Radiology: A National Framework for Service Improvement

July 2003

Supported by
Society & College of Radiographers
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Radiology: A National Framework for Service Improvement

Executive Summary

The NHS Modernisation Agency (MA) has developed a National Framework for Radiology Service Improvement. This will ensure radiology clinical teams will lead and develop service improvement, supported by modernisation programmes and local modernisation teams. The Framework will provide and support a programme of learning utilising a practical radiology service improvement toolkit, based on best practice and proven methodology.

Learning from radiology service improvement pilot sites has shown that with proactive clinical leadership and executive support, significant improvements for patients with subsequent benefits for staff can be achieved and sustained.

The Framework is an integral part of an overarching programme of work to develop a national vision for diagnostic services. The Department of Health (DoH) Diagnostic Services Division is working in partnership with the MA to co-ordinate and drive forward the modernisation of diagnostic services in England.

Key Principles of the National Framework

• Supports a clinically led radiology service improvement process that will identify its own priorities in partnership with the wider health community.
• Complements the DoH Diagnostic vision.
• Ensures that the patient is central to the service improvement process.
• Focuses on whole systems across a pathway of care using a modality approach, utilising a radiology toolkit based on best practice and proven methodology.
• Works across primary and secondary care, to ensure that services are delivered in the most appropriate locations by the most appropriate staff.
• Ensures workforce issues are recognised as key to improving radiology services and are developed in line with national strategies.
• Ensures service improvement will not compromise statutory legislation such as IRMER.

A training and development programme, with opportunities to share the learning, will be provided for clinical radiology staff who are leading service improvement and modernisation teams who are supporting service improvement. The programme will include:

• Clinical expertise provided by a National Radiology Service Improvement Team, led by National Clinical Leads for Radiology.
• Guidance for MA programmes, strategic health authorities and local teams undertaking work in radiology, utilising a radiology service improvement toolkit, based on best practice, and proven methodology.
• Training for radiology staff in service improvement tools and techniques to ensure sustainability.
• Training business managers to use service improvement as part of strategic planning.
• Utilising evidence based knowledge management, existing radiology networks and national forums in association with professional bodies and education establishments to promote service improvement and share the learning.

The framework has been produced in wide consultation with:

• Royal College of Radiologists
• Society and College of Radiographers
• All Modernisation Programmes
• Audit Commission
• Cancer Action Team
• DoH Diagnostic Services Branch

For further information, please contact: Radiology Service Improvement Team, 3rd Floor, St John’s House, East St, Leicester LE1 6NB Tel: 0116 222 5100 Website: www.modern.nhs.uk/radiology
1. The National Framework is an integrated approach for radiology service improvement, across the MA. It will enable sustainable improvements in radiology, through supporting local priorities and modernisation programmes objectives. This National Framework is based on the learning to date from the Cancer Services Collaborative, Booked Admission pilot sites, Research into Practice Programme and on recent discussions with National Radiology and Modernisation Programme Leads. It pulls together all the strands of Radiology Modernisation and is endorsed by the National Clinical Leads for radiology.

2. Radiology is a vital component in many patient journeys, but is recognised as a major bottleneck with long waits, poor communication, and lack of certainty and choice commonly reported.

3. An increase in numbers of trained staff and expansion of state of the art imaging equipment is planned to relieve pressures on the service, but they will not take full effect for 3-4 years.

4. Early service improvement work in radiology has delivered many tangible benefits, including reductions in the length of time patient’s wait. However, with increasing urgency to make improvements to waiting times and patient flows, particularly for those coming through emergency streams, there is pressure to work with all radiology departments across the country and ensure they are supporting fast access to treatment.

5. While work in radiology has been driven by modernisation programme priorities and targets (Appendix 1), it is now widely recognised that this approach has exacerbated, rather than improved access to radiology services. There are currently 13 MA programmes working with radiology departments. These are illustrated in figure 1.
6. Provision of a National Framework for Service Improvement will ensure radiology clinical teams, in partnership with the wider health community, lead service improvement with the support of modernisation programmes and local modernisation teams.

7. The Framework will adopt an ‘equal access for all’ policy, based on clinical need, ensure all patients, irrespective of condition have equal access to diagnostic services, and no one group of patients disadvantages any other. It will provide an integrated approach to the modernisation of radiology services. This is illustrated in figure 2.

8. The programme will continue to have the full support of a proactive National Radiology Steering Group, which has established links to workforce, collegiate, academic, and clinical governance bodies listed in Appendix 2.

