for patients. The establishment of the MRI Facility at Dr Gray's Hospital, Elgin will provide enhancement in training opportunities for existing staff, and recruitment opportunities for new staff cohorts.

In Scotland, demand for complex imaging such as MRI examinations has increased by 30% from 2014-2019 (SRTP 2021) with the Royal College of Radiologists predicting that this trend is likely to continue. In NHS Grampian the demand on MRI services has seen the number of referrals on the MRI waiting list at month end grow from 1000 in January 2015, to 1506 in January 2018, to 3255 at end of 2021. This rising demand will impact on waiting lists, which will continue to rise until either demand is modified or capacity is increased. This reflects the national picture for radiology services where the percentage of patients waiting over 13 weeks has increased from 8.8% (7967 patients, 30th September 2021) to 15.8% (16,961 patients, 31st December 2021) (Public Health Scotland 2022). The proposed activity of investment in an MRI Facility and associated workforce at Dr Gray's Hospital will be a key asset in the delivery of the Health Board to meet the additional capacity required to meet future elective care MRI diagnostic demand.

Based on the service operating 8 hours per day, 5 days per week, when fully operational, the MRI facility is expected to deliver:

- An average of 45 minutes per scan per day, based on 10 patients scanned per 8-hour day (RCR 2017)
- An average of 2400 additional scans per annum (90% capacity assumption).

3. Defining the workforce requirement, Assessing Demand (Step3)

The expansion programme will result in additional capacity to the existing MRI service at NHS Grampian. The key to success of the service expansion will be the development of a sustainable workforce that does not destabilise services within the existing hospitals, but to enhance them. Our workforce plan for the **new** unit will require additional workforce across all staffing group to include Radiologist, Radiographers, Health Care Support Workers, Clinical Scientist, Administrative and Domestic.

There is significant work underway to develop the workforce required to support the project. However, there are known workforce challenges across NHS Scotland at present from which this project is not unaffected. Plans are in development to support recruitment and training of the additional workforce requirement for this new facility. There are specific challenges to the medical workforce for which a regional and national response is required and our HR leads are linked to the right forums to support these discussions.

As part of the process to plan the workforce for the expansion, account has also been taken of the requirements of the clinical and non-clinical support services as the service expands. Additional resources required have been identified through discussion with the relevant heads of department and built into the revenue costs.

The table below outlined the additional workforce requirement for the MRI facility at Dr Gray's Hospital based on the service operating model of 8 hour per day, Monday to Friday and follows the ideologies outlined in the SCoR publication Principles of Safe Staffing for Radiography Leaders (SCoR 2019). It is recommended by the Institute of Physics and Engineering in Medicine (IPEM) MR Safety Policy that a qualified MR Safety Expert such as an MRI physicist be employed for specialist input into MRI scanners that image human subjects (RCR 2017). It has been confirmed that there is no additional workforce needed from the Facilities and Estates.

Table 1 – Workforce requirement for MRI service at DGH

DGH - MRI Suite	
Role	WTE
Medical	
Medical - Consultant	1
AFC	
AFC - B9	0
AFC - B8D	0
AFC - B8C	0
AFC - B8B	0
AFC - B8A	0
AFC - B7	2.3
AFC - B6	2.5
AFC - B5	1.5
AFC - B4	0
AFC - B3	2
AFC - B2	1.5
Total	10.8

3.1 Capacity vs Demand

Additional MRI capacity for NHSG is provided by mobile MRI vans where just over 6800 patients were scanned in 2021. The MRI scanner at DGH would provide approximately 35% in-house capacity for MRI scans currently undertaken on the mobile vans. Figures pre covid showed that just over 2300 patients scanned for MRI were from the DGH Elgin catchment area thus meaning capacity should initially match demand.

