The Regulation and Quality Improvement Authority

An Independent Review of Reporting Arrangements for Radiological Investigations

Phase 1 Report, March 2011

Southern Health and Social Care Trust

informing and improving health and social care
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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 Southern Health and Social Care Trust (Southern 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.

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Section 2: Findings of the Review Team

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

2.1.1 There are four radiology departments reporting on plain x-rays within the Southern Trust, based at Craigavon Hospital, Daisy Hill Hospital, South Tyrone Hospital and Armagh Community Hospital. At present each radiology department reports on the plain x-rays from the group of hospitals and clinics linked to it. There are seven locations at which plain x-rays are taken which include Craigavon Area Hospital, Daisy Hill Hospital, South Tyrone Hospital, Portadown Health Centre, Lurgan Hospital, Banbridge Polyclinic and Armagh Community Hospital.

2.1.2 The Southern Trust does not provide a reporting service on x-rays from other trusts. There are no arrangements where Southern Trust radiologists provide plain x-ray reporting for the private or independent sector.

2.1.3 Some plain x-ray reporting is currently being outsourced by the Southern Trust to a provider in the independent sector. The trust entered into a contract with this independent sector provider in 2011 to report on 4,000 to 5,000 plain x-rays, in order to help eliminate delays in reporting. These delays developed as a consequence of the trust's decision to have all chest x-rays read by the radiology department, increasing the volume of plain image radiological examinations to be read by approximately 35,000 per year.

2.1.4 The trust has assessed that it has a capacity gap on reporting of just under 2,700 plain x-rays per month, based on the current reporting policy. A short-term contract for around 1,000 x-rays per month is being secured with the independent sector provider to take effect from the end of April 2011. The remaining shortfall will be met through the use of additional programmed activities and waiting list initiative sessions.

Staffing

2.1.5 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
Craigavon Area	11.85 WTE	3.1 WTE including 1 WTE on Maternity leave	0
Daisy Hill	2 WTE and 1 WTE Locum	1(covered by locum)	1

(WTE: whole time equivalent)

2.1.6 The trust advised the review team that there have been difficulties in the recruitment of consultant radiologists to services within the trust. This has resulted in advertised posts remaining vacant. The trust is currently advertising to fill vacant posts and anticipates that it may be able to fill some posts on this occasion.

2.1.7 At the time of the review visit, the trust had 2.4 WTE current vacancies in relation to radiography staffing with 6.6 WTE staff on maternity leave. The full WTE complement of radiography staff should be 108.83. This excludes radiography support staff.

2.1.8 There is consultant on-call cover for all radiology departments in the Southern Trust, available to provide opinion/report on plain x-rays if required. Radiologists have web-based access to x-ray images on NIPACS from home but cannot use voice recognition reporting from home.

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

2.1.9 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.

2.1.10 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.

2.1.11 Within the Southern Trust, all hospitals were linked to NIPACS in April 2010. Clinicians can access all x-rays across the trust. At present, in Armagh Community Hospital, there is a single reporting monitor rather than a full dual monitor reporting workstation, however this issue is to be addressed with the installation of a full PACS workstation in the near future.

2.1.12 Within the Southern Trust a mixture of both on-line, i.e. voice recognition and off-line, i.e. voice dictation is used by the radiologists with the majority using the on-line voice recognition. The review team was advised that some radiologists in the trust prefer voice dictation as they find this can be quicker for fast turnaround plain x-ray reporting work lists.

Booking Arrangements

2.1.13 For plain x-rays, all hospitals operate a direct access service and GPs refer patients directly to the most convenient radiology department. The majority of plain x-ray requests are performed on an open access basis. The trust also receives referrals for plain x-rays from the Integrated Clinical Assessment and Treatment Services (ICATS) particularly Orthopaedic ICATS. These are also performed as walk-in patients or alternatively may be booked for a later date if more suitable for the patient. For all hospital inpatients there is direct access to plain film x-rays.