9. With the development of the Department of Health Diagnostic Vision, a new partnership agreement is being developed between the Department of Health Diagnostic Services Branch and the Modernisation Agency. Achieving the vision for diagnostic services will be dependent on this close working relationship.
Radiology: A National Framework for Service Improvement

Background

In designing any service improvement work, it is important to take into account the context within which services are provided. The pressures on radiology have been developing over a number of years and a summary of the current position described in the Audit Commission Report, Radiology Acute Services Portfolio is provided here to emphasise the extent of the challenge. The service has seen a 2% annual increase in demand over the past 5 years, along with an increasing requirement to provide intervention treatment for conditions previously undertaken in surgery. There is an average vacancy factor of 10% for radiologists and radiographers. Whilst some work has started on expanding roles, locum costs to cover staff shortages currently runs at 3.6% nationally. Current capacity does not support 24 hour 7 days per week access, and limits the speed of reporting required to support treatment and timely patient flows. Overall, this has a fundamental impact on the patients’ experience.

There are currently 32 funded radiology service improvement projects across departments in England. This represents 8% site coverage and 10% of all examinations. (Table 1) The most significant gains have been reported from the 4 whole system, modality focused sites and the challenge is to spread this approach across 100% of departments quickly.

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<tr>
<th>Total sites</th>
<th>250 sites</th>
<th>29 million examinations</th>
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<tr>
<td>Phase 1</td>
<td>6 sites</td>
<td>210,000 examinations</td>
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<tr>
<td>Phase 2</td>
<td>4 sites</td>
<td>2 million examinations</td>
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<tr>
<td>Phase 3</td>
<td>22 sites</td>
<td>770,000 examinations</td>
</tr>
<tr>
<td>Total</td>
<td>32 sites</td>
<td>3 million (10%)</td>
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In taking forward redesign, account will need to be taken of a number of concerns within radiology teams:

- The imperative of a radiology-led service improvement programme to address internal service priorities, and achieve sustainable change.
- Service improvement work must not compromise legislation such as IRMER, Ionising Radiation Medical Exposures Regulations (2000).
- Service improvement will need resources, including expert support in redesign and internal capacity to deliver sustainable benefits.
- Radiology is critical to a wide range of pathways, departments and clinical networks, such as cancer, cardiac, neurosciences and managing the diverse expectations will be complex.
Experience to Date Backed by Research into Practice

The Framework is based on two fundamental pieces of learning from the radiology pilot sites:

1. That a whole system, modality led approach enables radiology teams to deliver sustained change in a structured and systemic way.

2. There are five key success factors that will deliver sustainable service improvement and these are set out below. This experience is consistent with evidence from the RIPP (Research into Practice Programme) document "Factors that help or hinder the spread and sustainability of new practices in CSC", reinforcing the findings of the early radiology pilot sites. The success factors as building blocks for the National Framework are therefore:

- **Engagement and commitment of clinicians and senior management as a whole team**

  Where radiologists and managers have not been actively participating, leading and supporting the process, changes have been short lived or non-existent. Learning sets, encourage and motivate teams to plan and manage their service. Whole systems pilot sites build redesign into the business planning cycle.

- **Dedicated time out for service improvement**

  Where clinical teams have participated in learning sets, and departmental ‘time out’ is supported, a greater understanding, momentum and enthusiasm has been achieved.

- **A Radiology-led service improvement agenda**

  The challenge of meeting multiple agendas including those from MA programmes puts departments under pressure leading to conflicts over how to deliver the differing priorities. In contrast, pilot sites have successfully developed action plans based on departmental priorities.

- **Effective data collection**

  Long term data collection by clinical teams leads to ownership and reliability of its accuracy. Quality data is a powerful tool, and is significant in demonstrating the true relationship between capacity and demand, however, collection has been difficult for some sites. Data processed externally has led to lack of ownership and a reluctance to believe the findings.

- **Adequate resources, particularly staff**

  Dedicated project time is a significant factor in the progress of the 4 whole systems sites. Two sites have made internal appointments to promote ownership by the department, and more significantly, the skills are not lost when the project funding comes to an end.
Principles underpinning a National Framework

The following working principles have been developed involving key stakeholders leading in all modernisation work across the MA. They will enable a consistent and cohesive approach to service improvement work in radiology.

