

Tallaght Hospital Review

Report of the Review of Radiology Reporting and the Management of GP Referral Letters at Adelaide and Meath Hospital (Dublin), incorporating the National Children's Hospital, (AMNCH) [Tallaght Hospital]

September 2010

Foreword

I enclose herewith the report on Tallaght Hospital which was commissioned on the 9th March 2010. This report has the unanimous endorsement of the Steering Group, and we commend the recommendations to the Health Service Executive (HSE) and the Hospital for serious consideration and early implementation.

The report deals with the two areas which we were asked to address: unreported x-rays and unprocessed General Practitioner (GP) referral letters.

I am glad to report that the review of unreported x-rays which had been instituted before we were appointed by the then Chief Executive Officer designate was expedited and completed by the 28th April 2010.

We have concerns about the robustness of hospital management and governance structures which have already been the subject of a report and recommendations of management consultants which we fully endorse.

I am glad to report that we were given co-operation by hospital management and clinicians and by the HSE and we are confident that we were provided with all the information we required.

We are also confident that there are no unresolved issues involving the care or treatment of patients who were involved in the backlog in either case while noting that a small number of orthopaedic patients remain to be assessed.

We would like to draw your attention to the importance we attach to clinical directorates and clinical governance including audit as a means of management in the Hospital and of the prescription and monitoring of standards of service and governance through service level agreements.

We also appreciate the undertaking of the HSE to publish the report as soon as possible.

We would like to express our appreciation to all in the Hospital and in the HSE who dealt patiently with our inquiries, and who were open and frank in their comments. We are grateful to Patricia Gordon for acting as Project Director, for the efforts of our colleagues in the Working Group, and for the help and assistance of Frances McNamara who was a tower of strength.

We are encouraged by the Hospital's reaction to recommendations in the draft report some of which have been implemented already by Hospital management and which have resulted in improvements in the handling of GP referral letters.

These improvements go a long way towards anticipating the recommendations in this report.

We have made some recommendations. So have others. There have been enough reviews and reports: what has been lacking is action and a sense of direction. The actual road-map used is less important than that all should be marching in the same direction and to the same drumbeat.

Dr. Maurice Hayes,
Chairman,
Tallaght Review

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Executive Summary

This Review was commissioned by Professor Brendan Drumm, then Chief Executive Officer, HSE in March 2010 following reports in the media that there were (a) 57,000 unreported x-rays and (b) some 30,000 “unopened” or “unprocessed” GP referral letters in Tallaght Hospital. We were asked to report within three months. We completed our report within three months and then asked respondents to comment on relevant excerpts from the draft prior to finalising the report.

We had difficulty in establishing both numbers and terminology in both cases. Some confusion had been caused by drawing numbers from different data-bases, by misinterpretation, by extrapolations based on questionable assumptions, and due in some instances to the inability of the hospital IT and record-keeping systems to provide accurate information quickly and in a form that was necessary for good management.

In the case of the x-rays, it is necessary to distinguish how images were managed as follows;

- those reported by Radiologists
- those reviewed by clinicians only which should have also been reported by Radiologists;
- those which were appropriately reviewed by clinicians only [e.g. coronary angiograms] and
- those images neither reviewed by clinicians nor reported by Radiologists.

There was some confusion, also, in relation to GP referral letters, between letters that may have been unopened, those which had been opened and read but not processed in the system, those which had been processed by administrative staff but not accepted for referral by the relevant clinicians, and those which had been set aside for lack of available slots, but without any response to the patient or GP.

Radiology

In relation to x-rays, there were, in fact, 57,921 examinations with no report on the radiology IT systems. Despite the absence of written protocols, there was an informal prioritisation. If the recently circulated HSE Guidelines for radiology had been applied, the number of 57,921 would have reduced to 26,275 which, while lower, would still have been a matter for serious concern. Prioritization of reporting is a common practice in the UK, although usually done under protocol. In Tallaght Hospital we have been advised that x-rays would have been reviewed by competent clinicians in their own specialist fields, if not by a consultant radiologist. There were, however, serious delays in reporting results where this would have been appropriate.

A review of all 57,921 carried out by the hospital and completed on 28th April 2010 disclosed no untoward event, no missed diagnosis and no undetected condition. This is a strong indicator that the x-rays had been competently reviewed at the time, even if not reported on. The speed and efficiency with which this was done was commendable.

Why did it happen?

There was a problem, almost from the opening of the hospital, and in the face of rapidly growing demand, of significant overload of the radiology department. There was a shortage of consultant radiologists. The existing workload, when compared to an internationally validated model demonstrates that the workload is high when compared to two other Dublin teaching hospitals or to Australian norms. Responsibility for this must be shared by the Hospital for not adequately prioritising or vigorously pursuing additional consultant appointments, and by HSE (and its predecessor bodies) for not approving posts in a reasonable and timely manner.

There was an absence of formal written policies and protocols. In particular, with the clear inability of the hospital to have all x-rays reported by a consultant radiologist, an agreed written protocol setting out categories of x-rays not requiring to be read by a consultant radiologist should have been implemented to prevent the accumulation of the backlog.

There were difficulties with the radiology IT systems¹, which in the opinion of the radiologists at the Hospital with whom we spoke are unsatisfactory in being slow in response and in the retrieval of images and information, in not having a voice-recognition facility, in being liable to breakdown, and in being unable to produce information in a form which would enable the backlog to be identified and managed.

¹ The reference to radiology IT systems refers to the Picture Archiving and Communications System (PACS) which is linked to a Radiology Information System (RIS). This report will refer to radiology IT system although in some cases directly quoted, the term PACS/RIS, PACS or RIS are used and the terms appear to be used interchangeably by the Hospital.

There were persistent problems with the typing of reports which contributed significantly to the backlog.

There was inadequate response on the part of the Hospital to the clearly flagged problems of system overload and the backlog of unreported x-rays. Consultant radiologists expressed their concerns to hospital management on more than 30 occasions between 2005 and 2009; working groups were convened; recommendations were made and not acted upon and response to the problem was indecisive and inadequate.

General Practitioner (GP) Referral letters

In relation to GP Referral letters, we established that the number involved was 3,498, that no letters were “unopened”, that steps are now being taken by way of review and triage² to deal with the backlog and that as at 14th September 2010 a total of 415 patients remain to be seen. So far we are advised that no serious event has been discovered and no patient appears to have been endangered – although they were clearly disadvantaged and had the additional worry and anxiety of treatment delayed or of not knowing when an appointment would be available.

The main reasons for this appear to have been:

- the absence of a clear policy or written procedures and protocols for dealing with out-patient referrals from GPs. The system was overly complex, with no clear time-lines within which a consultant was required to have reviewed the referral and decided on priority status, and no means of monitoring the length of the queue or delays in the system. The problem was especially acute in the orthopaedic department, particularly where letters were not addressed by name to a specific consultant;
- a dispute between hospital management and orthopaedic consultants about the failure to “ring fence” beds required for elective surgery, and the sacrifice of dedicated orthopaedic beds to meet the pressure of emergency admissions as required by national policy. This led to a practice of not seeing all new elective outpatient referrals. We find this to be regrettable and not in the best interests of patients;
- poor communication with local GPs, absence of any constructive engagement, and inadequate efforts to involve them in planning the flow of patients through Outpatients Department (OPD), and failure to keep them informed of developments;
- the inability of the Hospital to resolve this issue over a long period.

Managing the Backlog

By the time the matters regarding the x-ray reporting and the management of GP referral letters were brought to public attention in March 2010, the Hospital had developed and was implementing plans to resolve both problems. Rapid progress was made with clearing the backlog of radiology reporting. However, progress was slower in clearing the backlog of elective GP referral letters, which still requires attention and ongoing oversight from the HSE. We are aware that the Hospital put in place an enquiry line which handled a high volume of calls around the time that the issues were reported in the media. The enquiry line was well resourced with trained clinical staff, and was underpinned with written procedures for how enquiries should be handled. The Hospital’s efforts in this regard are to be commended.

Management and Governance

It soon became clear that common themes were emerging from both strands of our review, and that both sets of problems were symptomatic of wider problems at relevant management and Board levels. There were severe systemic and other weaknesses at management level, and the structures at Board level were simply not robust enough to provide the level of governance, supervision and direction required in the management of a large and complex organisation. Neither was there adequate procedures in place for effective risk management in the relevant areas, and the system of reporting to the Board orally or by power-point presentation would not accord with best practice.

We have been informed by the Hospital that the Board has now adopted recommendations from management consultants which would reduce the size of the Board from 23 to 8-12, would include non-executive directors with experience in business, finance and human resources, and would clearly define roles and relationships at senior management level. We welcome this and strongly support the thrust of the report. We also recommend Board representation for local GPs and for a representative of the local population.

² Triage refers to a clinical process whereby, on the basis of an assessment of patient characteristics, a priority rating is attached to a case, for example, urgent, soon or routine.

We strongly support the introduction into the management structure of a system for clinical governance and clinical accountability through clinical directorates and clinical directors who would manage the interface between clinicians and management and would ensure, e.g. the maintenance of standards of performance and clinical audit.

We recommend that HSE should further develop the system of service level agreements as a means of allocating funds to voluntary hospitals, and the inclusion of standards of performance, good governance and responsiveness to the needs of patients as elements in such agreements which would be subject to monitoring, accountability and enforcement.

We also recommend the early development of national standards, guidelines and procedures on the lines recommended in the Madden Report³, and the introduction of a system of licensing under the aegis of and subject to monitoring and inspection by the Health Information and Quality Authority (HIQA).

Tallaght is a fine hospital, well regarded in the area, with talented, dedicated and committed staff. They also deserve good governance, effective leadership, firm direction and a period of stability so that the Hospital can fulfill its full potential, serve the community and play a key role as a vibrant and forward looking part of the health services.

We strongly support the development of a clear identity and strategic direction for the Hospital, in the definition of which are involved all stakeholders, internal and external, including the HSE, with a particular emphasis on the inclusion of staff, local GPs and local service users or representative patient advocacy groups.

We have made some recommendations. So have others. There have been enough reviews and reports: what has been lacking is a clear sense of direction followed by effective and sustained action.

A full list of recommendations is contained in Chapter 8.

Chapter 1 Appointment and Terms of Reference

1.1 Appointment

The review commissioned by Professor Drumm, then Chief Executive Officer, Health Service Executive (Chief Executive Officer, HSE) into the delay in reporting radiological examinations and the management of GP referral letters at the Adelaide and Meath Hospital Dublin, incorporating the National Children's Hospital, (AMNCH) Dublin 24 was announced on 9th March 2010.

Dr. Barry White, National Director, Quality and Clinical Care Directorate, HSE as Project Sponsor formed a Steering Group to lead the Review. The members are listed below.

Chair	Dr. Maurice Hayes, former member of Seanad Eireann, formerly Permanent Secretary, Department of Health and Social Services (NI), Northern Ireland Ombudsman, Member of International Commission on Policing (Patten Commission) M.R.I.A. and former Chair of the Mater Hospital, Belfast.
Project Director	Ms. Patricia Gordon, Director of the Multiple Sclerosis Society, Northern Ireland. Prior to this she was the Chief Executive Officer of the South and East Belfast Health and Social Care Trust, 2003-2007 and Chief Executive Officer of the Mater Hospital, Belfast 1995-2003.
General Practice Nominee	Dr. Declan Murphy, General Practitioner in Kilkenny. He is a former chairman and president of the Irish College of General Practitioners.
Patient Advocate	Mr. Brian O'Mahony, Chief Executive of the Irish Haemophilia Society; past President of the World Federation of Hemophilia; Convener of the European Plasma Users Group and Fellow of the Institute of Biomedical Sciences.
Consultant Radiologist	Dr. Risteárd Ó Laoide, Consultant Radiologist, St. Vincent's University Hospital; Clinical Director, St Vincent's Healthcare Group, Dean, Faculty of Radiologists, Royal College of Surgeons in Ireland.
Senior Clinician, HSE	Dr. Paul Kavanagh, Consultant in Public Health Medicine with special interest in healthcare quality and safety.

On 23rd March 2010, Steering Group members met to agree the Terms of Reference and participated in a press briefing arranged by the HSE to announce the Terms of Reference.

Ms. Laverne McGuinness, National Director, Integrated Services Directorate, HSE, as process auditor, met with the Steering Group on a number of occasions and was updated on the progression of the review.

The Steering Group, with the approval of the HSE, co-opted Mr. Joe McClelland, a Consultant Orthopaedic Surgeon, formerly a clinical director, based in Northern Ireland.

A Working Group was appointed to support the Steering Group. The task of the Working Group was to research and present information to the Steering Group. The Working Group was not involved in the process of determination as this role was solely the Steering Group's responsibility.

Working Group

Dr. Paul Kavanagh, Consultant in Public Health Medicine with special interest in healthcare quality and safety.
Ms. Frances McNamara, Project Manager, HSE
Mr. Ger Crowley, Assistant National Director and member of the Serious Incident Management Team, HSE.
Ms. Anne Carrigy, National Lead for Acute Hospital Services, HSE and formerly the Director of the Serious Incident Management Team.
Ms. Ann Dolan, Radiography Services Manager Mater Hospital.

The Steering Group met for the first time following agreement of the Terms of Reference on 12th April 2010.

1.2 Terms of Reference

The following are the published Terms of Reference which the Steering Group accepted at a meeting held 23rd March 2010.

“23rd March 2010

Review of Radiology Reporting and the management of GP referral letters at Adelaide and Meath Hospital, incorporating the National Children’s Hospital, (AMNCH) [Tallaght Hospital]

1. Introduction

On 9th March 2010 the CEO of the HSE instructed that a review be undertaken into the circumstances that led to and the subsequent management by AMNCH of, delays in reporting radiological examinations at the Hospital during the years 2005 to 2009.

The CEO specified that the Review would be chaired by a person independent of AMNCH and the HSE.

Mr. Lyndon MacCann, Chairman of AMNCH and Professor Kevin Conlon, CEO of AMNCH, are supportive of the review.

Following additional information coming to light it was decided to extend to parameters of the review to include the management of GP referral letters at AMNCH.

2. Aims and objectives

The aims and objectives of the review are to:

- 1. Identify, describe and analyse the circumstances and identify the factors, clinical, managerial and systematic, that led to the accumulation of a backlog of 57,921 unreported examinations at AMNCH.*
- 2. Identify, describe and analyse the Hospital's management of the backlog when it was identified. This will include identification, description and analysis of the governance and management systems and processes employed including information gathering, presentation and internal and external communication and stakeholder engagement.*
- 3. Similarly identify, describe and analyse the Hospital's management and processing of GP referral letters.*
- 4. Make recommendations that will improve services, systems and risk management at the hospital which may be applied to other voluntary hospitals and HSE operated hospitals and which will lead to increased patient and public confidence that robust systems are in place.*
- 5. If, in the course of its work, the review team identifies other issues which require review or investigation, the Chair shall notify the HSE.*

3. Reporting Arrangements

The Steering Group shall prepare a report setting out the findings, conclusions and recommendations for submission to the HSE's National Director for Quality and Clinical Care, Dr Barry White within 3 months of its first meeting. An extension of this deadline may be permitted upon a recommendation from the Chair to the HSE.

The National Director for Quality and Clinical Care will provide copies of the Final Report to the CEO, the Risk Committee of the HSE Board, the Board of AMNCH, the Health Information and Quality Authority, the Department of Health and Children. The HSE, in the absence of any legal impediment, will publish the Final Report simultaneously on its internet site www.hse.ie.

4. Immediate Safety Concerns

If, in the course of the review any immediate concerns for patient or staff safety are identified, these will be immediately communicated by the Chair simultaneously to the CEO of the Hospital, the CEO of the HSE, the National Director of Quality and Clinical Care and the CEO of the Health Information and Quality Authority.

5. Methods to be used

The review shall be carried out in whatever manner and with whatever methods the review team believes are necessary and most appropriate to analyse the systems associated with the issues set out in the aim and objectives, having regard, in particular, to the clinical judgment of the Review Team. These methods may include, inter alia, review of documents and data and interviews with individuals.

6. Membership

*Chairperson (independent of AMNCH and the HSE)
Project Director
Patient Advocate
GP Representative
Consultant Radiologist.
Senior Clinician from the HSE's Quality and Clinical Care Directorate*

7. Liaison

For the purposes of the smooth completion of the review, Dr Paul Kavanagh, Specialist in Public Health Medicine, National Directorate for Quality and Clinical Care, will act as the liaison between the Chair and the HSE.

8. Administration Support

Sufficient dedicated administrative support will be identified to work with the review team."