Reporting Arrangements for Plain X-rays

2.1.14 In Southern Trust, plain x-rays are reported by radiologists with the exception of:

- all A&E x-rays other than chest x-rays and under 16 year olds
- all ward based plain x-rays except chest x-rays
- all dental x-rays other than children
- orthopaedic post operative inpatients
- plain x-ray examinations from South Tyrone and the Armagh Minor Injury Unit are reported by skill mix radiographers, mentored by radiologists with double reporting and primary radiology reporting in some instances

2.1.15 Non-radiological clinicians have access to a radiologist for a second opinion at all times if required.

2.1.16 When x-rays are evaluated by clinicians other than radiologists or reporting radiographers, there is no report recorded on NIPACS across the trust.

2.1.17 There have been no formal audits to ensure that there is a written record in the case notes (patient chart) for x-rays evaluated by clinicians other than radiologists or reporting radiographers. However checks have taken place within Craigavon Accident and Emergency (A&E) to ensure that there is a record within A&E notes. All A&E plain x-rays are double checked by a consultant/senior doctor.

2.1.18 There have been no audits on the timeliness and quality of reporting, with the exception of discrepancy reporting. However, there is monitoring of performance on a weekly basis for PfA Diagnostic Reporting Turnaround Times (DRTTs) this now includes plain x-rays although there is no specific DRTT in 2010-11 for plain x-rays.

2.1.19 In 2007, a Radiology Managed Clinical Network (MCN) was established and funded by the legacy Southern HSS Board in line with the DHSSPS's 'Twenty Year Vision for Health and Wellbeing in Northern Ireland 2005-2025' and 'Developing Better Services (DBS)' agenda. Management responsibility was transferred to the Southern Trust in October 2008. The Radiology MCN was established to provide an integrated approach to the modernisation of Radiology services for people within the SHSCT area, to deliver sustainable improvements and ensure equal and timely access to high quality, appropriate diagnostic services. The MCN carried out an audit in December 2010 of secondary care clinician views' of the radiology service. Within this audit a section was dedicated to the reporting of radiology examinations with particular reference to speed and accuracy of reporting. The MCN also intends to disseminate a similar audit to primary care services.

2.1.20 The trust has advised the review team that, if all plain x-rays currently delegated to other clinicians were to be reported by consultant radiologists, the trust would require to appoint an additional 18.5 plain film reporting sessions per week over 52 weeks.

2.1.21 Radiologists within the Southern Trust have individual reporting lists for specialised forms of imaging i.e. Computed Tomography (CT), Magnetic Resonance Imaging (MRI) and ultrasound. Communal reporting lists have been introduced for plain x-rays.

Delays in Reporting

2.1.22 The trust advised the review team that a previous delay in reporting of plain x-rays during 2010-11 had been addressed through measures including additional in-house sessions and outsourcing of x-rays to an independent sector provider in England during February and March 2011. At the time of the visit there was no delay in relation to a standard of reporting of 28 days for all other plain x-rays.

2.1.23 The trust informed the review team that the major factor leading to the delay which had arisen was a shortage in the availability of consultant radiologists within the trust, together with the additional volume of work

created by the implementation of the trust decision to read all chest x-rays in April 2010. The trust has three vacant consultant posts within the establishment and an internal assessment of requirement has identified a requirement of a further additional eleven reporting sessions above establishment to meet the current demand for radiology across plain x-rays within the current pattern of IR(ME)R application.

2.1.24 A trust policy on reporting was developed using a risk stratification process to identify those plain x-rays with the highest risk which were then reported. In April 2010, the trust took a decision, based on clinical priority, to report on all plain chest x-rays at the time of implementation of NIPACS. At this time the trust also commenced reporting on orthopaedic x-rays from clinics held at Daisy Hill Hospital which had previously not been reported in the Southern Trust. The additional reporting generated by these decisions increased the capacity gap and contributed to the development of a delay in reporting.

2.1.25 The trust advised the review team that it is addressing the ongoing shortage of radiology time in relation to the currently agreed range of plain x-rays, through a combination of internal waiting list initiatives and out sourcing to the independent sector. The trust is continuing to work with the HSC Board to agree and secure recurrent investment to eliminate the capacity gap.