The framework will:

• Provide a consistent and integrated approach across the MA, to support local radiology teams and maximise the use of expertise to support Radiology.
• Complement the DoH Diagnostic Strategy.
• Support a clinically led radiology service improvement process that will identify its own priorities in partnership with the wider health community.
• Ensure that the patient is central to the service improvement process.
• Focus on whole systems across a pathway of care using a modality approach, utilising a radiology toolkit based on best practice and proven methodology.
• Work across primary and secondary care, to ensure that services are delivered in the most appropriate locations by the most appropriate staff.

• Ensure workforce issues are recognised as key to improving radiology services and are developed in line with National Strategies.
• Ensure equal access to services and ensure that no one group of patients disadvantages another.
• Provide support for teams to understand and manage the demand on the service to enable resources to be used to best effect.
• Ensure service improvement will not compromise statutory legislation such as IRMER.
• Provide a partnership between radiology and the MA to deliver sustainable improvement.

Source Modernisation Leads’ meeting 28th February 2003
The Strategy

The National Framework will focus on the following four key areas where support, ownership and long term planning are critical to its success.

- **MA programmes will develop a single whole systems modality led approach to radiology which aligns all modernisation work in an integrated approach and which complements the DoH Diagnostic strategy (Appendix 3).**
- **Expansion of national level support and developing the focus of existing expertise and knowledge to support local radiology teams.**
- **Development of local ownership and capability in service improvement at departmental, Trust and Strategic Health Authority (SHA) level.**
- **Partnership with MA and professional bodies, educational organisations, DoH and Workforce Development Confederations (WDC) to embed service improvement as part of core business.**

**How will the strategy be delivered?**

**A single MA approach**

- Develop a plan to support national coverage in line with expansion of MA Programmes. In Year 1, this is likely to mirror the roll out plan for the Improvement Partnership for Hospitals (IPH), work with existing sites plus new sites who identify radiology as a key priority or can “self fund service improvement work”.
- Expand clinical expertise and service improvement support at national level.
- Develop guidance for programmes undertaking work in radiology, promoting a single radiology toolkit based on best practice, proven methodologies, ensuring appropriate communication and understanding of the local context.
- Develop training and learning packages to support radiology departments, ensuring local ownership and sustainability, utilising support and expertise within MA programmes.
- Ensure improvements in radiology are coherent with improvements in all elements of the diagnostic process.
- Use evidence based knowledge management, existing radiology networks, national forums and clinical publications to effectively promote, and share service improvements.
- Ensure the Diagnostic Information Technology (IT) Strategy optimises the use of IT in service redesign, eg PACS (Picture Archives Communication Systems), data analysis and other electronic and digital technology.

**Local ownership and building capability**

- Raise the profile of radiology service improvement as key to delivering NHS targets and local delivery plans at local SHA, Primary Care Trust (PCT) and Trust level, through routes such as SHA Partnership Agreements.
- Develop and encourage local ownership within Trusts and radiology departments, building in-house service improvement capacity linked to the implementation workforce development strategies and roll out of IPH.

- Provide clinical radiology staff with service improvement skills linked to personal development and retention programmes, providing a pathway to long term sustainability.

**Partnership with MA and Professional Bodies, Educational Organisations and DoH**

- Continue awareness raising and promoting the benefits and importance of radiology service improvement at national level, with Ministers, DoH, MA, and TOP team.
- Promote radiology service improvement as key to achieving the NHS Plan at SHA and PCT and Trust Chief Executive level.
- Continue working in partnership with Royal College of Radiologists, Society and College of Radiographers, United Kingdom Radiological Congress and Health Education Institutions to engage clinicians and embed service improvement as part of core business.
How will this expanded programme be supported?

Learning has demonstrated that dedicated service improvement time at local level has led to sustained change, including benefits for staff. In addition, there is also a requirement to increase national expert advice and support.

Dedicated support at local and national level will include:

- **Within existing capacity**
  - The wide range of modernisation expertise available within SHA and key members of the MA programme with a remit for radiology redesign work.
  - Changing Workforce Programme
  - Improvement Partnership for Hospitals
  - Cancer Services Collaborative
  - Emergency Services Collaborative
  - Performance Improvement Team
  - Coronary Heart Disease Collaborative
  - National Booking Programme
  - Theatre Programme
  - Critical Care
  - Orthopaedic Service Improvement
  - Redesign Team
  - Action on Programme
  - Diagnostic & Treatment Centres and Day Surgery

- **Existing Funding**
  - Local modernisation partnership resources already allocated to SHAs, and acute Trusts via Improvement Partnership for Hospitals (IPH) and other modernisation initiatives.

