

An Independent Review of Reporting Arrangements for Radiological Investigations

Phase 1 Report, March 2011

South Eastern Health and Social Care Trust

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Section 1: Introduction

1.1 The Regulation and Quality Improvement Authority (RQIA)

RQIA is a non departmental public body responsible for monitoring and inspecting the quality, safety and availability of health and social care services across Northern Ireland. It also has the responsibility of encouraging improvements in those services. The functions of RQIA are derived from The Health and Personal Social Services (Quality, Improvement and Regulation) (Northern Ireland) Order 2003.

RQIA operates within a value system that supports the belief that learning is at the heart of improvement. To ensure a clear focus on improvement, organisations need to have effective systems which can identify performance standards and support the learning necessary for improvement.

RQIA's main functions are:

- To inspect the quality of services provided by Health and Social Care (HSC) bodies in Northern Ireland through reviews of clinical and social care governance arrangements within these bodies.
- To regulate (register and inspect) a wide range of services delivered by HSC bodies and by the independent sector. The regulation of services is based on minimum care standards to ensure that service users know what quality of services they can expect to receive, and service providers have a benchmark against which to measure their quality.
- To undertake a range of responsibilities for people with mental ill health and those with a learning disability, following the transfer of duties of the Mental Health Commission to RQIA under the Health and Social Care (Reform) Act (NI) 2009.
- To carry out monitoring, inspection and enforcement of legislative measures for the protection of individuals against dangers of ionising radiation in relation to medical exposure set out in The Ionising Radiation (Medical Exposure) Regulations (Northern Ireland) 2000 (IR(ME)R). RQIA became responsible for functions in relation to IR(ME)R on 15 March 2010.

1.2 Context for the Review

On 15 February 2011, Michael McGimpsey, MLA, Minister for Health, Social Services and Public Safety, commissioned RQIA to undertake an independent review of the handling and reporting arrangements for plain x-ray investigations across Northern Ireland

The request for the review followed delays in the reporting of plain x-ray investigations at Altnagelvin Hospital, Londonderry (Western Health and Social Care Trust) and Craigavon Hospital, Craigavon (Southern Health and Social Care Trust).

On 18 February 2011, RQIA agreed to undertake this commissioned review in two phases, as set out in the terms of reference, taking into account the following framework documents and advice issued from the Department of Health, Social Services and Public Safety (DHSSPS) in respect of their application to the service in Northern Ireland:

- Standards for the Reporting and Interpretation of Imaging Investigations (Royal College of Radiologists), January 2006
- National Patient Safety Agency (NPSA) Safer Practice Notice 16; Early Identification of failure to act on radiological imaging reports, February 2007
- Standards for the Communication of Critical, Urgent and Unexpected Significant Radiological Findings (Royal College of Radiologists), 2008
- Priorities for Action (PfA) 2010

1.3 Terms of Reference

Phase 1

1. To describe the systems in place for handling and reporting on plain x-rays across the five HSC trusts.
2. To examine the governance arrangements in place across the five HSC trusts to assure patient safety and protection with regard to handling and reporting on radiological investigations.
3. To examine the arrangements for communication of the reports of x-rays to patients and practitioners.
4. To make recommendations for action to manage any identified current issues in relation to the handling and reporting of x-rays.

Phase 2

Following publication of the report of Phase 1 of the review, the terms of reference for Phase 2 will be reviewed in the light of the findings of Phase 1.

5. To describe the circumstances leading to any significant delays in the handling and reporting of radiological investigations in the last two years and how those delays have been managed by the five HSC trusts and the HSC Board.
6. To identify any factors which contributed to delays in handling and reporting radiological investigations across Northern Ireland during the past two years and make recommendations to avoid these happening in the future.
7. To consider the impact of identified delays on service users.
8. To examine any other relevant matters emerging during the course of the review.