Chapter 2 Introduction

- 2.1 We were not appointed as a Committee of Inquiry, much less a Tribunal or as part of a disciplinary procedure. We did not have the power to compel witnesses. We saw ourselves as an administrative review which would establish the facts as far as we could, identify what we believed went wrong and why, and recommend changes in procedures which would reduce the risk of recurrence and restore public confidence and the trust of patients in the Hospital.
- 2.2 We are glad to acknowledge the co-operation we received at all levels of the Hospital. Records and files were made available to us without demur, staff were available for interview, and all statistical and other information requested was provided readily (within the limitations of the IT system and the capacity for ready retrieval). Staff at all levels were open and frank in response to our inquiries.
- 2.3 We discovered, at the start of our work that in addition to our review, the Health Information and Quality Authority (HIQA), had already become involved in the issues relating to x-rays and GP referral letters and was conducting its own inquiries, as it was statutorily entitled to do. In addition the former Chief Executive Officer designate of the Hospital had engaged management consultants Price Waterhouse Coopers (PWC) to review the adequacy of risk-management procedures generally and to make recommendations.
- 2.4 Anxious not to place the burden of repetitive searches for information on staff that had also a hospital to run, and to avoid the risk of conflicting sets of advice emerging from three parallel reviews, we liaised with both HIQA and PWC and are grateful for their willingness to do so.
- 2.5 At the beginning of our review we were given by the then Chief Executive Officer designate a copy of a July 2009 PWC presentation arising from a study they had done (which had been commissioned by the new Chairman of the Hospital Board) which was critical of governance arrangements in the Hospital and which recommended a radical restructuring at Board and senior management level. In June 2010 the Chief Executive Officer designate gave us a copy of another PWC study which the Hospital commissioned in April 2010 entitled Operational Turnaround Programme which reported in late June 2010. This extensive “Operational Turnaround” study contained, inter alia, a review of procedures for handling referrals from GPs, and recommendations for improvement which are generally consistent with comments we make in the course of our review.
- 2.6 In addition to all this, we have been told of a number of Kaizen⁴ programmes designed to secure better working and greater staff-involvement in these areas, conducted by hospital staff (with the assistance of external consultants.)
- 2.7 Our aim, initially, was to try to reconcile the various numbers which were already in the public domain and to make sense of these for the lay reader. This we have attempted to do in paragraph 5.2 and paragraphs 6.4 and 6.5.
- 2.8 We found that figures had been taken from different data bases, often data collected for other purposes and not always fully understood and generally imprecise. Our aim was to establish the “true” level of unreported x-rays or unprocessed referral letters, but the figures are imprecise and represent at best a rough approximation in each case. Our purpose was not to minimise the problem or explain it away as a matter of numbers. In each case the residual numbers, however expressed, represent a sufficient cause for serious concern as a manifestation of systemic failure and lack of proper controls; each represents a patient who has not secured the services they required in a timely fashion. Despite the full co-operation of hospital staff, we were hampered, as they had been in the earlier production of figures, by the inability of the IT systems to provide access to timely and accurate data or the management information required for effective risk-management and monitoring.

⁴ Kaizen is a Japanese philosophy used for quality improvement. By improving standardized activities and processes, Kaizen aims to eliminate waste as is regarded as a “LEAN” approach to process improvement. Key to the philosophy is the involvement of staff in process improvement. While it is usually a daily activity embedded in organizational culture, it can be focused over a discrete time period as a Kaizen Event or Kaizen Blitz.

- 2.9** There were common themes emerging both in relation to the handling of x-rays and GP referral letters, and both were symptoms of wider problems. These had to do with management structure, culture and style; with the inadequacy of reporting systems; the lack of clear lines of responsibility; with inadequate risk management; with lack of written protocols and procedures; with communications within the Hospital and with the main stakeholders; with poorly developed relationships with GPs in the area and with a failure of governance which were inconsistent with a patient centred approach. We will comment on these issues later in the report.
- 2.10** The weaknesses we refer to are mainly structural and systemic: they are problems of governance, management, communication and human relations. We have found no reason whatsoever to question the skill and dedication and good faith of all those professional, management, administrative and ancillary staff who ensure the delivery of services for patients and the wider community. We acknowledge that relevant persons may not have had the relevant information or may have had incomplete or inaccurate information. We recognise too the voluntary contribution of those who give their time as members of the hospital board.
- 2.11** The management of a large modern hospital is a complex business involving clinicians at many levels as well as administrators. As is the case more widely in the health services, there is a problem of meeting inexorable demand with limited resources of money, equipment and personnel. In this context our comments regarding management and governance are concerned with systems, structures, management style and culture, and should not be taken as impugning any person or group of persons.

Chapter 3 Methodology

- 3.1 As described in the Appointments and Terms of Reference, a Steering Group was established which was supported by a Working Group and expert advice was obtained as required.
- 3.2 The Steering Group sought to establish background information and details of working practices. This was achieved through a series of face to face interviews. Members of either the Steering Group or Working Group met with all interested parties, explained the process to them and invited them to make any written submissions that they wished for consideration by us . The Steering Group also wrote to the former Chief Executive (see Appendix 1 for all contributors).
- 3.3 With regard to these meetings the “PEACE”⁵ method was used which is a recognised method for investigative interviewing: - preparation and planning, engage and explain, account, closure and evaluate.
- 3.4 The Chairman of the Steering Group made himself available to meet members of staff and members of the public on a number of afternoons in the Hospital.
- 3.5 In addition to face to face meetings, documents were examined, e.g. Hospital Board minutes (2005 – 2010) Board Executive Committee minutes (2005 – 2010) and minutes of the Clinical Governance Committee (from its inception in November 2007 to February 2010). We sought and examined documentation in relation to governance, strategic and financial matters as well as documentation and correspondence within the Hospital and from and to the Hospital and external agencies in relation to the two issues under review.
- 3.6 Our approach to this review was informed by the London Protocol, Systems Analysis of Clinical Incidents⁶. We sought to first describe events and then to consider contributory factors. In this consideration, we were informed by a number of reports, for example: The Look Back Review of Chest X-Rays & CT Scans, Louth Meath Hospitals, 2008⁷; Report on a complaint made by Mr. Brown, Co Mayo against the Health Service Executive (Office of the Ombudsman)⁸; the Madden Report (see footnote 3).
- 3.7 We also received a number of reports referred to by the Hospital – the Meridian Report 2004⁹, the PWC Governance “Report” July 2009, the PWC Organisation Turnaround (June 2010) and the Draft Integrated Risk Management Strategy (July 2010).
- 3.8 Our approach was therefore to gather information, consider it, test it, and make recommendations. In the interests of fairness and due process a draft or relevant excerpts from the draft of this report were communicated or made available to people concerned and their comments have been carefully considered and taken account of in this final report.
- 3.9 The Steering Group and the Working Group, following the press conference on the 23rd March 2010, held their first meetings on the 12th April 2010 and continued to hold regular meetings during the period of the review and subgroups met as necessary to interview the various interested parties.

5 The PEACE interviewing model was developed by the UK Home Office and the Association of Chief Police Officers in 1992.

6 Systems Analysis of Clinical Incidents – the London Protocol. Sally Taylor-Adams and Charles Vincent. Clinical Safety Research Unit, Imperial College, London.

7 The Look Back Review of Chest X-Rays & CT Scans, Louth Meath Hospitals, HSE North East Radiology Look-Back Review Steering Group.

8 Investigation Report on a complaint made by Mr. Brown, Co. Mayo against the Health Service Executive, Office of the Ombudsman April 2010.

9 Meridian Productivity Study on the Hospital Outpatients Department, 2004.

Chapter 4 Tallaght Hospital

- 4.1 Tallaght Hospital – more properly the Adelaide and Meath Hospital (Dublin) incorporating the National Children’s Hospital– is a public voluntary hospital serving a population of 400,000 to 500,000 in a rapidly growing urbanised area with a predominantly young population in West Dublin and extending into Counties Wicklow and Kildare.
- 4.2 We shall, in this report, refer to the Hospital under both titles, but in the interests of familiarity and brevity, more generally by the popularly accepted name and the one most used in the area it serves.
- 4.3 The Hospital opened in June 1998 in a new building as an amalgamation of three voluntary hospitals which had served the needs of inner-city Dublin for many generations. It thus inherited a proud and distinguished tradition of medical and nursing care which stretched back for 250 years in the case of the Meath, and to early Victorian times for the Adelaide and the National Children’s Hospital. The hospitals were associated with the great names in Irish medical history, and developments in care, teaching and research in medicine and nursing which were of international significance. They were charitable foundations, mainly associated with the Protestant tradition in Ireland.
- 4.4 Among the objectives for which the Hospital was established, as set out in the articles of incorporation is “to maintain the Hospital as a focus for Protestant participation in the health services, and thereby preserving its particular denominational ethos”.
- 4.5 We were reminded of this provision by Board members in the course of our review, and we are conscious of the importance attached to it. The Hospital, of course, is open to all, and treats patients of all religions and none, without distinction.
- 4.6 The Hospital has 600 beds (which include beds for the acute psychiatric services of St. Loman’s Hospital) and employs nearly 3,000 staff. It operates currently on a budget of €245m of which €189m is provided from public funds by the HSE.
- 4.7 Under the Charter¹⁰, the management of the Hospital is entrusted to a Board of 23 members, 6 appointed by the Adelaide Society, 6 by the Meath and 3 by the National Children’s Hospital, 6 on the nomination of the Church of Ireland Archbishop of Dublin, one by Trinity College and one by the former Eastern Health Board (now HSE) who has not made a nomination. These arrangements appear to reflect the interests of the heritage hospitals and to protect their character and ethos. We do not believe that they align with modern management theory or practice.

¹⁰ Hospital Charter embodied in Statutory Instrument number 229 of 1996.

Chapter 5 Review of Radiology Reporting

5.1 How the issue came to public attention

- 5.1.1** In March 2010 it emerged in the media that on 24th April, 2009 concerns had been raised with the Health Information and Quality Authority (HIQA) by a local General Practitioner in relation to a backlog of unread x-rays at Tallaght Hospital. Having received this report from the GP, HIQA wrote on 8th May 2009 to the former Chief Executive Officer of the Hospital and met him on 24th June 2009. According to a press statement issued by HIQA in March 2010 at that meeting the former Chief Executive Officer *“indicated that there were approximately 4,000 unreported x-rays and that these were primarily check and repeat x-rays or x-rays that would not normally be reported by a radiologist such as dental x-rays.”* At this meeting, HIQA was *“assured that there were no GP or Emergency Department patient x-rays unreported,”* that this was a *“historic problem and currently all x-rays were being reported.”* The former Chief Executive Officer advised of the *“measures that were being taken by the Hospital and that the reporting of the backlog of 4,000 x-rays would be completed by the end of July 2009.”* The former Chief Executive Officer outlined the *“reasons why x-ray examinations are recorded as unprocessed on the RIS”* e.g. the *‘majority of orthopaedic x-rays, particularly serial x-rays to access fracture healing or joint replacements. These are seen by the orthopaedic surgeons.’*
- 5.1.2** A HIQA press statement of 10th March 2010 stated that at this meeting the former Chief Executive Officer informed HIQA that one delayed diagnosis for a patient had been identified. It was indicated that this delay had not affected the clinical outcome for the patient concerned and that the family of the patient had been informed by the hospital.
- 5.1.3** In August 2009 HIQA again met the former Chief Executive Officer and the then Medical Director (who informed us that he joined the meeting as it was concluding). At that meeting HIQA was given assurances that the backlog was being reduced and an action plan was outlined. Following the meeting, HIQA wrote to the former Chief Executive Officer on 8th September 2009 requesting a written report and followed this up with letters to the former Chief Executive Officer in October and again in November 2009 repeating this request. In December 2009 the former Chief Executive Officer retired on health grounds and HIQA had immediate discussions with the then Chief Executive Officer designate. Two further meetings arranged in December were postponed.
- 5.1.4** In December 2009 a delayed diagnosis for a second patient was reported in the Hospital.
- 5.1.5** A meeting took place on 14th January, 2010 between HIQA and the then Chief Executive Officer designate to discuss progress. The HIQA press release of 10th March stated that it was informed that the Hospital had now established that the scale of the backlog was much greater than previously indicated and was in the region of 57,000. In response to the draft report, the Hospital informed us that it had, at this meeting, outlined a plan for the reduction of the numbers by the end of March. The then Chief Executive Officer designate informed HIQA (as had been described in the June 2009 meeting) that these x-rays included intra-operative orthopaedic x-rays which had been reviewed at the time by the orthopaedic surgeons, cardiac catheterisations which had been reviewed at the time by the cardiologists and repeat chest x-rays which had been reviewed at the time by the relevant consultants.

5.2 The Role of a Clinical Radiologist in a modern hospital

- 5.2.1** We thought it would be helpful at this point to describe the role of a Clinical Radiologist in a modern hospital. A clinical radiologist is a doctor who has specialised training in obtaining and interpreting medical images, in the context of the patient’s clinical findings. It is a referral specialty providing consultative services at the request of other doctors. Images are obtained using x-rays (radiographs, Computed Tomography/CT and fluoroscopy), radioactive substances (nuclear medicine), sound waves (Ultrasound), and the body’s natural magnetism (Magnetic Resonance Imaging/MRI). Radiologists also use imaging guidance for the treatment of patients using minimally invasive interventional techniques, thus avoiding surgery in many patients. The clinical radiologist also plays a key role in radiation safety by ensuring appropriate imaging studies are performed in a safe and efficient manner using imaging protocols, and triaging requests for imaging.

5.2.2 The role of a consultant clinical radiologist has evolved significantly in recent years. The basis for this evolution is found in the following changes in practice:

- Advances in medical imaging require the interpretation of ever greater numbers of increasingly complex imaging investigations.
- Increasing reliance on imaging to support clinical decision making by physicians and surgeons has brought about a demand for a 24/7 availability of radiology services.
- Image guided intervention has expanded significantly in the last 20 years and has replaced acute surgical intervention in the care of many patients. There is an increasing requirement for 24/7 availability of interventional radiology services.
- The increasing complexity of medical imaging and its interpretation has led to increased subspecialisation within radiology. These subspecialty radiology areas include breast, cardiovascular, chest, emergency, gastrointestinal, genitourinary, head/neck, musculoskeletal, nuclear, paediatric, interventional and neuro radiology. This increase in subspecialisation has a positive impact on the quality of radiology services but leads to an increase in consultant manpower requirements.
- In the UK it is estimated that a 'hospital radiologist now spends less than half their time reporting or intervening directly on patients', the remainder being spent on consultation, multidisciplinary team meetings (MDTs) and on non-clinical activities¹¹.
- The widespread adoption of a multidisciplinary model of patient care, originally in cancer care, has now extended to most other areas of clinical practice and has led to a much greater demand for radiologists to support and lead MDT meetings. MDTs have been shown to be beneficial to patient care, but their success depends on the availability of adequate time to prepare for and support MDTs (see footnote 11).
- Non-clinical activities undertaken by radiologists include clinical management of radiology departments, radiation protection, quality assurance (including audit), teaching and research.

5.3 Background

5.3.1 Our review of documentation received from the Hospital highlights problems with x-ray reporting dating back to 2003 when the Consultant Radiologist in Administrative Charge reported to the former Chief Executive Officer that there were at that time 5,000 unreported examinations.

5.3.2 During 2006 the Consultant Radiologists in the Hospital raised, on a number of occasions, the problems that existed in the Radiology Department, including a backlog of unreported x-rays and issues with the radiology IT system. In early 2006 the number of unreported x-rays was reported as 6,900, some of which dated back to January 2005. At this time the Consultant Radiologist in Administrative charge wrote to the Risk Manager (copied to the former Chief Executive Officer) regarding the unreported radiographs and stated that *"any one of these radiographs could have an unreported pathology of significance and the situation is clearly a huge medical legal risk to the hospital"*. He referred to the current complement of radiology staff and stated that it could *"barely keep up with on-going status, let alone an ever increasing backlog."* He suggested, as a solution, the re-instatement of outside sessional Radiologists to tackle the backlog. The nature of this communication was such that no one who was in receipt of this information could have been in any doubt regarding the seriousness of the situation.

5.3.3 We were advised that additional funding was made available in mid to late 2006 to deal with the backlog and outside consultants were contracted to work at night and week-ends to help clear the backlog. However, in September 2006 it was recorded that there were 12 boxes, containing between 20 and 25 reported tapes¹² waiting to be typed. While reporting was therefore being done, delays in typing were now a major cause of delay. It should be noted that we were informed that where the Radiologists identified significant positive findings the typists were alerted to prioritise these reports for typing. We were made aware that arrangements were put in place by the former Deputy Chief Executive Officer to address the typing backlog on a temporary basis but it appears there was no permanent solution to this issue.

¹¹ How Many Radiologists Do We Need? A Guide to Planning Hospital Services, The Royal College of Radiologists, (2008).

¹² The number of studies per tape is highly variable depending on the complexity of the examination and the reporting radiologist. The number can vary from 30 to 250 studies per tape.