3.2 Workforce Projections

This is the new workforce plan for DGH MRI which reflect the current scope of service. The expansion programme will result in additional capacity to the existing service at DGH which will be phased over a period of 13 years between 2022 and 2035. The key to success of the service expansion will be the development of a sustainable workforce that does not destabilise services within the existing hospital. Within the first year of opening, there is a requirement for 10.3 WTE additional staff. We will continue to monitor these numbers and alter the workforce requirements based on any future decisions which may impact on activity and the workforce plan will be amended to reflect this.

3.3 Future Workforce

The service is currently considering its workforce and skill requirements for the future and exploring all opportunities to improve the MRI service. By aligning roles and competencies to the needs of the service, the different staff groups will be able to develop additional and enhanced skills. This will allow the service to optimise its workforce capacity to meet demand for the service through more integrated and collaborative working.

The future MRI service will continue to reflect the current service and take into consideration the following:

- Wider skill mix
- Recruitment issues due to geographical location
- Lack of graduates
- Alternative posts
- Look at an increase in places available at higher education establishments
- Grow your own - attractive/appealing posts – rotate through other modalities
- International recruitment

4. Workforce Availability and Development (Steps 4 & 5)

To ensure the workforce projections are deliverable, recruitment and training timelines have been identified for each staff group to understand the lead in periods ahead of opening and or expansion each year. The delivery of a sustainable workforce plan will be supported by the following:

- Ensure recruitment of posts happens in a well-managed, creative, and timely way allowing time for induction and or further training. This will not only apply to the lead up to the opening of the unit but will require to be in place for subsequent years and planned recruitment of staff.

- Work in collaboration to recruit the difficult to fill positions e.g., consultant radiologist and radiographers by developing flexible and more attractive Consultant appointment supporting the wider delivery of Imaging services across the North of Scotland.
- Ensure that we liaise with training programme director to offer training placements for junior doctors in training, supporting the next generation of consultants to be trained.
- Develop a full range of competencies across all levels of imaging staff to support rotational roles and extended roles.
- Further explore the modern apprentice programme with our Learning and Development Team to explore opportunities to grow our own HCSW (Healthcare Support Worker) roles and opportunities to support the youth employability partnership.
- Skill Mix – A & C staff to take on specific roles that traditionally were carried out by other professional groups, allowing a mix of skills to support future service delivery.
- Explore the opportunities for recruitment through international routes. This work is currently ongoing with our recruitment team.
- Liaise with University partners to explore and develop the Band 4 Assistant practitioner role.
- Develop a cross sectional modality rotational programme to ensure roles within the new unit are attractive and ensure retention of staff. This approach will enable radiographers to be trained to work within the two areas – MRI and CT. This will allow for transferable skills that will have a positive impact on patient experience, increased effectiveness and support the healthcare and workforce demands of the future.
- Continued discussion and development of regional recruitment programme with NHS Highland.
- Progressively expand the role of the NHS Academy and locality-based training programmes to enable existing registered staff to work flexibly across their practitioner licenses to improve service outputs.
- Explore and develop a robust recruitment PR campaign aiming at making the roles and locations more attractive.
- Develop robust recruitment and retention initiatives drive to achieve the required workforce.
- Further enhanced the current NHSG Practice Educator role to provide education and training.
- Reached agreement with the preferred vendor to provide applications training as part of the new MRI installation.
- Training will be documented utilising current training documentation and personal development plans.
- Ensure there is the right skill mix and numbers to support an excellent patient experience and efficiency of patient flow.

Some, if not most areas of the workforce will require to be appointed prior to the opening of the new unit. Over 2022, we plan to start recruiting and appointments to begin staff training.

In addition to the Radiologist and the Radiographers additional staffing required, there will also be the requirement to recruit a Band 7 Imaging Physicist (1 WTE). It takes 6 months to recruit and train a Band 7 Imaging Physicist. If we cannot fill the post, we will recruit at Band 6 (a post doctorate level) and train them to HCPC (Health and Care Professions Council) registration. We would therefore have to recruit to this post prior to the opening of the new unit to train the individual to the required competency level.