1.4 The Review Team

The team includes the following membership for Phase 1 of the review:

- Dr Nicola Strickland, Registrar of the College and Registrar of the Faculty of Clinical Radiology, Royal College of Radiologists (RCR)
- Sally MacLachlan, Senior Clinical Officer, Medical Exposure Department, Health Protection Agency (HPA)
- Jon Billings, Director of Healthcare Quality, Health Information and Quality Authority (HIQA)
- Dr David Stewart, Director of Service Improvement and Medical Director, RQIA
- Hall Graham, Head of Primary Care and Clinical and Social Care Governance Review and Independent Health Care Regulation, RQIA

supported by:

- Helen Hamilton, Project Manager, RQIA

1.5 Methodology Used to Collect Evidence in Phase 1

- a. RQIA asked all HSC trusts to provide the following written material in relation to radiology services within the trust:
 - completion of a questionnaire at trust level on radiology services and systems
 - completion of a short questionnaire in relation to each radiology department within the trust
 - provision of a specified list of supplementary information and documentation
- b. The members of the review team met with representatives of managerial and clinical staff responsible for the provision of radiology services in each trust, to gain further clarification in relation to the written material provided. These meetings took place between 10 and 14 March 2011. The meeting with representatives of the South Eastern Health and Social Care Trust (South Eastern Trust) took place on 14 March 2011.

RQIA is grateful to all trust staff who were involved in the provision of written material, at short notice, to inform the review process and who met with the review team to provide clarification on the delivery of radiology services within the trust.

Section 2: Findings of the Review Team

2.1 Description of the Systems for Handling and Reporting of Plain X-rays in the South Eastern Health and Social Care Trust

- 2.1.1 There are three radiology departments reporting on plain x-rays within the South Eastern Trust at Ulster, Lagan Valley and Downe Hospitals. The Ulster Hospital department also reports x-rays from Ards and Bangor Hospitals.
- 2.1.2 No plain x-ray reporting is currently being outsourced by South Eastern Trust to other trusts or to the independent sector.

Staffing

- 2.1.3 The number of consultant radiologists by department at the time of the review visit is set out below:

Radiology Department	Number of consultants in post	Number of vacancies	Number of locums in post
Ulster Hospital	11.45 WTE	2 WTE	0
Lagan Valley Hospital	2.7 WTE	0	0
Downe Hospital	1.5 WTE	0	0.1 WTE

(WTE: whole time equivalent)

- 2.1.4 The trust advised the review team that there have been no difficulties in the recruitment of consultant radiologists within the trust to recently advertised posts. A new radiologist is taking up post in July 2011.
- 2.1.5 The trust had 1 WTE current vacancies in relation to the establishment of radiography staffing at the time of the review visit across the trust. There is one reporting radiographer reporting on plain x-rays.
- 2.1.6 Specialist emergency examinations are reported by the radiologist on-call, as soon as possible, the same day. Any imaging examination reported by a specialist registrar is reviewed by a consultant radiologist

within 24 hours. In addition there is one to two hours of consultant reporting on plain x-ray examinations each Saturday and Sunday in the Ulster Hospital only.

Picture Archiving and Communication System (PACS) and Radiology Information System (RIS)

- 2.1.7 PACS, in conjunction with RIS, is an electronic system which enables radiology departments to store, rapidly retrieve and share digital x-rays, and their reports, within and between hospitals. Development of PACS has revolutionised the way in which radiology departments work. PACS enables the electronic storage and organisation of x-rays, removing the need to retain large numbers of hard copy plain x-ray films. PACS can enable new systems of reporting to be put in place and new arrangements to monitor the timeliness of reporting.
- 2.1.8 In Northern Ireland a major project has been taking place to establish an integrated RIS/PACS (NIPACS) to enable x-rays and reports to be viewed by appropriate health professionals across the health care network.
- 2.1.9 The South Eastern Trust was the first trust in Northern Ireland to implement NIPACS which became operational in October 2009. All hospital sites within the trust are linked to NIPACS.
- 2.1.10 All reports by consultant radiologists within the South Eastern Trust are generated using Voice Recognition software which facilitates integration between the Radiology Information System (RIS) and PACS.