- 5.3.4** In October 2006 one of the Consultant Radiologists wrote to the former Deputy Chief Executive Officer highlighting problems with the radiology IT systems and as a result of which he had a build up of cases that he could not report on. In November 2006 the Consultant Radiologist in Administrative Charge wrote to the former Deputy Chief Executive Officer and the former Medical Director regarding 5,100 unreported x-rays dating from 2005. In December 2006 a Medical Oncologist wrote to the Hospital's Forum for Adverse Incidents Review (FAIR) regarding a 17 day delay in reporting on a case of suspected pulmonary embolus and stating that delays in reporting were increasingly commonplace.
- 5.3.5** In April 2007, in response to a request from the former Deputy Chief Executive Officer for an update (and referring to additional funding sanctioned in 2006), the Consultant Radiologist in Administrative Charge reported that there were 8,250 unreported x-rays and 27 tapes of reports waiting to be typed.
- 5.3.6** Delays in typing continued to be a problem and in July 2007 the Consultant Radiologist in Administrative Charge mentioned at a meeting with the former Chief Executive Officer that there were 50 tapes in arrears. However the following month at the Management Team meeting the number of tapes in arrears was recorded as 280.
- 5.3.7** In November 2007, a Consultant in Emergency Medicine wrote to the Consultant Radiologist in Administrative Charge regarding 45 x-ray reports on patients x-rayed in February 2006 and April 2006. He stated that some abnormalities had shown up on these but that these had been picked up by the Emergency Department (ED). In response to this communication the Consultant Radiologist in Administrative Charge stated that they were imaging 500 cases per day and could not report on all of them, a matter which had been highlighted to management. On the same day the former Deputy Chief Executive Officer, in a letter to the Consultant Radiologist in Administrative Charge, stated that she was concerned that the backlog issue had not been resolved and she requested an update report with a view to finally clearing the backlog within a specified time frame. The Consultant Radiologist in Administrative Charge wrote to the former Deputy Chief Executive Officer in November 2007 saying *"getting the nighttime radiologists has helped a lot and the numbers in the backlog has not grown"*. However in January 2008 he stated that the backlog was *"expanding daily and was not as good as he had hoped."*
- 5.3.8** In August and September 2008 the Consultant Radiologist in Administrative Charge wrote to the Acting Deputy Chief Executive Officer regarding the backlog piling up and a need to put some kind of a plan in place to deal with it. He also wrote to the Acting Deputy Chief Executive Officer in September 2008 stating that the problems in x-ray go back a long time and that many x-rays were not reported at all, reported in a delayed fashion or reported but not typed in a timely fashion.
- 5.3.9** This situation continued throughout 2008 with other hospital consultants communicating their concerns in relation to unreported x-rays. In September 2008 a preliminary report, submitted to the Acting Deputy Chief Executive Officer and Consultant Radiologist in Administrative Charge, identified approximately 50,000 unreported x-rays going back more than 4 years with an additional 100 films per day not being reported. Also during this time significant problems were being experienced with the radiology IT systems. Considerable efforts were devoted to the radiology IT systems difficulties and attempts were made to address the backlog and prevent it growing through the provision of locums; however these attempts were not successful.
- 5.3.10** In October 2008 concern was raised at a meeting of the Clinical Governance Committee, which the new Chairman of the Hospital Board had elevated to be a formal Sub-Committee of the Board. Regarding the backlog and delays for review of routine x-rays, it was noted that a strategy regarding outsourcing was currently under exploration by management. At the Clinical Governance Committee meeting the following month a lengthy discussion took place regarding outsourcing of reports and governance of reporting.
- 5.3.11** A month later the Consultant Radiologist in Administrative Charge wrote to the Acting Deputy Chief Executive Officer stating that the backlog continued to grow, that it was unsafe and he had no doubt but that they were missing significant cases. In an email in late December 2008, the Radiology Department informed the Acting Deputy Chief Executive Officer that from 2005 there were approximately 35,100 unreported x-rays. In a 7-day week sample in November 2008 the estimated number of unreported examinations was 700. It should also be noted that during 2008, there were considerable problems with radiology IT systems.

- 5.3.12** In January 2009, a Project Manager examined Radiology Information System (RIS) data on unreported x-rays versus total activity for the month of November 2008. He summarised that there were a total of 2,665 x-rays unreported during November 2008, and if this was typical, then it could be expected that a backlog existed of twice the current level of 35,000 in one year; 2,665 unreported x-rays equated to 18% of activity in November, 2008.
- 5.3.13** In April 2009, the backlog was estimated at 42,000 (based on a backlog of 35,000 in Jan 2009). Approximately 2,500 x-rays were unreported per month equating to 25% approximately of monthly plain x-ray activity.
- 5.3.14** In May 2009, correspondence within the Hospital estimated the backlog to be around 40,000.

5.4 Reporting Policy

- 5.4.1** In the interests of providing the highest quality of care to patients it has been standard practice in Irish radiology departments to report all imaging studies performed within the department¹³. With the evolution of radiology practice described above, many departments have struggled to cope with an increasing workload. This has led some departments to prioritise the reporting that is done, on the basis of risk stratification, leading to a backlog of low risk cases. In a modern governance framework such prioritisation should be structured in a formal departmental/hospital policy set out in a written protocol.
- 5.4.2** This does not appear to have been the case in the Hospital. The Consultant Radiologists regularly communicated to senior management that all x-rays should be reported. However, in practice *“What we have done is priority reporting. Most important things get reported”* (Internal Hospital e-mail dated 26th July 2008). The actual situation was described as *“many x-rays are not reported at all, reported in a delayed fashion or reported but typed up in a delayed fashion”* and was communicated clearly by the Consultant Radiologists (September 2008).
- 5.4.3** The need for a reporting policy was recognised at the Clinical Governance Committee meeting in February 2009; the minutes record that *“a policy should be implemented on the requirement not to report on all orthopaedic x-rays”*. We received a submission from a Consultant Radiologist which stated that the *“radiologists could no longer report all cases and it was decided to prioritise cases that were likelier to have abnormalities first. Therefore, CT, MRI, Ultrasound, nuclear medicine, GP and inpatients were prioritised and orthopaedic films were not prioritised and done only when there was available personnel.”* He added that *“in addition, we had significant problems with a shortage of typists who could not cope with the ever increasing reports being done.”*
- 5.4.4** In April 2009 the Clinical Director Designate for Diagnostic Services wrote to the former Chief Executive Officer regarding Radiology Reporting at the Hospital. He stated: *“Interventional radiology, urgent cases and scanning are performed in the first instance. This includes all MR, CT, Ultrasound, Mammography and Breast related imaging. All casualty radiology is also done urgently as are all GP referrals. Delay arises in reporting x-rays which are considered to be less clinically urgent. These are examinations where the referring clinician is likely to have seen the examination himself/herself and to have acted upon it. This would include orthopaedic radiology where the Orthopaedic specialist review the x-rays themselves, much Urological radiology where a similar process applies and some General Medicine and General Surgery.*

“In addition there are x-ray examinations which are not reported by Radiologists such as Cardiac Angiography’s, reported by Cardiologists, outside scans from outside institutions which are reported elsewhere by Radiologists.

“Furthermore multiple serial x-rays in busier parts of the hospital such as ICU may be reported as a single unit while our systems record a large number of unreported x-rays.

“...the department prioritises radiology reporting by urgency and clinical need. The optimal would be that every single examination was reported by a Consultant Radiologist and this is what we aim for but this is not generally the standard practice in Ireland and these variations would be quite common throughout Irish Hospitals and in the UK.

“The great majority of unreported x-rays at this time are firstly chest radiographs most taken within the hospital which would have been reviewed by Physicians in the Hospital, Orthopaedic x-rays which would have been reviewed by the Orthopaedic specialists, Urology reviewed likewise, certain examinations which do not require to be formally reported in x-ray such as Cardiac Angiography and some inter-operative radiography.”

- 5.4.5** HSE guidelines circulated in 2010 propose two main categories of radiology studies which need not be reported by a radiologist if there are insufficient radiologists to report all studies: 1) orthopaedic or fracture review studies 2) fluoroscopic and screening studies performed by clinicians other than radiologists where real time decisions are made by clinicians on the basis of the screening procedure at this time.
- 5.4.6** We applied these national guidelines to the backlog radiology figures as reported by the Hospital. The outcome of this work is outlined in Table 1.

Table 1 – Backlog of Unreported x-rays 2006-2009

	2006	2007	2008	2009	TOTAL
Imaging reviewed by non Radiology Hospital Doctors					
Cardiac Procedures – Reported by Cardiologists.	1640	1550	1404	1230	
Images from External Hospitals stored on PACS – Reported by Radiologists in External Hospital (already reported)	101	242	791	1440	
X-ray Guided Procedures performed by non-radiologists	287	391	1009	1181	
Musculoskeletal work – Reviewed by Orthopaedic Consultants	995	4765	8618	6002	
Sub Total	3023	6948	11822	9853	31646
Imaging that should have been reported by a Radiologist					
Chest	1644	3794	6260	786	
Plain Radiographs	1158	3579	5125	2350	
Intravenous Urogram	19	61	41	5	
Computerised Tomography (CT)	93	145	118	26	
Ultrasound (US)	108	89	105	79	
Magnetic Resonance Imaging (MR)	95	75	61	16	
Nuclear Medicine (NM)	118	135	138	55	
Sub Total	3235	7878	11845	3317	26275
Total Backlog of Unreported x-rays	6,258	14,826	23,667	13,170	57,921

- 5.4.7** Table 1 shows that even had the recently circulated HSE guidelines for non-reporting of studies in the absence of sufficient radiologists been adopted by the Hospital, there would still be a significant number of studies which were not, but should have been, reported by radiologists (26,275)¹⁴.
- 5.4.8** We have been advised by the current Director of Radiology to take account of how the current IT Information systems operate. This means that *‘despite the quoted numbers, there were very few CT,MR,US and Nuclear Medicine studies in the backlog reporting. This is due to our system of registering. For example, a CT scan of thorax,abdomen and pelvis would be registered as three but reported under one heading. Thus CT thorax would be recorded as reported and would contain the report of the remainder of abdomen and pelvis. This would then be recorded as one reported examination with two apparently unreported and counted as backlogs’*.
- 5.4.9** The question as to whether the backlog of unreported x-rays contained only the examinations of public patients has been raised. We sought to assess the impact or otherwise of a patient’s public or private status on the informal reporting policy. The significant deficiencies in the radiology IT systems (see Appendix 2) made identification of a patient’s status in this regard difficult, both prospectively and retrospectively. However, we found no evidence to suggest that a patient’s public or private status impacted on the informal policy and hence on the composition of the backlog.

¹⁴ Source information provided by the Hospital in May 2010.

- 5.4.10** In relation to x-rays, there were, in fact, 57,921 examinations with no report on the radiology IT systems which had not been reported on by a consultant radiologist. However, despite the absence of written protocols, there was an informal prioritisation. We understand that the practice of informal prioritisation was not unique to Tallaght Hospital and that, as at other hospitals, x-rays would have been reviewed by competent clinicians in their own specialist fields, if not by a consultant radiologist.
- 5.4.11** If the recently circulated HSE Guidelines for radiology had been applied, the number of 57,921 would have reduced to 26,275, which, while lower, would still have been a matter for serious concern. However, the fact that a review of all 57,921 carried out by the hospital before and during this review and completed on 28th April 2010 disclosed (as advised by the Director of Radiology) *“no significant abnormalities, as well as no unrecognized malignancies”* is a strong indicator that the x-rays had been competently reviewed at the time, even if not reported on.
- 5.4.12** From the available records it appears that no agreed formal written policy on reporting and prioritisation of reporting was developed or communicated. The former Chief Executive Designate advised that on the 14th December 2009 he had *“instructed that with immediate effect all x-rays were to be reported by a consultant or senior trainee.”* Despite the lack of formal reporting policy it appears from the submissions we received that the informal policy as outlined by the Hospital’s Clinical Director Designate of Diagnostic Service is broadly in line with the national guidelines issued to all hospitals by the HSE based on advice from the Faculty of Radiologists in May 2010. However, the fact that there was an informal reporting policy could not and did not eliminate risk.
- 5.4.13** When the Hospital opened in 1998 it was one of the first hospitals in the world with a radiology department that was completely digital. The system comprises a Picture Archiving and Communications systems (PACS) and a Radiology Information System (RIS). However the Radiology Department does not possess either Voice Recognition (VR) or electronic Order Communications system (OCM) (which at the time was thought not to be sufficiently developed). One of the results of being a pioneer is that the original technology has been overtaken by rapid developments in information technology, equipment and capability. Neither was there a planned programme for upgrading and replacement of equipment and software.
- 5.4.14** In 2008, a major system upgrade took place. At that time the system was experiencing significant performance and stability issues. It was decided to upgrade rather than replace the 10 year old system. This seems to have addressed some of the problems that had built up with the old system, namely lack of storage and poor integration between PACS/RIS systems.
- 5.4.15** However, the system was not specified to a level that was typical of other PACS/RIS being installed at that time (See Appendix 2, NIMIS report).
- 5.4.16** We received a number of representations from Consultant Radiologists regarding the functionality of the radiology IT systems. As a result, we commissioned a report to examine the radiology IT systems installed in the Hospital and to assess whether the design or implementation may have contributed to the problem of unreported examinations. This was carried out in May 2010 by senior members of the National Integrated Medical Imaging Systems (NIMIS) Project¹⁵. Their report outlines the main systems issues that arose between 2005 and 2009. (Its recommendations are endorsed in the recommendations of this Report and the full report is contained within Appendix 2).
- 5.4.17** During our review we were concerned about the capacity of the existing IT Radiology Information System [RIS] to provide timely and reliable information to inform both clinical practice and management action. It appears that information held on RIS can only be retrieved via a third party provider. We were advised by the former Chief Executive Officer Designate that there were no contingency arrangements in place should this system fail.

¹⁵ The HSE NIMIS Project is investing €40m in providing state of the art PACS/RIS systems for 35 Irish Hospitals which ensures that all images are captured, stored and examined using computers rather than printed film significantly improving efficiency, safety and patient care.

5.5 Workload and Staffing Levels

- 5.5.1** The annual activity reported for the Hospital's Radiology Department in 1999 was 131,400 examinations supported by 5.5 WTE Consultant Radiologist posts. The average reporting activity per Consultant was 23,890 when the standard suggested at that time was 12, 500 per consultant¹⁶.
- 5.5.2** By 2009 the reported activity grew to 186,936 examinations supported by 7.5 WTE Consultant Radiologist posts. Despite the additional 2 sanctioned posts (one of which was in paediatric radiology) the average reporting activity per Consultant grew to 24,925.
- 5.5.3** Table 2 below summarises the x-ray activity from 2005 to 2009 (Adult and Paediatric) – see Appendix 3 for detailed breakdown by modality.

Table 2 X-ray Activity by Year

YEAR	2005	2006	2007	2008	2009
Number	187,968	188,929	186,621	186,178	186,786

- 5.5.4** We noted that whilst the overall activity between 2005 and 2009 remains constant, the complexity of the radiology performed within the Hospital had increased significantly. High complexity imaging and procedures such as Computerised Tomography, Magnetic Resonance Imaging and Venous/Access procedures increased by 37.5%, 33% and 51% respectively over this time period.
- 5.5.6** It is clear that, from the opening of the Hospital the workload grew significantly in numbers and complexity.
- 5.5.7** It is equally clear from the documentation provided by the Hospital that the various Consultant Radiologists in Administrative Charge communicated to senior management the need for additional Consultant Radiologists on 30 occasions from 2003 to 2008. They also raised the matter of increased number of consultants in other specialties, which was putting an increased demand on radiology services without a corresponding increase in the number of Consultant Radiologists.
- 5.5.8** The Faculty of Radiologists, Royal College of Surgeons in Ireland (RCSI) is engaged at present in a national survey of radiology department and consultant radiologist workload, in an effort to establish appropriate benchmarks for consultant radiologist activity, and to assist in planning for future radiologist requirements. This has been approved by the HSE.
- 5.5.9** In order to be informed of current best practice we asked the Faculty of Radiologists to look at the workload and staffing levels in equivalent institutions (The full report is attached as Appendix 4).
- 5.9.10** Another way of measuring radiologists workload is used, which takes account of the complexity of the task in a validated, published Australian methodology for measuring radiologist workload using crude and adjusted Relative Value Units (RVU). The initial benchmark crude RVU/consultant identified was 40,000. In a later extension and update of the initial Australian survey, published in 2009, the benchmark crude RVU/consultant had risen to 45,000. Table 3 outlines a comparison between the Hospital and other hospitals.