An indicative timeline for recruitment of specific posts is attached as Appendix B. A copy of the Learning and Education plan is attached as Appendix C. The workforce action plan is attached as Appendix D.

4.1. Workforce Risks

There are a few risks that pose barriers to the workforce plan being implemented. One of the main risks is the revenues funding proposed for the workforce requirement has yet to be

confirmed and released. Without the confirmation of the funding, the workforce plan for the new MRI facility is at considerable risk of being unrealised. Workforce features on the register as high risk due to the difficulties to recruit to Consultant Radiologist posts and hard to fill Radiographer posts to deliver the service model. Further consideration will be required should activity levels change – increase or decrease – and the financial implications on this.

A full risk register has been developed which is regularly reviewed and evaluated by the team.

The workforce plan will be continually reviewed and adapted to capture any developments. HR support is in place to support the project and there are regular meetings and engagement to address any workforce issues. A copy of the workforce risks is attached as Appendix E.

4.2 Workforce/Service Redesign

- This is a new service operation with the provision of new posts to provide the service.
- Recruitment and training of additional skilled/qualified staff will be required.
- Consideration to be given to the cross-sectional rotational posts as described in Section 4 above.

4.3 Finance

- Budget for the identified workforce requirement to be confirmed to allow recruitment process to commence.
- Funding constraints making backfill for role extension difficult to achieve.
- Consideration to be given for funding to support relocation packages/international recruitment/recruitment promotions etc.

5. Implementation, Monitoring and Review (Step 6)

In addition to producing this workforce plan for implementation in late 2022, the Radiology department will also commence work on its Workforce Strategy for 2035 which will take a strategic look at our workforce in line with our workforce vision and what is required to deliver this. A second workforce plan covering the MRI and CT modality for the new NTC Grampian programme at Foresterhill Campus site will follow.

The Executive Team will monitor progress of the actions noted within this workforce plan and regular reports will be presented to this group on a quarterly basis.

References

Public Health Scotland. (2022). Data and Intelligence, Diagnostics

Royal College of Radiologists, report from Clinical Imaging Board. (2017). Magnetic resonance imaging (MRI) equipment, operations and planning in the NHS. Royal College of Radiologists. London

Skills for Health. (2022). The Six Steps Methodology to integrated workplace planning. [Six Steps methodology to Integrated Workforce Planning - Skills for Health](#)

Society and College of Radiographers. (2019). Principles of Safe Staffing for Radiography Leaders. SoR London. ISBN: 978-1-909802-39-1

Scottish Radiology Transformation Programme (SRTP). (2021). Radiology Current Operating Model (COM) Package. NHS Scotland.



Appendix A – Current Radiology Workforce Profiles

*** Local data cleansing exercise is currently being undertaken for the whole of Radiology department. The workforce profiles for Radiology will be detailed here once the cleansed data is received.*



Appendix B – Indicative Recruitment timelines

Site	Area	Role	Recruitment to start
DGH - MRI Suite	Medical - Consultant	Radiologist	Mar 2023
DGH - MRI Suite	AFC - B7	Radiographer	Sep 2022
DGH - MRI Suite	AFC - B7	Radiation Protection/ Physicist x 1 WTE (half time spent at Main NTC)	Sep 2022
DGH - MRI Suite	AFC - B6	Radiographer	Dec 2022
DGH - MRI Suite	AFC - B5	Radiographer	Dec 2022
DGH - MRI Suite	AFC - B3	Radiology HCSW	Mar 2023
DGH - MRI Suite	AFC - B3	Medical Secretary	Mar 2023
DGH - MRI Suite	AFC - B2	Domestic	Mar 2023