Booking Arrangements

- 2.1.11 For plain x-rays, the Ulster Hospital and Ards operate a walk-in service whilst Bangor is an appointment only service. Lagan Valley and Down hospitals operate by appointment only with the exception of urgent examinations and chest x-rays.

Reporting Arrangements for Plain X-rays

- 2.1.12 In the South Eastern Trust, plain x-rays are reported by radiologists and a reporting radiographer with the exception of a defined list of x-rays. The list of x-rays where reporting is the responsibility of other clinicians includes:
- follow up Fracture Clinic x-rays, Ulster and Downe (initial A&E fracture x-ray is always reported by a radiologist)
 - dental radiographs including OPTs (Ulster)
 - post-operative facial bones (Ulster)

- coronary care portable chest x-rays, excluding the x-ray taken on admission (Ulster)
 - Musgrave Park Regional Orthopaedic Service (MPROS)
 - podiatrists (Lagan Valley)
- 2.1.13 Non-radiological clinicians have access to a radiologist for a second opinion at all times if required.
- 2.1.14 When x-rays are evaluated by clinicians other than radiologists or reporting radiographers there is no report recorded on RIS/PACS across the trust.
- 2.1.15 The trust has advised the review team that, if all x-rays currently delegated to other clinicians were to be reported by consultant radiologists, the trust would, on the basis of recent activity, require to appoint an additional 0.6 WTE radiologists.

Delays in Reporting

- 2.1.16 The South Eastern Trust advised the review team that there have been no significant waiting or reporting delays for plain x-rays over the period since 1 January 2009. The trust monitors reporting times for urgent and routine x-rays.
- 2.1.17 At 2 March 2011 there were no plain x-rays waiting for reporting by radiology for over 28 days at any of the hospitals within the trust.
- 2.1.18 The trust has an identified capacity gap in reporting of plain x-rays and this is addressed, when necessary, through additional plain x-ray reporting lists, The trust has not received additional funding for these lists but up to five sessions per week have been paid when there is a need, creating an overspend for the trust. The trust's preferred position would be to recruit additional radiologists to ensure sustainability of the service.

2.2 Governance Arrangements to Assure Patient Safety and Protection with Regard to Handling and Reporting on Radiological Investigations

- 2.2.1 The South Eastern Trust has an established corporate assurance framework. There is a Radiation Protection Committee, meeting twice a year, which considers overarching issues such as policies and procedures, guidance from bodies such as the Royal College of Radiologists and the National Patient Safety Agency (NPSA) and NIPACS integration issues.
- 2.2.2 The Radiation Protection Committee is a sub-committee of the Corporate Control Committee any identified risks can be escalated to Trust Board level through the medical director. An overall Governance

Assurance Committee looks at issues of clinical, financial and corporate governance at the highest level.