Table 3: Workload Comparison

HOSPITAL	YEAR	TOTAL RVUS	GROSS WTE CONSULTANT RADIOLOGISTS	CRUDE RVUS/CONSULTANT RADIOLOGIST
AMNCH (adult radiology)	2009	468408	5.5	85165
Dublin Teaching Hospital A	2009	578857	11.7	54098.8
Teaching Hospital outside Dublin B	2009	209862.5	4.53	46327.3
Dublin Teaching Hospital C	2009	488536.5	10	48853.7
County Hospital D	2009	63278	1	63278

¹⁶ Medical Staffing and Workload in Clinical Radiology in the UK NHS. Royal College of Radiologists (1993).

5.5.11 The number of WTE Consultant Radiologists required to bring the radiology department in the Hospital to the same crude RVU/consultant level as hospitals A, B, C and D in 2009 is outlined in Table 4.

Table 4: WTE Consultant Radiologists required to meet standard

AMNCH, 2009	
Actual no. WTE Consultant radiologists	5.5
No. of WTEs to achieve equivalency with Hospital A	8.7
No. of WTEs to achieve equivalency with Hospital B	10.1
No. of WTEs to achieve equivalency with Hospital C	9.59
No. of WTEs to achieve equivalency with Hospital D	7.4

5.5.12 The Faculty of Radiologists workload survey may help to further elucidate this issue by evaluating adjusted RVU (adjusted for non-imaging work such as multi-disciplinary team meetings, non-clinical activities etc.) both at this hospital and nationally.

5.5.13 The most-recently published data from Australia, applying this method of workload measurement¹⁷, found that the benchmark annual workload per consultant radiologist had risen from 40,000 RVU (measured in 2006) to 45,000. Applying these figures to the hospitals listed above would mandate staffing levels as shown in Table 5:

Table 5

HOSPITAL	GROSS WTE CONSULTANT RADIOLOGISTS	NO. OF CONSULTANTS REQUIRED TO ACHIEVE 40000 RVU/CONSULTANT /YEAR	NO. OF CONSULTANTS REQUIRED TO ACHIEVE 45000 RVU/CONSULTANT/ YEAR
AMNCH (adult radiology)	5.5	11.7	10.41
Dublin Teaching Hospital A	11.7	14.47	12.86
Teaching Hospital outside Dublin B	4.53	5.25	4.66
Dublin Teaching Hospital C	10	12.21	10.86
County Hospital D	1	1.58	1.41

5.5.14 Thus, relative to the Australian benchmarks, all sampled Irish hospitals are understaffed, but the degree of understaffing in Tallaght Hospital in 2009 was very substantially greater than in the other sampled hospitals outlined here.

5.6 Requests to appoint Consultant Radiologists

5.6.1 We reviewed information regarding requests for additional consultant radiologists. However there appeared to be a difficulty both at the Hospital and the HSE in prioritising, supporting and processing these requests. The steps involved in the processing of 2 consultant appointments to the Hospital (consultant interventional radiology post and a cross sectional imaging radiology post) are given below (Table 6) and are indicative of this problem.

¹⁷ Radiologist Workload in Teaching Hospital Departments: Measuring the Workload. Pitman AG, Jones DN. Australasian Radiology (2006) 50: 12-20.

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POST	INTERVENTIONAL RADIOLOGIST	CROSS SECTIONAL IMAGING RADIOLOGIST
Steps in process	Initial request submitted in 1997 as one of the 16 critical new Consultant posts for the Hospital. <ul style="list-style-type: none"> ● Clarification on post type sought by Department of Health in May 1998 ● Clarification was sent July 1998 ● Resubmitted to ERHA & Comhairle in October 2000. ● Resubmitted to ERHA in 2001 ● Resubmitted to HSE in June 2005 ● Resubmitted to HSE in September 2009. ● Signed by Network Manager, HSE – Feb 2010. 	<ul style="list-style-type: none"> ● Submitted to ERHA in 2001 ● Submitted to ERHA in 2001 ● Resubmitted in September 2005 ● Resubmitted in September 2009 ● Signed by Network Manager, 2010. HSE – Feb

It should be highlighted that even when the above two posts have been filled the average reporting of activity per Consultant Radiologist in the Hospital assuming no increase in activity, will be 19,677 compared to the recommended norm of 12,500 per consultant.

5.6.2 The Network Manager informed the Review Group that as far back as 21st November, 2006 the Chief Executive Officer of the HSE advised the Chairman and Chief Executive Officer of the Hospital that *“The only way for the hospital to get additional Consultants posts approved in any speciality was by suppressing Non Consultant Hospital Doctor posts. There were 2 reasons for this: The Ratio of Non Consultant Hospital Doctor posts (NCHDs) to Consultants was much too high in Tallaght compared to all other hospitals and there were no additional funds available for further Consultant posts.”* The Network Manager stated that this was also repeated by the Chief Executive Officer of the HSE at HealthStat¹⁸ meetings with the Hospital. *(The former Chief Executive Officer told us that the need to meet A/E targets also impacted on the Hospital's ability to gain approval for additional posts.)*

5.6.3 This long and complicated process does not appear to us to be the most efficient way of dealing with shortages or in relating prospective appointments to workload.

5.7 Management responses from 2005 to 2009

5.7.1 From 2005 three formal organisational initiatives were undertaken within the Hospital which appeared to us to be particularly relevant for the radiology service:

A. In November, 2005, the then Medical Director wrote to the Professor of Surgery establishing a “Radiology Reports and follow-up Working Group”, which the latter had agreed to chair. The letter establishing this Working Group referred to a review of a serious ‘lost to follow up’ incident which had been conducted by the Forum for Adverse Incident Review [FAIR]. This letter also stated *“there have been 2 other serious cases where significant xray reports were not followed up or acted on. One of these involved a routine chest x ray and the other involved pelvic ultrasound. The Hospital must now take urgent steps to prevent such an incident occurring again.”* The letter went on to state *‘A small working group is being set up under your Chairmanship with the following terms of reference:*

- *“To review the current process whereby radiology reports are conveyed to and seen by the clinician responsible for the patient's care.*
- *“To identify how this process should be improved on to minimise the risk of clinically significant reports not being viewed by the responsible clinician in a timely fashion.*
- *“To review the process of arranging OPD follow-up for out patient radiology tests”.*

This Group reported in 2006. Five recommendations were made, including the need to establish audit processes regarding reporting as part of the risk management process. There is no evidence available of an implementation plan or of the report informing any further action and there appears to be no record of what happened to the recommendations.

18 HealthStat is the name of the HSE performance information system.

- B.** On the 17th March, 2007, the former Chief Executive Officer wrote a lengthy memorandum to the Management Team regarding the Radiology Department. In this memorandum he reported that *“there is a background of an increasingly level of complaints from Senior Medical Staff, annual negative reports from Junior Medical Staff at exit interviews, insufficient capital investment, disintegrated internal management systems, role confusion and one also gets a sense of perceived isolation within the Department”*.

It is evident that the former Chief Executive Officer had a clear awareness of the problems in the Radiology Department in early 2007. His assessment was that a *“deliberate and sustained intervention”* was required, and he stated that the project would need *“energy, pace and consistency”*. He proposed the establishment of a formal Management Team Sub-Committee which would include the Chairman of the Medical Board, the Consultant Radiologist in Administrative Charge and the Superintendent Radiographer. The former Chief Executive Officer outlined a detailed draft plan of action/agenda to be addressed. The actual intervention which followed proved inadequate.

Between March and November 2007 the Sub Committee on Radiology met on six occasions. It appears that there was no formal report from the sub-committee to the Management Team and it is unclear what actions if any were undertaken following the cessation of this sub-committee. The former Chief Executive Officer advised us that at this point he was on a period of sick leave.

There was a clear identification and appreciation of the problems in the radiology service which was initially responded to energetically with a clear sense of direction. However, this was not sustained and in effect the process came to a halt without any effective action. This was a missed opportunity to deal constructively with the problems.

- C.** In our review of the documentation we identified a Diagnostic Reports Review Task Force which completed a report in April 2007. It is unclear who commissioned the report and the terms of reference are vague as are the outcomes. The Terms of Reference were;

- ‘1. Risk of clinically significant and on occasions critical reports not being viewed by the responsible clinician in a timely fashion.*
- 2. There are major concerns regarding the extent of misfiling of reports [between radiology and Laboratory there are up to 750,000 reports generated annually]*

There are two major risk issues to be addressed’

The tasks identified were to:

- *“Review recommendations of the histology reports and follow-up working group;*
- *Identify changes that must happen immediately to minimise/remove the risk of clinically significant reports not being viewed by the responsible clinician in a timely fashion;*
- *Recommend quality control measures to monitor/audit extent of misfiling;*
- *Identify changes to minimise/remove risk of misfiling.*

In this context three recommendations were made in relation to radiology:

- *Upgrade PACS as a matter of priority;*
- *Consider voice recognition software in limited circumstances;*
- *Ensure and monitor the timely reporting of typed radiology reports.”*

5.8 Other responses

- 5.8.1** In July 2008 the Consultant Radiologist in Administrative Charge wrote to the Acting Deputy Chief Executive Officer, stating that the backlog was “growing like a mountain” and that he was unsure what to do. It appears from correspondence on file that subsequent to this a locum consultant radiologist appointment was sanctioned by the Acting Deputy Chief Executive Officer. The Consultant Radiologist in Administrative Charge in a letter to the Acting Chief Executive Officer stated that the locum had helped hugely and that in order to allow the locum to work in Radiology the night time reporting (which the Hospital informed us was inefficient by reason of IT problems) had been decreased thus making it budget neutral. He referred to 500 cases per day of which at least 100 cases went unreported.

- 5.8.2** Throughout 2008, the backlog and problems regarding the Radiology IT systems were highlighted repeatedly within the Hospital. Considerable efforts were devoted to the difficulties with the Radiology IT Systems (see Appendix 2). Attempts were made to address the backlog through, for example, the provision of locums. These attempts were not successful.
- 5.8.3** At the Clinical Governance Committee meeting held on the 21st November 2008, the minutes record that the Acting Deputy Chief Executive Officer reported on two issues that were currently of concern i.e. the accumulation of plain films (routine chest x-rays), and orthopaedics repeat films. The minutes note that there had been several initiatives undertaken with a view to clearing the backlog; however, these had been unsuccessful. It would appear therefore that the provision of a locum alone did not have the desired effect.
- 5.8.4** At a meeting on 6th February 2009 of the Clinical Governance Committee the minutes state *“the Acting Deputy Chief Executive Officer advised the Committee that at present there are approximately 40,000 x-rays waiting reporting. Of this figure approximately 5,000 are chest x-rays. Approximately 2,500 x-rays are unreported each month.”* The Acting Deputy Chief Executive Officer *“met with Clinical Director of Diagnostics, the Head of Radiology and the Superintendent in Radiology recently to review the matter”*. The Acting Deputy Chief Executive Officer advised *“that A/E have received accreditation which will allow for SpRs to be trained on site, thus reducing the over prescribing of x-rays. It was noted that not all orthopaedic x-rays require reporting on. Further to detailed discussion it was agreed that a policy should be implemented regarding same”*.
- 5.8.5** The minutes of this meeting note that the former Chief Executive Officer and Acting Deputy Chief Executive Officer were to review proposals and report to the Committee at the next meeting. We could find no evidence of a formal written policy, though through ‘custom and practice’ there was an informal policy e.g. as advised by the Director of Radiology *‘it was the policy for radiologists to prioritise tapes with the typists if there was an important finding on them’*. At the following meeting the former Chief Executive Officer advised that the Acting Deputy Chief Executive Officer was in negotiations with an external company regarding outsourcing of the backlog subject to the agreement of the Designate Clinical Director for Diagnostic Services who was subsequently unable to support this initiative from a quality standpoint. A report from the Clinical Governance Committee, attached to the minutes of the April Hospital Board meeting, states under Solutions to Backlog to Radiology Reporting that *“the Clinical Governance Committee are currently reviewing proposals to improve same”*.
- 5.8.6** In early May 2009 the Consultant Radiologist in Administrative Charge asked a series of questions of the Project Manager: should he start contacting locum consultant radiologists, if so what volume was to be done and was secretarial support available? In response he was advised to contact colleagues without making commitment.
- 5.8.7** At this stage HIQA, having been alerted by a GP, became involved and wrote seeking an explanation. In June 2009, the former Chief Executive met with HIQA and based on the presentation to HIQA in relation to risk issues indicated that 4,000 examinations would be cleared by July 31st.
- 5.8.8** By June 2009 a project was already underway, led by the Acting Deputy Chief Executive Officer and weekly meetings were taking place to manage the backlog. A decision had been made to get the reporting gap under control first i.e. a short term aim of avoiding a further build up of unreported exams in 2009.
- 5.8.9** At a meeting of the Clinical Governance Committee in early October 2009 it was reported that significant progress had been made and the plan was to stabilise the situation and then to work on the backlog. At the October 2009 Board Meeting the Chairperson of the Board’s Clinical Governance Committee briefed the Board on the issue of the radiology backlog. The minutes of this meeting state that *“it was reported that an interim resolution has been put in place, but concerns were raised regarding a long term solution.”*
- 5.8.10** On 31st October 2009 the Acting Deputy Chief Executive Officer in a report to the Chairman stated that *“the plan to deal with the backlog was to stabilise the situation by ensuring that all current reports of plain films requiring reporting are carried out. The second part of the plan was to make inroads on the backlog of plain films that require reporting. The first part of the plan has been successful and we are currently working on the second phase.”*

5.9 Clearing the backlog (2009-2010)

- 5.9.1** In February 2009, the Acting Deputy Chief Executive Officer gave a detailed briefing to the Clinical Governance Committee, which was chaired by the Chairman of the Board and attended by the former Chief Executive Officer. The Acting Deputy Chief Executive Officer advised that there were approximately 40,000 x-rays unreported; 5,000 of which were chest x-rays. He stated that each month approximately 2,500 x-rays are unreported.
- 5.9.2** It is difficult to argue that after February 2009, anyone in a relevant and significant senior clinical or managerial role was not aware of the issues in radiology.
- 5.9.3** By May 2009, despite clear recognition of the problem of the backlog of unreported x-rays and the recognition of the need for a plan to address this matter, no clear effective and costed plan was in place. By June 2009, weekly meetings were taking place to manage the backlog and a decision had been made to get the reporting gap under control first i.e. a short term aim of avoiding a further build up of unreported exams in 2009.
- 5.9.4** A meeting was held with HIQA in August 2009 (attended by the former Chief Executive Officer and the then Medical Director who advised us that he joined the meeting as it was concluding). Having reviewed the presentation material for this meeting it appears that the number of 4,000 unreported x-rays was quoted and a projected clearance date of 31st July 2009. However the meeting with HIQA actually took place on 31st August 2009 and obviously the projected clearance date had passed.
- 5.9.5** At the October 2009 Hospital Board Meeting, the Chairperson of the Board's Clinical Governance Committee briefed the Board on the radiology backlog. The minutes state: *"it was reported that an interim resolution has been put in place but concerns were raised regarding a long term solution"*.
- 5.9.6** On 26th November, 2009 at the Clinical Governance Committee meeting a presentation on the radiology backlog update was given. The slides of this presentation stated that of the 114,070 patients x-rayed in the period January to October 2009 the RIS inaccurately shows 13,154 'not dictated' or 12%. It goes on to state however this is misleading as 8,000 of these are orthopaedic plain films; 2,600 interpreted by other clinicians and 1,200 external films which leaves approximately 1,300 actually not reported i.e. 1% . This gives a sense of the confusion regarding the actual number of unreported x-rays.
- 5.9.7** On 13th December, 2009, in an internal hospital email attached to a Radiology Backlog Trends 2006-2009 Report it stated that the RIS suggests a backlog of 57,000 exams since 2006 but stated that this was not accurate – it goes on to give a number of reasons for this inaccuracy, see Appendix 5.
- 5.9.7** The then Chief Executive Designate told us that he did not become aware of the extent of the backlog until he received a report on 14th December 2009 when he became aware that there were 57,921 adult x-rays which had not been reported officially by a Consultant Radiologist and that the majority would have been reviewed by a non-radiologist. We were separately assured by the then Chief Executive Designate and a consultant paediatric Radiologist that the same problem did not exist in relation to paediatric x-rays.
- 5.9.10** At the HSE / Tallaght Hospital Meeting on the 15th December 2009, an anticipated completion date of 31st March, 2010 was noted.
- 5.9.11** As part of this review we requested a range of additional information regarding the backlog. For example, we requested a breakdown of activity for one sample month for each year 2006 to 2009, the number of private patients examined in that month by specialty and the number of private patient examinations unreported in that month. The Hospital has informed us that the Radiology Information System does not record this.
- 5.9.12** In relation to historical information, 2000 – 2005, we were informed that the information was not reliable.
- 5.9.13** In relation to more detailed validation information on the 57,921 figure, the Hospital explained the limitation of the information available as follows:

"AMNCH uses Business Objects as the tool for accessing and presenting management information in the hospital e.g. activity and waiting list data. Technical difficulties relating to the version of Business Objects used in the hospital prevent data ready access to the RIS database."