Appendix C - Learning and Education Plan

Training Needs - Existing Roles

What is the key Learning/Education needs of your service area?	How would you define this learning need?	Which staff group(s) require this development?	How many staff require this development?	What are the timescales?	How will this be achieved?	Will this be provided internally or externally?
MRI Safety	To mitigate the risks associated with MRI when operating in this environment as an authorised person.	Radiographer and HCSW	All	Ongoing	Teaching, audit, Safety presentation with scientist	Internally
Practical skills	The safe and competent operation of MRI equipment to produce quality images for diagnostic purposes.	Radiographer and HCSW	All	Ongoing	Teaching, supervision, practice, review	Internally
Knowledge base	To achieve the underpinning knowledge necessary for autonomous decision making and high acuity MRI scanning.	Radiographer	All	Ongoing	Teaching, CPD, address learning objectives from training programme.	Internally
			All		Applications training	Externally by vendor

Training Needs – Career Pathways/Supply

- Lack of capacity in higher education Institutions/clinical placements
- Preferable for a graduate to gain experience as a radiographer before considering MRI as a career pathway.
- Geographical location is a challenge.
- Focus on grow your own.
- International recruitment
- Assistant practitioner role - RGU

Training Needs - New and Evolving Roles

- Explore Annex T posts as this could be appealing as career progression. Develop specific competency documentation.

Appendix D - Workforce Planning Action Plan

No.	Description of Action	Obstacles/Barriers to Completion of Action	Responsible Lead	Timescale for Implementation (completion date)	Progress towards implementation/completion
1	Consultant Radiologist recruitment	Failure to appoint to posts will impact ability to deliver the service models	SR, GB		
2	Timely recruitment of all staff groups	Revenue availability, HR, lack of right applicants. Fail to recruit enough for or in advance of opening unit.	SJ, GB, LF, RS		
3	Consider destabilisation impact on other areas of Radiology	Staff shortage, lack of applicants for backfill posts	SJ, MA		
4	Training programme provision	In-post-date delayed, availability of existing MRI at NHSG, geographies	LF, JJ, RS		
5	Vendor training	Delay in installation/availability			
6	Consideration for cross sectional modality rotational programme	Longer to train, more staff to train	SJ, LF, JJ, MA		
7	Engagement and communications to staff.	Lack of engagement may impact staffing availability and engagement to support skill mix to deliver service model			

Appendix E - Workforce Risk Plan

Risk Title	Risk Owner	Description	Controls when risk identified
Training timescales		<ul style="list-style-type: none"> Failure to recruit enough for or in advance of opening unit. 	
Poor recruitment		<ul style="list-style-type: none"> Difficult to fill and hard to recruit staff group i.e., Radiologist and Radiographers 	
Unsafe workforce level			
Sickness absences		<ul style="list-style-type: none"> Band 5 radiographers cannot work unsupervised – challenges due to sickness especially at a remote site. 	<ul style="list-style-type: none"> Ensure the right skill mix for delivering a safe and effective service.
Radiographer supply		<ul style="list-style-type: none"> Rely on recruiting new graduates from RGU to fill vacancies when our existing radiographers move to promoted or more specialised posts. 	
Age profile		<ul style="list-style-type: none"> The age profile of NHS Grampian highlights a risk to the sustainability of the workforce, particularly considering changes to pensions, ageing workforce, and retiral plans. 	<ul style="list-style-type: none"> Widening access to employment? Transforming roles? Flexible working hours?
Destabilising workforce		<ul style="list-style-type: none"> Destabilising of existing workforce due to movement into new posts and backfilling difficulties. Impact of change on staff morale and motivation 	<ul style="list-style-type: none"> Maximise service capacity The right people with the right skills in the right place at the right time?
Building delayed		<ul style="list-style-type: none"> Risk associated with the building opening/state of readiness etc. 	
Demographic		<ul style="list-style-type: none"> Less attractive locations due to rural areas - DGH 	<ul style="list-style-type: none"> Attractive relocation packages Attractive international packages Attractive social media promotions