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

2.2.1 The Southern Trust has a governance framework in place with radiology services integrated within this framework. The Assistant Director of Acute Services and the Associate Medical Director attend monthly Acute Clinical Governance meetings. This meeting is chaired by the Director of Acute Services and includes all associate medical directors and assistant directors from each division. Radiology services are part of the Cancer & Clinical Services Division, in which governance meetings are held quarterly.

2.2.2 Within radiology services, weekly meetings are held between the Clinical Director and the Head of Service. The service risk register is reviewed during these meetings. At the meetings any reported incidents are reviewed and, depending upon the assessed risk score, are either managed within the department or escalated within acute services governance structures. Any root cause analyses which have been carried out in relation to reported incidents are also considered at these meetings.

2.2.3 There are discrepancy meetings held in each radiology department for consultant radiologists. The frequency is dependent on the number of cases to be discussed. The trust is open to including specialist registrars at these meetings, although they do not currently attend. Information on the process for discrepancy reporting is regularly circulated to clinicians

across the trust.. Primary care is linked into incident reporting and discrepancy reporting through the Radiology Managed Clinical Network within the Southern Trust, which has significant engagement with GP representatives.

2.2.4 Skill mix radiographers are consistently monitored and have direct links with mentor radiologists. Ad hoc audits of 50 consecutive radiographer reports are undertaken by mentor radiologists, with feedback being provided to the radiographers.

2.2.5 Radiologists participate in multidisciplinary meetings on a regular basis. Radiologists also attend monthly trust wide Mortality and Morbidity meetings with other clinicians.

2.2.6 At the time of the review visit plain x-ray reporting was included as a risk on the directorate risk register. It was not on the corporate risk register as there were arrangements in place to manage the risk.

2.2.7 The trust, through the Radiology Managed Clinical Network, has carried out an audit of the appropriateness of classification of urgency status of plain x-rays by GPs on referral forms. This audit followed an agreement reached that the trust would seek to report within 24 hours on GP referrals assessed as urgent. The audit has indicated that a relatively small proportion of referrals are now being categorised as urgent by GPs and that these are generally assessed appropriately.

2.2.8 The trust carries out regular monitoring of reporting times. Monitoring of performance of reporting times for plain x-rays was not included in regional PfA targets, but trust monitoring has recently commenced.

2.2.9 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 Southern Trust, as required by IR(ME)R. The trust advised that there was an agreement 10 to 15 years ago for clinicians in Accident and Emergency (A&E) and on the wards to report on plain x-rays but there is a recognised need to have an up to date written arrangement in place. There are no written agreements with individual clinicians in relation to this reporting role.

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

2.3.1 In line with NPSA guidance, radiology staff have been advised of the importance of keeping patients informed about the expected availability of their results. Patients are advised verbally when attending for x-ray procedures about how and when they will receive their results as specified in trust guidance, Guidelines for Radiology Staff on Informing Patients about Results.

2.3.2 With the implementation of NIPACS, patients can now be given a more accurate and up-to-date indication as to when to expect their results report to be available. Patient posters have been developed by the Managed Clinical Network to ensure that patients are fully informed about how and when they will receive their results. Current turnaround times are ascertained weekly, and the posters are updated with the appropriate timeframe for receiving results. These patient posters will be displayed in each radiology department.

2.3.3 The trust advised that plain x-ray examination reports are returned electronically to GPs through the RIS in each department.

2.3.4 Within each hospital, paper copies of reports are printed and sent to the referring clinician. The report is filed in the patient record (case notes). The trust is keen to go paperless (i.e. to cease printing reports) but the current custom and practice is to print a report.