The only tool available to the hospital for managing the radiology backlog in 2009 was a... RIS based report. This report provides a list of patient details for every patient episode registered in RIS for which there was no radiologist report text.

The list was not readily interpretable for management purposes and required modification using pivot tables and lookup functions in excel. It did however provide a tool for ensuring every examination without final radiologist report text could be indentified and that the totality of these exams could be managed to zero. This was achieved on 28 April, 2010.

One of the drawbacks of not having complete access to the RIS database and a complete view of the database scheme, is that the hospital cannot easily reconcile detailed information about activity in RIS and it has made answering this query difficult.”

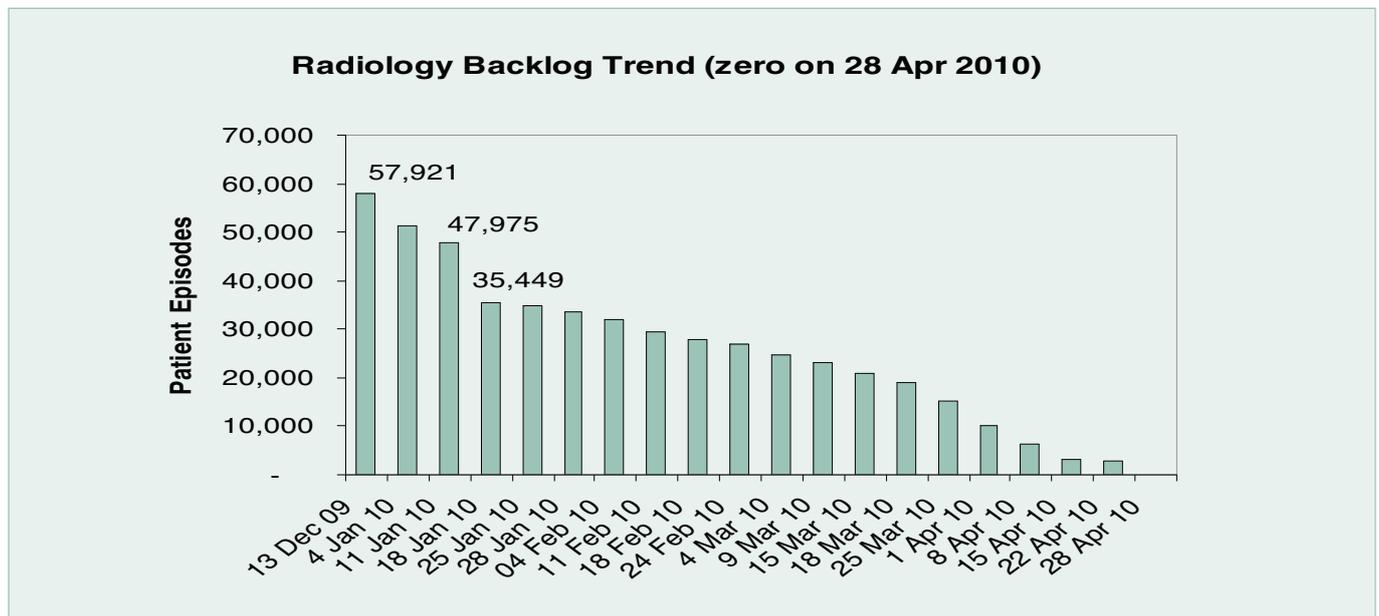
5.9.14 We were advised by the Hospital that progress on reporting the backlog was as follows:

- “On 4th January 2010 it was confirmed that the backlog was 51,422 i.e. a reduction of 6,499 and it was estimated that it would take 5 months to clear this backlog.
- On 11th January 2010 the backlog stood at 48,000 and it was estimated that the backlog should be dictated and typed in about 9 weeks or two months.
- On 11th January 2010 a one page unsigned report (Radiology Backlog Task Force – HIQA) stated that the true backlog is currently estimated at 35,000 and reducing at a rate of 5,000 per week, at current rates the backlog to be cleared in 7-8 weeks.
- At 18th January 2010 backlog stood at 35,000 approx i.e. a reduction of 22,472.
- By the 1st February 2010 the backlog was reported as being 25,000
- On 3rd February 2010 in an email from ... Systems to the IT Department it stated that in excess of 19,000 examinations were re-classified * and should no longer be showing as unreported examinations. The reclassification process was carried out on all studies in the PACS system, retrospectively to 1998. The number therefore included some cases not pertinent to the backlog.
- On 25th March 2010 it was reported that the backlog had been reduced to 15,185.
- On 30th April 2010 a press statement from Tallaght stated that the backlog in Radiology had been cleared a month earlier than anticipated.”

5.9.15 This represents a considerable achievement and focused efforts on the part of management and reviewing clinicians. In addition, there was increased secretarial capacity (three temporary secretaries) sustained dedicated support from management and from the PACS and RIS vendors. A dedicated enquiry line was also established and resourced for members of the public following the first media reports.

5.9.16 The following graph (Graph 1) shows the reporting of the backlog and the reduction of unreported x-rays:

Graph 1 – Reporting the Backlog



- 5.9.17** The impact of recoding studies is seen between the 3rd and 4th week when the backlog dropped by 12,526 patient episodes (approx 1,500 of this drop will be radiologist reporting activity, the remainder being the impact of recoding)
- 5.9.18** At this time only an estimate of 'actual reporting' can be provided. If we assume that 11,000 episodes in the 2006 to 2009 backlog were recoded then almost 47,000 episodes were reviewed by consultant radiologists.
- 5.9.19** The review of files within the hospital identified at least 24 references to a backlog of unreported x-rays. The changing numbers are noteworthy and on one date in January 2010 there are references to the backlog number being 48,000 in one document and 35,000 in another (see Appendix 6).
- 5.9.20** Throughout 2009 and the earlier part of 2010 the actual backlog numbers and the target dates for clearing the backlog continuously change.
- 5.9.21** All studies in the backlog were reported apart from fluoroscopic studies performed by other clinicians (most of which were coronary angiograms which would have been reviewed by the cardiologists.)
- 5.9.22** We received an assurance from the Director of Radiology that there '*were no significant abnormalities detected' as well as no unrecognized malignancies*' arising from the clearing of the radiology backlog. This reflects the effectiveness of the informal reporting policy and the likely review of many of the low risk radiographs by other clinicians.
- 5.9.23** Prior to clearing the backlog, two patients were identified as having had delayed diagnoses. These cases were reported to HIQA, they were not among the 57,921 which constituted the backlog. In order to provide additional reassurance to patients and families we commissioned a report from an outside independent expert on these two cases and this report was made available to the families concerned and to the Hospital.
- 5.9.24** The Hospital's internal communications show that the causes of the backlog of unreported x-rays were inadequate staffing levels at Consultant Radiologist and secretarial level, clinical activity workload and problems with the radiology IT systems. In addition to these we identified problems within the governance systems of the Hospital.
- 5.9.25** The problem of unreported x-rays was ongoing during the period 2005 to December 2009 and was the subject of continuous communications within the hospital. A significant feature was the unequivocal nature of these communications from the consultant radiologists. No durable effective solution was achieved.
- 5.9.26** We found no evidence that the risk management arrangements in the hospital made any significant contribution to dealing with the problem. We were advised by the former Chief Executive Designate that he had commissioned a study by PWC into risk management across the hospital in the longer term a copy of which was furnished to us in July 2010.
- 5.9.27** Despite the initiatives taken by individual officers at various times, the clinical or governance arrangements in place were not effective in ensuring that these specific problems were effectively addressed.
- 5.9.28** Managerial responses to the problems included proposals to increase the number of consultant Radiologists, the provision of locums, attempts to deal with the IT systems issues, consideration of staffing to workload ratios and outsourcing etc. Despite these efforts the problem of the backlog persisted. No adequate plan was developed or implemented to comprehensively address the problems in the radiology service.
- 5.9.29** However we were glad to note that following the appointment of the former Chief Executive Officer designate there was a renewed focus on the problem. We appreciate the efforts of many people in addressing this problem and for their efficiency and diligence, which shows what happens when management focuses on a problem, plans appropriately, identifies resources, applies a consistent approach and monitors implementation.

5.10 Recommendations

5.10.1 For the Hospital

- The recently circulated national guidelines on radiology reporting should be implemented with appropriate written protocols and staff training.
- There is a clearly identified need for additional consultant radiologists to avoid the same problem occurring, i.e. the creation of another backlog. In this regard the two posts “signed” by the HSE Network Manager in February 2010 should be approved and filled as a matter of urgency.
- The Hospital should ensure that the ongoing transfer of data from the original IT system to the upgraded system is completed as soon as possible.
- The Hospital should ensure the coding system on the RIS is up to date and accurate.
- The Hospital should take immediate steps to procure a voice recognition system which will allow reports to be produced in a timely fashion, such a step would free up valuable clerical and administrative resources.
- As a result of our findings, a review of the performance of the current radiology IT systems should be undertaken. This should take account of the recommendations of the NIMIS report (Appendix 2) and should be implemented as soon as feasible.

Those recommendations are summarised below:

- *RAID (Redundant Array of Independent Disks – a mechanism of data storage characterised by rapid archiving and retrieval) – Clearly a system utilising only RAID as primary storage would be preferable.*
- *Poor performance of the integrated PACS/RIS: this issue requires more study as it is not possible to say whether the fault for this lies with the PACS, RIS or both. This is a complex issue, which requires a more detailed analysis.*
- *Management reports – a modern RIS should be able to generate such reports. All staff should be satisfied that this is possible with the current software. If this is not possible then other systems should be considered to generate such data.*
- *Poor performance of radiology workstations: there is to be an upgrade of the PACS software, if problems persist, a PACS system from the same vendor is currently operating in another Dublin hospital, and the first step should be to benchmark the performance of the AMNCH workstations with those in the other hospital. Following this a decision on the overall suitability of the PACS workstations should be made.*
- *Voice recognition systems should be introduced*
- *A long terms goal should be the introduction of a full electronic order-communication system. In the short term scanning the requests onto the RIS or the PACS should be considered.*

5.10.2 General Recommendations

- Consultant radiologist staffing should be reviewed to ensure it is appropriate to work load in all radiology departments. This may be best achieved by evaluating the outcome of the recently established national survey of consultant radiologist staffing.
- Workforce planning should be an integral part of the management process in all radiology departments. Where significant planned developments are undertaken within hospitals which are likely to impact on radiology workload, appropriate workforce planning should be undertaken. This particularly relates to the development of new services, the expansion of existing services, the appointment of new consultants in disciplines other than radiology and the introduction of new imaging technologies. Example of methods to help in work force planning include the Addenbrooke's formula¹⁹, which helps identify the number of radiology sessions required for an additional clinician (e.g. 3-4 radiology sessions for each new medical oncologist)
- Consultant radiologist expertise should be used to its maximum efficiency. This can be achieved by optimizing workflow practices within radiology departments. Consideration should also be given to evaluating role expansion in other disciplines, through the recently established National Radiology Programme.
- Where there is an identifiable shortage of radiologist staffing in a radiology department, recently introduced national guidelines on radiology reporting should be supported, implemented and monitored.
- A structured equipment maintenance and replacement programme needs to be formulated for each radiology department, with clear time guidelines.
- In conjunction with the National Integrated Medical Imaging System (NIMIS) project the standard and functionality of existing RIS/PACS systems should be validated. Additional provision should be made to allow Tallaght benefit from the national investment in this project.

19 The Royal College of Radiologists. Workload and Manpower in Clinical Radiology. BFCR(99)5. May 1999.

Chapter 6 Management of GP Referral Letters

6.1 How the issue came to public attention

- 6.1.1** On Tuesday 9th of March 2010, issues relating to a backlog of radiology reporting at the Adelaide and Meath Hospitals, Incorporating the National Children’s Hospital, Tallaght (the Hospital) came to public attention through the media.
- 6.1.2** On the following day (Wednesday 10th of March), it also emerged that concerns were raised with the Health Information and Quality Authority (HIQA) by a local GP in April 2009 about *“referral letters from GPs going astray or remaining unopened for prolonged periods of time”* (letter dated 8th May 2009 from HIQA to the Hospital). In addition a concern had been raised with the Chair of the Board of the Hospital in April 2009 by the local GP that a number of GP referral letters had not been opened or reached the consultant to whom they were addressed. We reviewed documentation provided by the Hospital relating to engagement on both issues between it and HIQA, which took the form of meetings and correspondence. HIQA first wrote to the Hospital on this matter (and the radiology reporting backlog) on the 8th of May 2009. We noted that the HSE was not a party to this engagement. A meeting between HIQA and the former Chief Executive Officer of the Hospital took place on June 24th 2009. Exchanges of correspondence and subsequent meetings then followed, latterly including the former Chief Executive Officer designate of the Hospital. HIQA sought to understand the problem, to monitor its management, and to seek assurance that patients’ safety was not at risk. This engagement was also described to us by representatives of HIQA whom we met for the purpose of this review.
- 6.1.3** The local GP estimated the number of referrals involved to be as high as 30,000. However, we accept the Hospital statement that *“in October 2009, action was taken to clear a backlog of 3,498 letters.”* The Hospital went on to state that *“the letters were not unprocessed in order to keep patients off their waiting lists;”* it was denied that letters were ever “unopened” and further it stated that *“there is no backlog of referral letters for either adult or paediatric services.”* In addition to what was publicly reported, we were provided with documentation which included correspondence with senior management at the Hospital as far back as the 8th of June 2005, and further correspondence on 22nd of January 2009, setting out the GP’s concerns generally regarding access to Outpatients Department (OPD) at the Hospital. He raised concerns regarding access to elective orthopaedic OPD. When we met the GP during the course of this review, he described these concerns to us and the steps he took to escalate them to senior management and the Board of the Hospital, which included writing to the Chairman of the Hospital Board on the 22nd of April 2009. The Chairman of the Hospital Board stated that he did not receive this letter.
- 6.1.4** We reviewed correspondence provided to us by the Hospital from other GPs in the locality voicing similar concerns. We also met with some local GPs as a group, and interviewed by telephone other GPs who had been referred to in correspondence we received. It was very evident to us that failure to secure timely access for patients to OPD at the Hospital was a source of ongoing frustration for local GPs and that this was compounded by poor communication by the Hospital with the GPs. The problem of securing timely access to OPD at the Hospital was also evident in some patient correspondence with the Hospital and in representations made by political representatives on behalf of local patients. This correspondence was contained within documentation provided to us by the Hospital for the purpose of the review.
- 6.1.5** Specifically, regarding the conflicting estimates of the extent of the referral letter problem, we found the local GP’s estimate to be based on information he reportedly received from an official at the Hospital outside the context of a formal minuted meeting. It was also based on his own well-intentioned calculations using assumptions he made from this information and other sources. We found the information which he reported as having received from an official at the Hospital to be disputed. Despite detailed follow up, we had to conclude that the recollection of the parties of this exchange of information was conflicting.
- 6.1.6** The Hospital provided a range of documentation including reports based on enumeration exercises and minutes of meetings pertaining to the referral letter problem. The figure of 3,498 given by the Hospital when the matter came to public attention in March 2010 was consistently stated in this background documentation.

- 6.1.7** After considering information from different sources relating to the estimated extent of the letters problem in detail, we concluded that there was conflict in the evidence available to us. However, this conflict in no way detracts from the service the local GP provided to the public in highlighting concerns regarding an evident failing at the Hospital, and we found his interest in bringing attention and resolution to the problem to be grounded in his concern for the welfare of the local population and his frustration in securing a service to the quality that he, as a local GP, expected for them from the Hospital. Moreover, it was important for us to bear in mind that behind conflicting evidence on numbers were the experiences of individual patients and GPs which pointed consistently towards a problem with handling OPD referral letters at the Hospital.
- 6.1.8** We have been able to follow correspondence with HIQA and with the Board of the Hospital regarding the referral letter problem. Specific concerns raised by individual GPs, patients and political representatives can be dated in correspondence that we reviewed. However, it was clear that this problem was in fact the result of an overlap between one general and one specific problem at the hospital. Both of these problems, described below, were intermittently present to varying extents from the opening of the hospital services on the Tallaght campus.
- 6.1.9** It was evident that demand for OPD services exceeded the capacity of the Hospital to meet it. This problem was more acute in some services (for example, elective orthopaedics, rheumatology, dermatology and neurology). The problem for patients and their GPs was exacerbated by gaps and weaknesses in the management of OPD referral letter processing at the Hospital. Indeed we found that many of these gaps and weaknesses had been identified to the Hospital in a report on improving OPD performance by Meridian, which was provided to the former Chief Executive Officer in 2004. This report will be discussed further below.
- 6.1.10** It was also clear that there was an ongoing dispute between senior management at the Hospital and consultant surgeons providing the elective orthopaedic services with regard to the scope, purpose, planning and resourcing of the service. This dispute meant that when the problem of long waiting times emerged and availability of beds to provide elective surgery reduced, these issues were poorly handled by all sides and the timely processing of elective orthopaedic OPD referrals suffered.
- 6.1.11** Based on documentation we received, representations made to us and in-depth interviews which we conducted with a range of key individuals and groups, we sought to describe these issues and how they collectively led to a backlog in full processing of OPD referral letters below.