- 2.2.3 Within the South Eastern Trust radiology is a cross hospital directorate in its own right. There are regular staff meetings and monthly meetings and clinical governance is a standing agenda item at all meetings.
- 2.2.4 There is daily monitoring of workload at radiology department level using NIPACS. The trust advised the review team that any emerging delay in plain x-ray reporting would be identified through this mechanism and steps would be taken to deal with this at an early stage. If an issue could not be dealt with at this level it would be escalated clinically through the medical director and managerially through the radiology services manager.
- 2.2.5 All imaging departments across the trust are required to report clinical incidents using incident report forms which are reviewed on a quarterly basis to ensure that lessons are learnt from all incidents.
- 2.2.6 There are South Eastern Trust discrepancy meetings held in the Ulster Hospital attended by consultant radiologists and specialist registrars, with consideration of cases on an anonymous basis as set out in Royal College guidelines. Lagan Valley and Downe consultants can find it difficult to attend and may develop independent meetings. Reporting radiographers do not attend discrepancy meetings at present.
- 2.2.7 Radiologists participate in multidisciplinary meetings on a regular basis.
- 2.2.8 The South Eastern Trust provided evidence of an extensive radiology audit plan which included, re-audit of x-ray quality of paediatric chests images, accuracy of paediatric minor injury reporting by radiographers and an audit of IR(ME)R checks for justification of x-ray requests. The trust is also planning to look at the appropriateness of referrals for plain imaging made to the trust.
- 2.2.9 The trust has carried out an exercise to determine the level of a capacity gap in consultant radiology reporting time in relation to the demand for imaging services. The trust submitted a bid, to the commissioner, for additional resources in 2010-11 and received non recurrent funding for 5 additional sessions per week for plain x-ray reporting.
- 2.2.10 The trust has a directorate risk register which feeds into the corporate risk register. At present an assessed capacity gap due to the current level of radiology staffing for plain x-ray reporting is not on the directorate risk register as it is felt that the situation is being dealt with adequately through use of additional sessions and therefore the risk is mitigated.
- 2.2.11 Regional monitoring of performance of reporting imaging against targets did not include plain x-rays until 11 March 2011 as they were not

included in regional Priorities for Action targets. However the trust had internal arrangements for monitoring reporting times.

- 2.2.12 Arrangements for the delegation of responsibility for the reporting of plain x-rays by non-radiologists are specified in the Employers Procedures (Procedure J) for the South Eastern Trust as required by IR(ME)R. There are no written agreements with clinician groups or individual clinicians in relation to this reporting role but discussions with clinical groups to put these in place are underway, initially with orthopaedics.

2.3 Arrangements for Communication of the Reports of X-rays to Patients and Practitioners

- 2.3.1 At present patients are advised verbally when attending for x-ray procedures as to who the report of the x-ray will go back to and when it will be available. In the absence of regional guidance, appointment letters within the trust are being standardised to contain information relating to how patients should access test results. At present there is no patient information leaflet provided.
- 2.3.2 The trust advised that plain x-ray reports are returned electronically to GPs through IUOVO (GP system) which is linked to the RIS in each department. The IUOVO (GP system) facilitates checking to ensure that the report was received and this is monitored.
- 2.3.3 Within each hospital although electronic reports are widely available to clinicians across the trust through NIPACS paper copies of reports are printed and forwarded to the referring clinician as this is generally the clinician's preference.
- 2.3.4 The trust has a red flag system in place. If a case is urgent an immediate report can be generated which is then communicated verbally to the secretary of the referring clinician. This process is recorded in a password protected journal. This process has been subject to audit and has been judged to be effective.
- 2.3.5 The trust does not at present use the messaging system on RIS to send a report to cancer trackers in relation to cancers detected through radiological reporting but this will be considered.
- 2.3.6 The trust advised that following receipt of the NPSA Safer Practice Notice 16 on Early Identification of Failure to Act on Radiology Imaging Reports. the Department of Radiology developed a Policy for Standards for the communication of critical, urgent and unexpected significant radiological findings.
- 2.3.7 In relation to the Royal College of Radiologists Standards for the Communication of Critical, Urgent and Unexpected Findings (August 2008), the trust advised that the Department of Radiology developed a draft Trust

“Policy for Standards for the communication of critical, urgent and unexpected significant radiological findings.” However, the policy remains in draft form as a Results Acknowledgement System (RAS) is required to allow referring clinicians to formally acknowledge they have received a report. It could also provide an audit trail for radiologists to ensure that reports have been read by an appropriate clinician.