2.3.5 The trust stated that meetings were held within the Imaging Service to take forward action on the NPSA Safer Practice Notice 16 on Early Identification of Failure to Act on Radiology Imaging Reports. The responsibilities of the referring clinician, radiology staff, patient and primary care practitioners were highlighted and agreed, with written compliance. The imaging service use existing PACS processes to ensure reports are available to referring clinicians and where appropriate copied to the cancer tracker, as a further safety net. The trust has developed a Protocol for Reporting Priority Plain Films and Guidance for Radiology Staff relating to Information to Patients About Results.

2.3.6 In relation to the Royal College of Radiologists Standards for the Communication of Critical, Urgent and Unexpected Findings (August 2008), the trust advised the review team that since April 2010, there is an electronic process within NIPACS to highlight priority reports, and to communicate these directly to the referrer and to cancer trackers. In a significant number of cases the radiologist will communicate directly with the referrer (by telephone and/or email). This approach is set out in trust guidance in Notification of Urgent Reports to the Referrer or Cancer Tracker.

Section 3: Conclusions and recommendations

3.1 Conclusions

3.1.1 The Southern Trust advised the RQIA review team that there were no significant delays in plain x-ray reporting at present. At the time of the review the review team found no evidence in the Southern Trust of patient safety issues requiring immediate action. Recent action had been taken to eliminate a delay in the reporting of plain x-rays, including the use of an independent sector provider and internal additional reporting sessions.

3.1.2 The trust has established a framework of corporate governance, with governance structures for radiology services integrated within the overall structures. There are processes in place for risk assessment and management, incident reporting and analysis and monitoring of reporting times for radiology services.

3.1.3 The trust has developed a Radiology Managed Clinical Network. The review team welcomes this initiative, which has facilitated discussion and agreement between radiologists and general practitioners on issues such as allocation of urgency categorisation to referrals.

3.1.4 The trust has experienced difficulties in recruitment to vacant consultant radiology posts. An internal exercise has been carried out to assess the capacity gap between the number of radiologists in post and the number required to report on the imaging investigations undertaken across all types of plain x-rays. Using the current benchmark of 70 reports to be read per session (as agreed by the Health and Social Care Board in January 2010), this exercise has estimated that an additional eleven sessions per week would be required above the current establishment to meet the current workload of reports to be completed by radiology.

3.1.5 The trust has arrangements in place for the reporting of plain x-rays by non-radiologists in a number of defined areas. There are no recent written agreements in place with all of the relevant departments or with the individual clinicians in relation to these delegated responsibilities. The review team advises that these should be put in place to meet IR(ME)R requirements. The trust advised the review team that it would require an additional 18.5 consultant radiologist sessions per week if all plain x-rays were to be reported by consultant radiologists in line with best practice as established by the Royal College of Radiologists[1] and applying the current benchmark of 70 reports to be read per session (as agreed by the Health and Social Care Board in January 2010).

[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).

3.1.6 Under IR(ME)R, a written evaluation is required for every x-ray taken. There are no current systems in place in the trust to record the results of assessments of x-rays reported by clinicians, other than 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.

3.1.7 The review team recognises the major benefits for imaging services in Northern Ireland from having a regional approach to provision of RIS/PACS and from having a single unique patient identifier. The Southern Trust has NIPACS 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 which could facilitate initiatives such as trust wide on-call arrangements, paperless reporting and cross-hospital and cross-trust approaches to plain x-ray reporting using communal reporting work lists for plain x-rays.

3.1.8 The trust has 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 that the trust establishes a written escalation procedure to reduce the risk of delays emerging which sets out triggers for intervention and actions to be taken at clinician, departmental and organisational level as required.

3.1.9 At present, patients are advised verbally and through posters across the trust as to when and how the report of their plain x-ray will be available. The review team recommends that the trust considers the introduction of a trust wide leaflet which patients could be given with this information.

3.2 Recommendations

1. The Southern 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 Southern 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 (NIPACS) to provide assurance that requirements under IR(ME)R are being met.

3. The Southern 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.

4. The Southern Trust should establish a written escalation procedure to reduce the risk of future delays in plain x-ray reporting, setting out triggers and actions to be taken at clinician, departmental and organisational level, as required.

5. The Southern 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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