6.2 What did happen to OPD referrals at the Hospital?

6.2.1 A backlog of OPD referral letters accumulated in the specialty of elective orthopaedic surgery, which were not fully processed and so patients affected did not receive an out-patient appointment. To determine why this happened, we needed to understand how OPD referral letters are generally handled, how they are handled at the Hospital and what went wrong.

6.2.2 What usually happens to OPD referrals at a hospital

During a consultation in general practice, a patient and GP may make a decision that the opinion of a hospital consultant is required. In this case, the GP writes a referral letter for the patient and sends it to the hospital. In the case of some national services (for example referral for opinion related to symptomatic breast disease at a National Cancer Control Centre) and in the case of some local services, a standard referral form is completed and sent to the hospital. The referral letter or standard referral form is usually sent by post, though sometimes it may be faxed or sent electronically and in some cases the patient may bring the referral to the hospital personally. Transmission by fax and email requires a standard of security which protects the confidentiality of patients. Usually the referral is addressed to a named hospital consultant, though sometimes the GP may write a general letter (informally referred to as a “Dear Doctor” letter) to a specialty. On some occasions, if the GP had particular concerns about a patient, the GP may follow up a written letter with personal contact with the consultant in question or with a member of the consultant’s team.

6.2.3 Once the referral is received at the hospital it is processed and an appointment is sent to the patient. Processing usually involves registering the patient on the Hospital’s information system, having the referral reviewed by a clinician so that the appointment is clinically triaged and then booking the patient into an available OPD appointment slot. The patient and GP may receive an acknowledgement of receipt of the

referral; in the absence of such an acknowledgement, the next communication which is received from the hospital is an appointment date.

- 6.2.4** Unfortunately, in some specialities, the demand for OPD appointments is greater than the number of available slots and there is a waiting list. Patients and GPs may experience a long delay before an OPD appointment is provided in response to a request. It is important to note that, in the absence of an acknowledgement of receipt of the referral, this delay may reflect delays in the processing of OPD referrals as well as the length of the waiting list for an appointment. Therefore, when patients and GPs experience a long delay after a referral to OPD is made, it may be unclear to them whether there are problems with processing the OPD referrals or whether the OPD referral has indeed been fully processed and they are in fact experiencing a delay arising from a long waiting list.
- 6.2.5** Recommended best practice for the clinical and administrative handling of OPD referrals was defined for services operated or funded by the HSE and is contained in the HSE NHO Code of Practice for Healthcare Records Management (2007), which we describe later.
- 6.2.6** We found that the Hospital did not have formal policies or procedures for the processing of OPD referrals. However, we were informed that the process described below was in place.
- 6.2.7** As a consequence of a management initiated OPD improvement project which commenced in 2008, known as a Kaizen event, some specialities had moved from the usual process to a new process which was designed to be more efficient. These specialities were Gastroenterology, Dermatology, Rheumatology, Pain Management, General Surgery, Vascular Surgery, Pancreatic Surgery, Cardiology and Neurology.
- 6.2.8** The Hospital advised that the process in place for handling OPD referrals at the Hospital in the period under review is as follows:
1. *“Letter received by hospital for consultant appointments.*
 2. *Letter opened and date stamped by the Central Registration Staff of the Clerical Services Area.*
 3. *All letters are checked against iPM²⁰ to verify if the patient has a current hospital number.*
 4. *If no number is found, a Medical Record Number is issued to the patient.*
 5. *The letter is then sent to the relevant administration team for review with the requesting Consultant.*
 6. *Upon review the consultant will mark the letter Urgent, Soon or Routine based on the clinical information given by the referring doctor.*
 7. *The letter will be given back to the administration staff at this stage and an appointment will be issued for the patient based on the clinical decision noted on the letter by the consultant. A confirmation of this appointment date and time will be posted to the patient at this stage.*
 8. *If the clinics are fully booked out to the horizon – which is dictated by the iPm system and is usually 12 months advance booking - the letter will be held by the administration team until such time as an appointment can be issued for the patient.*
 9. *The administration team check their letters on a continuous basis ensure that the letters are given an appointment once the 12 month horizon has passed.*
 10. *In some specialties the waiting list option on iPM is used in the management of OPD referrals and this waiting list, is managed by the administration team in these areas for a particular consultant.”*

6.2.9 The revised process recently introduced in specialties that had been the subject of a Kaizen event is described below:

1. *“The referrals are received, opened and date stamped by OPD Central Registration Staff.*
2. *Referrals letters are then put in a folder and left in the relevant admin team post box where they are collected by the admin team staff and placed in a folder and given to the Consultant for review.*
3. *The Consultant has 3 days to review these letters and will grade them as Urgent, Soon or Routine.*
4. *The referrals are collected from the Consultants and any referrals that are marked Urgent have appointments made by the admin team immediately. Letters that are marked soon or routine are sent to OPD Central Registration Staff to be registered on iPm.*
5. *Once registered on the iPm the letters are returned to the Admin team and an appointment is allocated to the patient. In some specialities letters that are marked soon will be given an appointment and an appointment letter is issued to the patient advising them of the date and time.*
6. *In some specialities routine letters are placed on the waiting list as the horizon is booked fully for new patients and the patients are advised that they are on the waiting list for an appointment and will be contacted in due course”*

Source: Tallaght Hospital provided this information.

6.2.10 We found a number of issues relating to OPD services at the Hospital which evidently contributed to the letters problem and these are discussed below.

6.2.11 There were long waiting lists for OPD appointments across a number of specialties at the Hospital. Unfortunately, the HSE does not currently have a single standardized information system through which it monitors waiting lists for OPD appointment. We were aware, however, that the HSE monitors OPD activity (numbers of patients seen and the ratio of new patients to return patients – measures of the efficient running of the clinic, but no measures of waiting times to access appointments) and that it is currently establishing more extensive information systems in this area. We were also aware that the National Treatment Purchase Fund (NTPF)²¹ monitors waiting lists for treatment (for example, a patient who is referred for elective surgery), though its data do not provide a picture of waiting times for OPD appointment for patients referred by GPs. Table 7 below provides an illustration of the OPD appointment waiting list problem at the Hospital. It shows the number of patients currently on the waiting list for each named speciality and the length of time (as at 31st May 2010) that they were on that waiting list.

6.2.12 We were disappointed that the Hospital was unable to provide us with a complete set of data for all specialties; indeed we noted that data was missing for a number of specialties with longer waiting times. This information only became available to us in response to our draft report and is included in the note attached to Table 7 below.

6.2.13 In some specialties there were also patients waiting to register on the waiting list; this data is shown in Table 8 and this issue, which we refer to as “queuing to queue”, is discussed in more detail below. It is evident that some specialties have long waiting lists. We were repeatedly informed by the Hospital staff that we interviewed that this was especially acute for a limited number of specialties including elective orthopaedics, urology, ENT, ophthalmology, neurology, dermatology and rheumatology.

²¹ The National Treatment Purchase Fund (NTPF) was set up by the Minister for Health and Children to take public patients who have been waiting longest for procedures in public hospitals off waiting lists.

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Table 7: Distribution of waiting times for patients on waiting list as per 31/05/2010, by OPD speciality.

SPECIALTY	0-3 MONTHS		3-6 MONTHS		6-9 MONTHS		9-12 MONTHS		12+ MONTHS		TOTAL
	No	%	No	%	No	%	No	%	No	%	No
Paediatric Ophthalmology	45	35	4	3	12	9	4	3	63	49	128
Paediatric Dermatology	130	30	49	11	82	19	61	14	110	25	432
Adult Dermatology	464	34	263	19	213	16	178	13	256	19	1374
Adult Urology	627	40	306	19	255	16	136	9	263	17	1587
Adult Endocrinology	236	20	184	15	484	41	100	8	185	16	1189
Adult Cardiology	1152	63	243	13	133	7	100	5	211	11	1839
Adult Anaesthesia	129	35	91	25	76	20	56	15	19	5	371
Adult Surgery	692	65	266	25	40	4	25	2	40	4	1063
Adult Neurology	444	44	241	24	173	17	135	13	17	2	1010
Chemical Pathology	51	70	16	22	5	7	0	0	1	1	73
Adult Gastroenterology	726	83	137	16	6	1	2	0	1	0	872
Paediatric Gastroenterology	10	100	0	0	0	0	0	0	0	0	10
Adult Emergency Medicine	18	100	0	0	0	0	0	0	0	0	18
Adult Oncology	19	95	0	0	1	5	0	0	0	0	20
Age Related Health Care	49	98	1	2	0	0	0	0	0	0	50
Paediatric Neurology	33	53	25	40	4	6	0	0	0	0	62
Adult Nephrology	54	86	6	10	3	5	0	0	0	0	63
Adult Trauma Orthopaedics	70	99	1	1	0	0	0	0	0	0	71
Paediatric Cardiology	73	95	4	5	0	0	0	0	0	0	77
Paediatric Orthopaedics	99	100	0	0	0	0	0	0	0	0	99
Paediatric Endocrinology	84	75	27	24	0	0	1	1	0	0	112
Adult Haematology	116	94	8	6	0	0	0	0	0	0	124
Adult Respiratory Medicine	185	93	6	3	5	3	2	1	0	0	198
Paediatric Respiratory Medicine	163	80	40	20	0	0	0	0	0	0	203
Paediatric Surgery	183	80	30	13	12	5	4	2	0	0	229
Adult Vascular	231	96	8	3	1	0	0	0	0	0	240
Paediatric Medicine	323	96	12	4	1	0	0	0	0	0	336
Paediatric ENT	458	100	0	0	0	0	0	0	0	0	458
Adult Gynaecology	857	71	247	20	97	8	5	0	0	0	1206
Total	7721	57	2215	16	1603	12	809	6	1166	9	13514

Source: Based on data provided to us by the Hospital.

Note: Data above excludes a small number of specialities at the Hospital which had no waiting lists and a number of specialities including Adult Elective Orthopaedics, Adult ENT, Adult Ophthalmology, and Adult Rheumatology all of which have long waiting lists. This information only became available to us in response to our draft report and is as follows:

“Adult ENT total backlog 2216 of which 221 have appointments; Adult Ophthalmology total backlog 349; Adult Orthopaedics 674 waiting to see consultant + 414 waiting for physio triage appointment and Rheumatology total backlog 580 of which 93 have appointments.”

Table 8: Number of patients waiting to enter the waiting list (i.e. queuing to queue) by specialty as at 31st June 2010.

SPECIALITY	TOTAL No
Adult Dermatology	645
Paediatric Dermatology	356
Adult Anaesthesia	252
Adult Cardiology	563
Adult Endocrinology	872
Paediatric Ophthalmology	71
Adult Surgery	2
Adult Urology	1
Total	2762

Source: Based on data provided to us by the Hospital.

- 6.2.14** We became aware, based on documentation provided to us and interviews with key individuals involved in the handling of OPD referrals at the Hospital, that there are two features to how the process is managed which may compound the difficulty of long waiting lists from the perspective of patients and their GPs.
- 6.2.15** The first feature is referred to in the Hospital as the “horizon”. When a referral is received, it is administratively processed, then clinically reviewed and triaged and finally an appointment is made. The last step, making an appointment for a patient whose referral has been clinically reviewed and triaged, requires administrative staff to use an information system, in effect an electronic calendar, to view available appointment slots. If an available slot can be viewed by the administrator then the patient has an appointment scheduled in this slot and the appointment date and time is sent to the patient. Unfortunately, the information system can only look ahead into time by a period of 12 months. If all the available slots are already filled with patients, then the referral is held until the passage of time makes an available appointment visible on the information system. We called this phenomenon “queuing to queue”. We were informed that this feature currently affects OPD clinics in a number of specialties including adult elective orthopaedics, ENT surgery, ophthalmology, urology, neurology, dermatology and rheumatology. Such referrals which are “queuing to queue” are stored by the administrative staff in boxes within administrative areas. This is an unfortunate feature of the processing of OPD referrals at the Hospital of which patients and their GPs may not be aware. The pertinent point which we noted was that, notwithstanding the limitations of the “horizon”, these letters are usually fully processed from an administrative and clinical perspective and are ready for an appointment to be forwarded to the patient once there are available slots on the information system.
- 6.2.16** The issue of the “horizon” was compounded by a second feature: the handling of letters to the patient and/or GP acknowledging the receipt of an OPD referral. In many specialties, OPD referrals are processed briskly and an appointment can be offered in a timely way to the patient and/or their GP. In the case of specialties affected by the “horizon” on the information system and where “queuing to queue” operates, even if the administrative processing and clinical review and triage of the referral letter happens in a timely way, an appointment cannot be offered. This issue is further compounded at the Hospital by the practice in some specialties of not issuing an acknowledgement letter to the patient and/or GP upon receipt of the OPD referral. We were informed that this was the practice for adult elective orthopaedics and urology, and had been the case in some other specialties affected by this “horizon” feature prior to the recent implementation of some improvements.
- 6.2.17** In conclusion, we noted that, in the case of a number of specialties, patients experienced long waiting times from when their GP first requested a referral to the time they were seen in OPD. This mismatch between demand for OPD services and available appointments is not unique to the Hospital. However, we are of the view that the process for handling of OPD referrals at the Hospital created an additional difficulty. Large numbers of referrals are “queuing to queue”; that is to say, the referrals are processed but an appointment cannot be offered to a patient. In the case of some specialties, these referrals are not acknowledged. Even if the system was operating optimally within the constraints of these features, our findings would persuade us that anxiety on the part of patients and GPs that referrals sent to the Hospital were not being processed was very understandable. From their perspectives, a long period elapses between the time when the referral

is sent and the time when an appointment is received. This has led to multiple referrals to other hospitals which meant that people may have been treated elsewhere but their referral to the Hospital was not cancelled.

6.2.18 However, in the course of our review we became aware of an additional breakdown in the process of OPD referral handling in the specialty of orthopaedics which added to the problem that came to public attention in March 2010. We formed the view that the features of OPD referral processing, set out above, contributed to an environment which allowed this additional breakdown to occur and continue unchecked. This additional breakdown concerned a failure for clinical review and triage of a cohort of OPD referrals to take place. Based on interviews, this seemed to predominantly affect letters which were not referred to a named consultant, so-called “Dear Doctor” letters. This breakdown was rooted in an ongoing dispute between orthopaedic consultants and senior management at the Hospital, which is now discussed.

6.3 Issues in the orthopaedic service and the impact on the letters problem

6.3.1 The Hospital moved to the Tallaght campus in 1998. Orthopaedic services, including elective services, had transferred from Dr. Steevens’ Hospital to the Hospital group prior to this move. The orthopaedic service at the Hospital, we were informed, comprised 37 trauma beds and 31 elective beds. We were also informed by the orthopaedic consultants that there had been a plan to develop this service through a further 15 elective and 10 private beds. “Ring fencing” of elective orthopaedic beds to protect the capacity from demands of other services had been promised. Such an approach was helpful to the service in two ways: it more easily facilitated effective infection prevention and control and it was also necessary to provide more complex elective services such as joint replacement because it allowed for elective admission uninterrupted by other demands on hospital beds.

6.3.2 Since the move to the Tallaght, the work force had grown over time to a point where there were 5 trauma surgeons sharing the trauma rota and in total there were some 12 surgeons doing elective work which included the paediatric unit. We noted however, that the time commitment of each of these 12 consultants to the Hospital was variable (see Table 9); some consultants had relatively few sessions at the Hospital. The composition of the work force was such that there were some 6.5 Consultant Whole Time Equivalent (WTEs) working out of the Hospital with 3 WTEs in trauma and 3.5 WTEs in elective orthopaedic surgery. Junior staff consisted of 4 interns, 2 in trauma and 2 in elective work; 4 SHO’s in trauma; and 5 registrars, with a further 8 registrars in elective orthopaedics. We were informed that the services provided by the orthopaedic consultants were not just for the purposes of the region but were also a point of referral for other hospitals nationally, especially for more complex pelvic work.

Table 9: Orthopaedic consultant staffing at the Hospital, WTE and sessional split

CONSULTANT	WTE*	SESSIONAL SPLIT**
A	0.81	9 the Hospital/2 Naas
B	0.45	5 the Hospital/6 OLCHC^
C	0.45	5 the Hospital/6 OLCHC
D	0.27	3 the Hospital/7 OLCHC/ 1 Coombe
E	0.36	4 the Hospital/7 St James’s
F	0.72	8 the Hospital/3 Naas
G	0.72	8 the Hospital/3 Naas
H	0.27	3 the Hospital/8 St James’s (on career break)
I	0.27	Retired, locum in place
J	0.81	9 the Hospital/2 Naas
K	0.27	3 the Hospital/ 7 OLCHC/1 Coombe
L	0.72	8 the Hospital/3 Naas
M	0.45	5 the Hospital/6 OLCHC

Source: AMNCH

* Whole time equivalent commitment to the Hospital

** Split of sessions between the Hospital and other hospital; many consultants are appointed to more than one site and if working on a whole time equivalent basis, they work 11 session per week.