Section 3: Conclusions and recommendations

3.1 Conclusions

- 3.1.1 The South Eastern Trust advised the RQIA review team that there were no significant delays in plain x-ray reporting at the time of the review visit. The review team found no evidence of issues requiring immediate action to protect patient safety, in the South Eastern Trust at the time of the review.
- 3.1.2 The trust has established a framework of corporate governance. Clinical governance arrangements for radiology are well represented within the overall trust governance processes. The Radiation Protection Subcommittee reports through the Corporate Control Committee to the overall Trust Governance Assurance Committee. Complaints and incidents are dealt with through established complaints and incident reporting procedures. A process for external reporting to RQIA of doses much greater than intended has been established. There is a substantial audit programme in place within radiology. The trust is planning to look at the appropriateness of referrals for plain imaging to identify if there are possible areas where action could be taken to help reduce an increasing demand for imaging.
- 3.1.3 The trust has arrangements in place for the reporting of plain x-rays by non-radiologists in a number of defined areas and these are specified in the trust's IR(ME)R employers procedures. There are no written agreements in place with the relevant departments or with the individual clinicians in relation to these delegated responsibilities and the review team advises that these should be put in place. The trust informed the review team that it would require an increase in establishment of 0.6 WTE consultant radiologists if all plain x-rays were to be reported by consultant radiologists, in line with best practice as established by the Royal College of Radiologists¹.
- 3.1.4 Under IR(ME)R, a written evaluation is required for every x-ray taken. There are no current systems in place within the trust to record evaluations of x-rays reported by clinicians, other than radiologists or reporting radiographers, on the trust RIS/PACS. The review team recommends that in the absence of the preferred practice of recording a report on RIS/PACS so that the imaging study and its report are stored together, the trust should establish a programme of planned audits of the case notes (patient charts) to provide assurance that requirements under IR(ME)R are being met. The review team also considers that guidance should be provided as to the content of a report, for non radiologists reporting on x-rays.

¹ 'Standards and Recommendations for the Reporting and Interpretation of Imaging Investigations by Medically Qualified Non-Radiologists and Teleradiologists (Royal College of Radiologists) March 2011' (to be published).

- 3.1.5 The review team recognises the major benefits for imaging services in Northern Ireland from having a regional approach to provision of PACS and from having a single unique patient identifier. The South Eastern Trust now has PACS available at all reporting hospitals for imaging. The review team recommends that the trust continues to examine how best to fully exploit the benefits of this major investment in technology for example, in exploring the potential for a move to paperless reporting and the creation of cross-trust approaches to plain x-ray reporting.
- 3.1.6 The trust does have systems in place to identify at an early stage the potential that a delay could emerge in plain x-ray reporting. The review team recommends however that this process should be formalised by the establishment of a written escalation procedure to reduce the risk of delays emerging setting out clearly triggers for intervention and actions to be taken at clinician, departmental and organisational level as required.
- 3.1.7 At present, patients are advised verbally across the trust as to when and how the report of their plain x-ray will be available. The review team supports the trust initiative of supplying this information on patient appointment letters but recommends that the trust considers the introduction of a trust wide information leaflet containing all necessary details.

3.2 Recommendations

1. The South Eastern Trust should put in place written agreements with all departments in which there are arrangements for the reporting of plain x-rays by clinicians other than radiologists. There should be individually signed agreements with each individual clinician in relation to this function.
2. The South Eastern Trust should establish a programme of planned audits on the recording of a written evaluation of x-ray examinations, where these are not available on the trust RIS/PACS to provide assurance that requirements under IR(ME)R are being met.
3. The South Eastern Trust should, as planned, examine the appropriateness of referrals for plain imaging as a method of potentially reducing an increasing demand in this area.
4. The South Eastern Trust should exploit the full benefits of the provision of RIS/PACS across the trust, as part of an integrated system for Northern Ireland including the potential for moving to paperless reporting and the provision of a trust wide approach to reporting plain x-ray examinations using communal reporting work lists.
5. The South Eastern Trust should establish a written escalation procedure to reduce the risk of delays in plain x-ray reporting, setting out triggers

and actions to be taken at clinician, departmental and organisational level, as required.

6. The South Eastern Trust should consider the development of a specific leaflet for patients setting out arrangements for how and when the report on their x-ray examination will be made available to them.



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