- **Additional Funding**
  - No additional MA central funding is available for this programme. However, experience suggests that dedicated project resources greatly enhance local project implementation. It is for local determination to identify if further resources can be made available.

- **Support and Development Programme**
  - A programme to support both clinical radiology teams and modernisation teams will focus on the following:
    - Clinical expertise will be provided by a national radiology service improvement team, led by the National Clinical Leads for radiology.
    - Guidance for MA Programmes, SHA and local modernisation teams utilising the radiology service improvement toolkit, based on best practice and proven methodology.
    - Training for consultants and specialist registrars in capacity and demand provided in association with the Professional bodies.
    - Learning packages to support radiology departments and ensure sustainability.
    - Learning packages for business managers to use service improvement as part of the business planning cycle.
    - Utilising evidence based knowledge management, existing radiology networks and national forums to promote service improvement and share the learning. Access to latest business planning and learning will be made widely available.

- **National Clinical and Managerial expertise**
  - The national clinical team is being expanded to provide expert advice and support in service improvement for radiology across the country. This will include:
    - 4 National Radiology Clinical Leads
    - 1 Associate Director-Diagnostics
    - 4 National Radiology Managers
    - 1 Information Manager
    - 1 Knowledge Officer/Assistant
A Vision for the Future

Clearly radiology will undergo a great transformation in the future. Learning from the pilot sites has demonstrated the need for long term sustainability and clinically driven service improvement that becomes part of the every day business.

The success of the Framework will therefore be judged against the following criteria:

- An integrated approach to radiology service improvement.
- Patients influence service provision and have certainty and choice about their care.
- Radiology and radiographic staff at all levels are trained in the tools and techniques for service improvement, including capacity and demand to ensure sustainability and continuous improvement.
- Every radiology department has a full-time Service Improvement Facilitator, with service improvement incorporated in all staff job descriptions.
- IT Strategy is designed and used to support and deliver service improvement.
- Evidence of capacity & demand and redesign are pre-requisite to funding equipment and service developments.

The DoH Diagnostic Services Branch is working in partnership with the MA to co-ordinate and drive forward the modernisation of diagnostic services in England by bringing together existing initiatives and programmes in imaging, endoscopy, pathology and clinical support services - illustrated in Figure 3.

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National Clinical Lead for Radiology

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Email: shirley.steeples@npat.nhs.uk  
www.modern.nhs.uk

July 2003

Figure 3: Demonstrating an integrated approach to service improvement in radiology.
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Some Programmes will only be interested in a specific examination in a modality (ie CXR/IVP in plain films)
Appendix 2 - Key stakeholders

- **National Radiology Steering group**

  Established in July 2002 and chaired by the National Clinical Leads, this group has representatives from the Royal College of Radiologists, Society and College of Radiographers, Cancer Action Team, DOH; CIRIS, National Booking Programme, CHD, and Emergency Services Collaboratives, and the Audit Commission. In addition, representatives from other Royal Colleges and Patient groups have been identified.

- **Royal College of Radiologists, Society and College of Radiographers, and UKRC (United Kingdom Radiological Congress)**

  These key National bodies have all given significant support to Radiology service improvement. A whole day dedicated to radiology modernisation has been incorporated in the 3 day UKRC National Conference in June 2003. This will again be complemented by an MA Radiology stand, promoting service improvement across all modalities covering key MA programmes.

- **Audit Commission**

  The recent Audit Commission report, ‘Helping acute hospitals to improve their radiology services’, provides the most comprehensive radiology waiting times data. Demonstrated to the National Steering Group, it gives an exact picture of the scale of service improvement required. Since May 2001 we have worked with the Commission to ensure that capacity and demand are key to assessing performance. The Commission is keen to support practical ways to offer support to departments with long waits. Departments with short waiting times can be identified, the factors that enable them to achieve this can then be assessed.

- **DoH Diagnostic Services Branch**

  A new branch established within the DoH working in partnership with the MA to co-ordinate and drive forward the modernisation of diagnostic services in England by bringing together existing initiatives and programmes in imaging, endoscopy, pathology and clinical support services.

- **Radiography Workforce Group**

Appendix 3

Radiology Modernisation

MA CWP
New Role Development

DoH
Diagnostic Vision
National Occupational Standards

RCR/SCOR
Professional Development

Diagnostic IT Strategy
PACS & Info Systems

DoH
Equipment - NOF

Workforce Development
Confederations
Planning Training

NHS - HR
Recruitment & Retention

Educational Institutions
Supply/Training

Improved Radiology Services
The NHS Modernisation Agency is part of the Department of Health.