^ OLCHC = Our Lady’s Children’s Hospital, Crumlin.

- 6.3.3** We met with the Chair of the Orthopaedic Subgroup and colleagues on two occasions. We were presented with a view from these orthopaedic consultants regarding how they collectively perceived that services at the Hospital should develop. They were keen to see the Hospital provide increasing volumes of more specialised orthopaedic services which would be recognized nationally as a centre of excellence and attract referrals from across the country. The Hospital would also provide a large Level 1 trauma service with development of necessary ancillary services; for example plastic surgery and neurosurgery. Some of this additional capacity could, in their view, be provided through a public-private initiative.
- 6.3.4** This view was contained in documentation provided to us by the Hospital which included a presentation made by the orthopaedic consultants to the Minister for Health and Children in 2007 where the surgeons outlined their views on how the service should develop. We also reviewed a note of a meeting which took place on the 25th of September 2007 between the orthopaedic consultants, senior management at the Hospital and the HSE Hospital Network Manager to discuss the clinicians' proposals regarding the strategic planning of orthopaedic services at the Hospital.
- 6.3.5** The orthopaedic consultants told us that, in their view, since the establishment of the Hospital, a number of other specialties had developed in the Hospital which were not grounded in the traditional strengths of the Hospital group (which in their view included orthopaedics). It was their view that designation as a speciality for development was more often based on power relationships between specific consultants and the Hospital Board than on rational planning at a local or national level. As a result, the orthopaedic consultants were of the opinion that resources invested to support these developments detracted from some of the traditional strengths of the Hospital group (including orthopaedics).
- 6.3.6** What was clear to us from our interviews was that the orthopaedic consultants were genuinely concerned with the condition of the service at the Hospital. There was evident frustration over ongoing access to beds for elective surgery. While beds were "ring-fenced" for this purpose, this protection of beds for elective surgery was not consistent and could be breached when there were other demands on beds from other specialties. This demand became especially acute from 2006 onwards when there was an increasing focus on reduced waiting times for admission from the Emergency Department. This was not unique to Tallaght Hospital. There was a national concern about waiting times for admission from Emergency Departments and a number of national initiatives taken to tackle the problem. This focus meant that "ring-fenced" beds for elective orthopaedic surgery could frequently be used at times of peak demand for admission of patients waiting in the Emergency Department with other acute medical and surgical needs. This had the additional effect of reducing theatre list numbers for the orthopaedic consultants, with lists frequently finishing earlier than planned. The frustration arising from this issue and its impact on the morale of the consultant orthopaedic body was very evident to us in the course of our interviews and review of documentation. We were impressed that, individually and collectively, the consultant orthopaedic surgeons aspired to provide a service which made most effective use of their skills and maximized the service provided to the public. It was our view that this frustration arose from weakness in systems and processes for service planning at a local, regional and national level, as well as weaknesses in structures for effective engagement between clinicians and management to resolve issues relating to service planning and delivery. However, this frustration also led to a combative struggle between some orthopaedic surgeons and relevant senior management at the Hospital and at HSE Hospital Network level which did not help construct a solution to the issues and which contributed to the accumulation of a backlog of unprocessed orthopaedic referral letters.
- 6.3.7** It is our view based on interviews and review of documentation that this led to an adversarial situation between orthopaedic consultants and relevant senior management regarding processing of elective orthopaedic referrals arising from the clinicians' frustration over poor and uncertain access to beds for the purpose of elective orthopaedic surgery.
- 6.3.8** For example, we were provided by the Hospital with correspondence dated as far back as 20th of August 2003 from the Chair of the Orthopaedic Division to the then Medical Director referring to discussions as to whether any members of the group would be in a position to take new referrals and that a "group decision taken some time ago still stands". Correspondence from the Department of Trauma Orthopaedics and Reconstructive Surgery (Pelvic and Acetabular) to the Medical Director on 4th April 2006 refers to an Orthopaedic Sub-Group meeting and advises him that new elective orthopaedic out-patients will no longer be seen. Further correspondence from the Chair of the Orthopaedic Sub-Group to the Acting Chief Executive Officer on 22nd of April 2008 indicates that it would be "morally unacceptable" to put new patients on the orthopaedic waiting

list. Correspondence between the same parties on the 12th of May 2008 sets out the position of the Orthopaedic Sub-group that they will stop seeing new patients. A series of responses (manually dated May 2004) to a request from the orthopaedic team leader to the orthopaedic consultants to confirm whether new referrals will be accepted indicated that a number of consultants were not accepting new referrals from GPs (though they would accept referrals from other consultants within the Hospital and nationally).

- 6.3.9** We were informed by the orthopaedic consultants that this policy not to see new elective orthopaedic referrals was grounded in a view they held that, in the absence of access to elective beds for the purpose of admitting patients seen in elective orthopaedic OPD for surgery, seeing new patients in OPD was futile. They also expressed a view that the action raised expectations among patients of surgery which they felt they could not fulfil and so seeing such patients in OPD was unfair or “morally unacceptable”. We were impressed by the evident frustration within the consultant orthopaedic body with the issue of access to beds, and were also impressed with their concern for the impact on patients. However, we concluded that the policy formed by the consultant orthopaedic surgeons was not in patients’ best interests given that many of those seen in OPD did not require surgery and would have benefitted simply from assessment and expert opinion. Furthermore, with the advent of the National Treatment Purchase Fund, patients listed for surgery who were waiting for long periods could have accessed surgery through this route. Therefore we concluded that the policy they chose was blunt and it ran the risk of depriving those patients who might not need admission or surgery of the benefit of a clinical opinion. The policy was decided and implemented in a disputative manner rather than in collaboration with senior management towards a shared solution. This was evidence of a clinician-management divide and we formed a view that this arose from gaps and weaknesses in communication.
- 6.3.10** While in interview with us the orthopaedic consultants maintained that this decision not to see new elective patients was a policy position communicated in correspondence with senior management with a view to escalating pressure to resolve the problem with access to beds, they informed us that in reality the implementation of this policy was patchy. They reported that letters personally addressed to them were clinically reviewed and triaged, but that they believed that letters not addressed to a named individual (“Dear Dr letters”) were the responsibility of the Hospital rather than of the orthopaedic surgery department or individual consultants. This position was supported by correspondence which was sent by the orthopaedic surgery department to senior management at the Hospital. The Orthopaedic surgeons put arrangements in place to make some local GPs aware of their frustrations and that, despite access difficulties, they could be contacted personally if the GP had particular concerns regarding an individual patient. This took place at an informal meeting convened by the orthopaedic consultants in a local hotel and did not involve senior management at the Hospital. The former Chief Executive Officer has advised us that he was unaware that this meeting had occurred. They denied any claim that public patients were in any way disadvantaged by this arrangement over private patients as they claimed they had no way to identify based on the referral which letters pertained to patients with private health insurance. Furthermore they pointed out that in practice it was very unlikely that patients with private health insurance would be referred to the Hospital OPD.
- 6.3.11** In relation to the implementation of this policy of seeing new patients, the orthopaedic consultants presented to us a position that they clinically reviewed and triaged any OPD referral letters which were brought to their attention, and that the accumulation of a backlog of such letters was an administrative error. They informed us that these letters accumulated without their knowledge.
- 6.3.12** We also interviewed clerical/administrative staff of varying grades of seniority a number of times in the course of the review. We were not able to correlate elements of the account of events as presented to us by orthopaedic consultants with accounts presented to us by administrative staff. In particular we found a conflict in evidence relating to the clinical review and triage of OPD referrals presented to the orthopaedic consultants. We were informed by administrative staff that letters received were administratively processed and left out for the consultants and that a backlog accumulated owing to a failure on the part of the orthopaedic consultants to clinically review and triage these letters with the result that appointments could not be sent to patients. We find it hard to accept that a group of clerical/administrative staff would take it upon themselves to decide which referral letters should be processed and which left unactioned. We concluded that this conflict in evidence reflects the combative relationship which was ambient at the time between some consultant orthopaedic surgeons and relevant senior management as well as gaps and weaknesses in communication.
- 6.3.13** Attempts were made to communicate the issue regarding elective orthopaedic OPD access to local GPs. As set out above, we were presented with an account of a meeting convened by the orthopaedic consultants with

local GPs. While this meeting was not minuted, it was recalled by some local GPs in their meeting with us during our review. Furthermore, we reviewed documentation which included template letters sent to GPs from orthopaedic consultants explaining that elective OPD appointments were closed to new referrals. There is correspondence from GPs and from the in-house Emergency Medicine Consultant referring to receipt of such letters to the former Chief Executive Officer and former Acting Chief Executive Officer respectively. However, other correspondence from senior management within the Hospital indicates that referrals were being accepted. Such a response was issued in June 21st 2005 to the local GP in response to an enquiry he made to the former Chief Executive Officer of the Hospital in a letter of the 8th of June 2005. We reviewed correspondence from the orthopaedic surgeons where they set out their view to senior management that GPs should be informed that the Hospital could no longer accept elective orthopaedic OPD referrals and that any unprocessed referrals held by the Hospital should be returned to GPs.

6.3.14 It appears from the available evidence that the Consultant Orthopaedic surgeons had decided not to accept new elective OPD referrals although implementation of this policy was not consistent. The evidence also points to a failure on the part of senior management to deal effectively and decisively with the decision.

6.3.15 The first time this issue is mentioned is in the minutes dated 18th April 2008 of the senior management team meeting which referred to the recent HealthStat report on the Hospital's performance. Under "OPD Process Management" a management group was established to review recommendations arising from the Meridian Productivity Study on the Hospital Outpatients Department. Correspondence showed that this report was received by the former Chief Executive Officer of the Hospital in December 2004. The study had in fact been commissioned by the former Eastern Regional Health Authority prior to the establishment of the HSE in 2005 and had not been acted upon. We reviewed this report and found the recommendations worthy of more timely consideration and implementation by the Hospital, and, had they been implemented from 2005 they could have addressed some of the issues which presented in 2010.

6.3.16 Recommendations for the Improvement of OPD in a Meridian Report 2004 were as follows:

1. *"Tracking system for all incoming referrals.*
2. *Booked appointment times should be adhered to.*
3. *Explore tactics for dealing with DNAs (patients who do not attend for a scheduled appointment).*
4. *Standardisation of referral letters/requests.*
5. *Remodelling of OPD clinic allocations.*
6. *Staffing review.*
7. *Tackle late starts and early finishes.*
8. *Improve tracking and measurement of OPD outcomes.*
9. *Development of Management Information Systems"*

Source: Meridian Productivity Study on the Hospital Outpatients Department, 2004.

6.3.17 It is subsequently noted in senior management team meeting minutes of the 27th of May 2008 that an OPD Project Group was established and that work was underway to initiate the project. Minutes of a meeting of the OPD Project Group dated 17th of July 2008 set out initiation of the project.

6.3.18 The OPD Project was managed by the Hospital's Process Improvement Manager. She reported to a Portfolio Director who was a member of the Hospital's management team. However, for the purpose of this project, sponsorship was provided by the Deputy Chief Executive Officer. She chose to begin the project by focusing on orthopaedics because it was identified as a speciality where waiting times were known to be particularly long. This decision is corroborated by a presentation dated 14th of August 2008. She reported to us that she commenced work in earnest in September 2008. In the course of her work she identified an accumulation of unprocessed elective orthopaedic OPD referral letters [2003-2007] and a break down in clinical review of elective orthopaedic OPD referral letters [2008 onwards]. As this was a cause for concern, she raised the issue with her Portfolio Director and with the project sponsor.

6.3.19 We reviewed a report that was prepared by the Process Improvement Manager on the issue of elective orthopaedic referral letters which sets out clearly the issues which she identified in relation to the handling of elective orthopaedic OPD referrals. The report does not make clear for whom it was prepared. Documentation suggests that it was provided to the former Chief Executive Officer (email addressed to Chief Executive

Officer PA) on 25th of May 2009. Documentation also suggests that it was provided to the Deputy Chief Executive Officer, together with a covering email on the pertinent issues, in 28th of July 2009. This report is critical to understanding the problem with elective orthopaedic referrals and how it was managed by the Hospital.

- 6.3.20** The report places the issue regarding the elective orthopaedic referral letters in the context of the OPD project which was concerned with the GP referral registration process, the process flow within OPD clinics and the validation of waiting lists. The report describes how, upon commencing the OPD referral process project for orthopaedics in October 2008, the Process Improvement Manager found that the process was *“in suspension and not operating in the orthopaedic clinics.”* The reason provided in the report was *“because the orthopaedic consultants had taken a decision as a group that they would not read or review any new referral letters from GPs from January 2008.”* The reason reported for this decision was that the orthopaedic consultants were of the view that they could not continue to accept new referrals because there were already a large number of patients waiting and there was reduced capacity to admit elective in-patients. We noted, however, that the report did describe some elective orthopaedic activity in the Hospital, indicating that some patients were being assessed and treated by the orthopaedic surgeons. The report describes a view which the Process Improvement Manager gained from discussions with clerical administrative staff that some patients referred for elective orthopaedic OPD in 2008 were seen. This is consistent with the account presented to us by the orthopaedic surgeons.
- 6.3.21** A review of the elective orthopaedic out-patient waiting list for 2003-2007 is described in the report. The first step was a validation²² of the list in April 2007 wherein patients were identified as still actively awaiting an appointment. The report enumerates a total of 1,472 GP letters to 1st January 2008 which were waiting for appointments to be issued to patients. In the report it states that these letters had undergone clinical review and triage. While this validation exercise considered GP referral letters up the end of 2007, the report stated that letters were also accumulating in 2008 and that the clinical review and triage of these referrals was ‘in suspension’. There was a presentation elsewhere in documentation which we received which was annotated to indicate that it related to a meeting with the orthopaedic consultants on the 9th of September 2008. Difficulty was expressed in securing consultant orthopaedic surgeon engagement in any plan to manage these referrals other than to return them to the referring doctor. However, it is reported that some 2008 referrals were scheduled for appointment where a specific case was made for the patient by their GP – this practice was not tracked. Nevertheless, the report by the Process Improvement Manager describes that GP letters were accumulating through 2008 which were not being reviewed or triaged clinically. A graph in the report enumerates cumulative referrals in this category to be just over 1,200. This is in addition to the 1,472 patients identified as awaiting an appointment to the 1st January 2008 as a consequence of the validation exercise.
- 6.3.22** A meeting was reported as having taken place on the 16th of December 2008 between the Process Improvement Manager, the Acting Deputy Chief Executive Officer and Acting Chief Executive Officer to discuss the report prepared by the Process Improvement Manager. A proposal was made by the Process Improvement Manager and the Acting Deputy Chief Executive Officer that the clinic be closed to new referrals however this was rejected by the Acting Chief Executive Officer
- 6.3.23** Throughout 2009, efforts continued to deal with the now evident backlog of elective orthopaedic OPD referrals. By May that year the Hospital had already received communication from HIQA regarding concerns over the issue and in June 2009 a meeting was held on the matter between the Hospital and the Authority.
- 6.3.24** An email of the 28th of July 2009 from the Process Improvement Manager to the Acting Deputy Chief Executive Officer refers to an agreement between the former Chief Executive Officer and the orthopaedic surgeons with regard to the 2008/2009 GP referral letters. An agreement with regard to the ring fencing of orthopaedic beds is cited. It also refers to a discussion between the former Chief Executive Officer and named orthopaedic surgeons in relation to the possible provision of Saturday sessions as part of a private arrangement using a company established by the orthopaedic consultants as a vehicle but this was not proceeded with. The former Chief Executive Officer has informed us that the Consultants did triage the backlog at this stage.

²² Where a hospital has a large number of patients waiting long periods for an OPD appointment, it is usual practice for a validation process to be undertaken. Each patient waiting is identified and contacted to see whether the appointment is still required.

- 6.3.25** The then Chief Executive Officer designate informed us that he was contacted by the local GP in relation to both the radiology backlog issue and the OPD referral backlog issue on Friday 30th October 2009. He was in the role of Medical Director at the time; he reported to us, that the tone and content of the briefing, which was by telephone, was “memorable.” He requested that the Acting Deputy Chief Executive Officer prepare a report on the matter.
- 6.3.26** This report was prepared by the Acting Deputy Chief Executive Officer over the weekend and was dated 31st October 2009. It was addressed to the Chair of the Hospital Board and concerned the issue of orthopaedic outpatient department appointment letters. The report corroborates much of the events relating the management of the backlog of elective orthopaedic OPD referrals since August 2008, when the project to deal with OPD performance was established under the leadership of the Process Improvement Manager. It confirms that the orthopaedic consultants had ceased to deal with new GP referrals since January 2008. A meeting with the Head of the Orthopaedic Department in November 2008 is referred to at which the Hospital presented a plan to deal with the issue (specifically the recruitment of a temporary orthopaedic registrar); this was rejected by the orthopaedic consultants unless access to elective beds could be increased. There were subsequent re-engagements with the orthopaedic consultants; however no progress could be made.
- 6.3.27** The same report appends correspondence from the chair of the orthopaedic sub-group to this effect. It also appends a letter from the former Chief Executive Officer to the HSE Hospital Network Manager dated 30th of March 2009 which refers to a meeting between the orthopaedic consultants and the Board Chairman in the previous month at which the orthopaedic consultants tabled an orthopaedic strategy document for the Hospital which would see the Hospital establish itself as a super-regional orthopaedic trauma centre through investment of additional resources including additional orthopaedic consultants and the provision of on-site plastic and neurosurgery. In the report by the Acting Deputy Chief Executive Officer dated 31st October 2009 he refers to the proposal to manage the letters issue between the former Chief Executive Officer which included the ring fencing of beds and the setting up of a company by the orthopaedic consultants to deal with the backlog through Saturday sessions. However, the Acting Deputy Chief Executive Officer could not support the latter proposal. Elsewhere in his report he makes references to some of the challenges which he encountered in engaging the orthopaedic consultants in a solution to the backlog and he states that he recommended that consideration would have to be given by the former Chief Executive Officer to disciplinary action. This action did not proceed. He noted that one difficulty in dealing with the issues was the contractual arrangements of the orthopaedic consultants – most of whom reported directly to the Chief Executive Officer rather than to the Clinical Director.
- 6.3.28** The former Chief Executive Officer designate reported to us that this report, prepared by the Acting Deputy Chief Executive Officer was mentioned informally to the Chairman.
- 6.3.29** The former Chief Executive Officer designate reported to us that he was not satisfied with the quality of this report nor with the subsequent amended report. The former Chief Executive Officer designate then requested the Project Manager to provide a further report which was received on 14th December 2009. That report provided a detailed analysis of service activity. It set out the background to the OPD processing issues – pressure on beds for acute admissions meant fewer beds for elective orthopaedic patients. It described a 35% decrease in in-patient activity for the service since 2007; in particular a decrease in elective orthopaedic activity was noted, however, emergency orthopaedic activity continued to increase. It noted long waiting times for elective in-patient surgery (median waiting times of 10 months and 8 months for public knee and public hip replacement respectively; however, waiting times for private patients were shorter for a number of elective orthopaedic procedures). It also noted a reduction in the number of new elective orthopaedic out-patient attendances. The report identifies potential solutions including ring fencing beds and better utilisation of existing beds and theatre time. This report was not brought to the Board.
- 6.3.30** We were provided with documentation from 2009 setting out the management plan to deal with the backlog of elective orthopaedic OPD referrals. We reviewed drafts provided to the senior management team by the process improvement manager who was leading on this process. Efforts at that stage were focused on validating the accumulated letters: i.e. contacting the patients to see if they had already received an out-patient appointment at the Hospital or another hospital, and if not, whether they still wished to be seen. From December 2009 onwards, a number of updates on validation processes was provided to the Acting Deputy Chief Executive Officer by the Process Improvement Manager.

6.3.31 It was evident from the documentation which was provided to us by the Hospital that this issue was discussed at the level of the Hospital Senior Management Team. In addition, it was considered by the Clinical Governance Committee (October 2nd 2009, November 27th 2009 and February 5th 2010) and the Hospital Board itself (1st October 2009), which also received reports from the Clinical Governance Committee.

6.3.32 The Hospital raised the matter with the HSE Hospital Network Manager in the context of minuted monthly meetings. Reference was made in minutes dated 25th July 2008 that the orthopaedic consultants had decided to cease seeing new elective referrals. The matter is mentioned again in minutes of the 15th of December 2009. In interview, the HSE Hospital Network Manager recalled reference to the matter in the December meeting which also included reference to the radiology backlog. He recalls discussing the matter with the Regional Director of Operations and requesting that the Hospital provide a full written briefing on the matter and escalate a notification of the matters to the HSE Serious Incident Management Team using the appropriate documentation and procedure. Despite follow-up, he reported to us that this was not received prior to the matter becoming public in March 2010.

6.4 Hospital response to the issue

6.4.1 From the perspective of providing reassurance to patients, we had two main concerns. Firstly, we required assurance that the scope and extent of the problem had been confidently ascertained by the Hospital. Secondly, we required assurance that the process was now being effectively managed.

6.4.2 In relation to the first point, we were informed by the Hospital that the breakdown in the system for processing OPD referrals was unique to the specialty of orthopaedics and did not affect other specialties. We did make note of the difficulties with timely access to OPD, the “horizon” issue with the information system which meant that some patients were “queuing to queue” following timely administrative processing and clinical review and triage of their referral before an appointment could be made, and the practice of not sending a letter of acknowledgement in some specialities. Collectively, these issues meant that from the perspective of patients and their GPs, it would be understandable that they might have concerns of a more widespread issue. However, we were assured by the Hospital that the breakdown which occurred in the case of elective orthopaedics – failure to clinically review and triage referrals so that an appointment could be offered to the relevant patients – was unique to that specialty. We were informed in interview by the Deputy Chief Executive Officer that this was based on an internal review which took place earlier that year. We also received this assurance from the former Chief Executive Officer designate. We sought to satisfy ourselves in relation to this assurance by interviewing administrative staff involved in the handling of OPD referrals and by conducting two separate walkabouts of the relevant departments; we could find no evidence to dispute the assurance provided by the Hospital that this issue was unique to the elective orthopaedic issue.

6.4.3 The exercises did, however, leave us with the view that control of risks associated with the handling of OPD referrals at the Hospital is not optimum and indeed we were surprised to find that further changes to the process which were being implemented in the course of our review had not resulted in written policies and procedures to direct the process for managing OPD referral and that GPs were not involved in this process of re-design.

6.4.4 As an assurance that the processing of outpatient letters is now being effectively managed, we were provided with documentation which included a plan to manage the problem at the Hospital that had been submitted to the HSE Serious Incident Management Team after our work on this review had begun. In brief, the Hospital had identified letters in the backlog and had then undertaken a validation exercise to confirm that appointments were still required. Where an appointment was required, it was then determined whether the patient required direct consultation with a consultant or whether the patient would benefit from being reviewed in the first place by a physiotherapist who could call on a consultant orthopaedic consultant for a second opinion as required; “physiotherapy triage” of this type is now a common approach to managing patients referred to hospital with musculoskeletal pain. Extra physiotherapy and consultant led clinics were established and the situation as of the end of June 2010 is set out in paragraph 6.5.

6.4.5 We were informed by the Hospital that as of the end of June 2010 no adverse events (for example a delay in diagnosing a bone tumour) had been identified in patients whose referral for elective orthopaedic OPD had been affected by the backlog.

6.4.6 We were aware that the Hospital was providing regular reports on progress in clearing the backlog to the HSE Serious Incident Management Team. While we were reassured with the approach which the Hospital had adopted to managing the backlog, the pace of progress was slow and it was apparent to us that clearance would not be achieved for several months. Furthermore, it was not apparent to us that a robust ongoing solution was in place to deal with referrals received in 2010 and ongoing into the future. We concluded that while the backlog of unprocessed orthopaedic referrals which came to attention in March 2010 was being managed, this process was ongoing and will require a focus to bring it to completion. However, it is difficult for us to be confident that systematic and effective plans are in place to prevent the problem from recurring.

6.5 Overview of Hospitals Management of the Letter Backlog

6.5.1 The Hospital provided us with a chronology and overview of the management of the letters backlog. It states that the backlog was enumerated at 3,489 letters, 2,328 pertaining to the period 2002-2008 and 1,170 pertaining to the period 2009. The Process Improvement Manager who discovered the backlog in the course of her work on OPD improvement found that some of the backlog had been clinically reviewed and triaged [pre-2008], but that in 2008, the process of clinical review and triage was “in suspension”.

6.5.2 A validation process was completed on these 3,498 letters. The relevant patients were contacted to ascertain if the appointment was still required. This is because in the intervening period, some patients may have been treated at another institution or else their problem had resolved. In total, 1,852 patients still required an appointment.

6.5.3 Of these 1,852, 1,009 patients were identified as suitable for Physiotherapy Triage Clinics. This is a clinic led by a physiotherapist who assesses and treats the patient. In many cases, physiotherapy alone will be sufficient to address the patient’s problem. However, the clinics are configured such that a consultant is accessible to provide further assessment and treatment if required. This is an established model for providing outpatient care to patients referred with musculoskeletal pain. As of 14th September 2010, 174 of these 1,009 patients were waiting to be seen.

6.5.4 A further 843 of these 1,852 patients requiring an appointment were identified as more suitable for direct consultant appointment. Of these 843 patients, as of the 14th September 2010, 241 patients remain to be seen.

6.6 Roles and responsibilities

6.6.1 We concluded that clinicians and administrative staff shared day to day responsibility for the totality of the system for handling OPD referrals and we reviewed their respective accountability arrangements.

6.6.2 Depending on their contractual arrangements, clinical staff report either to the Clinical Director or the Chief Executive Officer of the Hospital. The Hospital did not have a developed clinical managerial system through which to hold clinical staff to account for their performance. There was a poverty of routine data describing clinician performance, clinical appraisal was not in place, and the role of Clinical Director has only recently been established.

6.6.3 In our opinion, the role of Clinical Director is key to preventing and managing many of the issues which contributed to the problem of the backlog in elective orthopaedic referrals. This role provides for formal interface between clinicians and management; it provides a clear channel through which the organisation can gain a view of service specific issues and through which clinicians and management can engage in constructive problem solving.

6.6.4 The responsibilities of the Clinical Director can vary from place to place but the role has several essential elements including monitoring and optimising service activity (e.g. monitoring theatre activity and agreeing and implementing improvements), overseeing clinical governance activity (e.g. chairing regular clinical governance meeting and working closely and effectively with the clinical governance lead in areas such as clinical audit, developing standards, deal with complaints and critical incidents), strategic service planning (e.g. determining new consultant appointments and developing business cases for service development), and performance managing individual clinicians through performance appraisal systems. A Clinical Director should, in a hospital the size of the Hospital, be supported by a dedicated business manager looking after the Trauma and

Orthopaedic unit and associated ancillary services. The authority of the Clinical Director is derived through delegation from the senior manager in the Hospital, ideally they would be in receipt of a devolved budget and clinical staff providing the service should report to him or her. The Clinical Director is accountable to the senior manager, either directly, or in the case of some larger organisations, this may be through a Medical Director.

- 6.6.5** We could not identify at the Hospital a clinical managerial system with the attributes which we would expect to be in place. However, we are aware that recent reform of the consultant contract created provisions for the role of Clinical Director and that a number of consultants are currently in such a role. We are aware that this is a developmental agenda and that it will take planned and concerted effort to develop the role as we have described it above. This development must be prioritised by the HSE and must happen if clinical services are to be effectively led, governed and managed.
- 6.6.6** We noted that some consultant orthopaedic surgeons contributing to the service at the Hospital had a relatively small number of sessions at the Hospital. In our view, such arrangements can challenge the building of a team within any department and could also challenge the integration of an individual within the wider context of the Hospital organisation.
- 6.6.7** Administrative staff at the Hospital are organised into teams; teams are clustered into groups and team leaders have responsibility for groups of teams and report to administrative coordinators. A role of clerical services manager was in place within the Hospital with overall responsibility for these staff, however, this post became vacant and has not been filled in recent years. The clerical staff involved in the processing of OPD referrals reported to the Hospital Senior Management Team and to the Chief Executive Officer traditionally through the Medical Director. Under this arrangement, we were informed that management systems such as regular management meetings and formal Policies, Procedures and Guidelines were not well developed.
- 6.6.8** When the former Medical Director took up the duties of acting Chief Executive Officer in 2008, in the absence of the Chief Executive Officer, this clerical services reporting line was pointed to the Director of Information Communication Technology. Under this arrangement, management systems were developed and regular management meetings were established. The absence of Policies, Procedures and Guidelines was noted (although there were informal “handbooks” used to induct staff) and a system for development and implementation was introduced. We were informed that this was welcomed by clerical staff.
- 6.6.9** We were also informed that a proposal was made (late 2009/early 2010) for the clerical staff to be dispersed within the emerging directorate structure within the Hospitals; however, this was not accepted and more recently, the reporting line for clerical staff has been pointed to the Acting Deputy Chief Executive Officer.
- 6.6.10** Staff with immediate operational responsibility for early steps in OPD referral handling are not part of the same team as staff with immediate operational responsibility for later steps in OPD referral handling and would not be aware of any delays arising in the processing of OPD referrals past registration. However, reporting lines for these staff do converge at a higher level in the management hierarchy (at “coordinator” level). There was no structure in place for clinical and administrative staff to collectively review the process of OPD referral handling. It is not clear if, in the revised outpatient procedures GP referral letters are actually registered on a centralised registration system.
- 6.6.11** We are of the view that the recent proposal to disperse administrative staff within the clinical directorate structure will make for more effective operations. We noted in Orthopaedic services how relationships were poorly developed between administrative and clinical staff – there was little sense of a cohesive team – and an arrangement which places administrative staff within the clinical directorate structure can ameliorate this. However, in this model, the Hospital will need to ensure that there is an individual who has overall responsibility to develop policies and procedures and ensure that they are implemented and monitored. This position would cover the totality of the outpatient function.

6.7 Current best practice

- 6.7.1** The HSE’s National Hospitals Office Code of Practice for Healthcare Records Management (2007) sets out recommended best practice for handling OPD referral letters for administrative and clinical staff.

- 6.7.2** Its specified standard for the content of the healthcare record states the following criteria:
59. *Referral letters shall be date stamped on receipt in every department.*
 60. *All referrals shall be recorded on the appropriate ICT management system.*
 61. *All referrals shall be assessed by the appropriate healthcare professional and marked as routine or urgent depending on their clinical need.*
 62. *Where waiting lists exist, the patient's name shall be placed on the waiting list.*
 63. *Where there are no waiting lists, the patient shall be issued with an appointment, if appropriate.*
 64. *The GP/referral source shall be notified of the outcome of the referral."*
- 6.7.3** This Code of Practice was first published in 2007. Since then it has been the subject of training for staff working in HSE operated or funded services. An audit tool has been produced which allows for monitoring and evaluation of the standards.
- 6.7.4** We noted that a Medical Records Committee, which would usually oversee matters relating to the healthcare record in a hospital, including management of OPD referrals, fell into abeyance at the Hospital. We understand it has been reconstituted in January 2010. In interviews, a number of staff said that while the HSE's National Hospitals Office Code of Practice for Healthcare Records Management had been considered by the Hospital, more effort was required to drive and embed the good practice which it sets out.
- 6.7.5** We noted the practice reported to us by the Hospital and by local GPs of patients being referred for the same problem to more than one hospital's OPD. This is an understandable response to the challenge posed to patients and their GPs by long waiting lists. However, it compounds some of the difficulties which it seeks to overcome. It inflates the number of patients who appear to be waiting for an appointment at any given time and creates additional administrative burden. We recommend that consideration be given to the establishment of a central clearing system for OPD referrals in the Dublin area in conjunction with stakeholders.
- 6.8 What went wrong?**
- 6.8.1** So what went wrong at the Hospital that led to an accumulation of elective OPD referral letters which were not clinically reviewed and triaged and therefore not fully processed?
- 6.8.2** It was evident to us that the problem did not arise from a single cause or from the action or inaction of a single individual. There were multiple factors and actions and failures to act by many people which collectively brought about the problem.

Based on our analysis of events through documentation review and interview, we conclude that there were a number of contributory factors which interacted to lead to the problem which came to public attention in March 2010.

- There were weaknesses in the systems and processes which the Hospital applied to the handling of OPD referrals. The issues of the "horizon" for appointment booking and the failure to acknowledge some referrals were particularly problematic and created risk. Management systems around the handling of OPD meant that there was poor control of these risks. This included the absence of an information system to provide monitoring data which could have given earlier visibility of emerging problems. The administrative staff with responsibility for the process were, at a senior level, poorly led, developed and managed, and effective relationships with clinical staff, who also had responsibility for steps in the process, were not established.
- There were weaknesses in arrangements for strategic planning of services at a local and national level and for the management of the implementation of strategic plans. These weaknesses contributed to a mismatch between referrals for out-patient services and the number of available appointments which meant that waiting lists accumulated in some specialties. The weaknesses also meant that the orthopaedic services, in particular elective orthopaedic services, were provided by the Hospital outside the context of a clearly planned framework.
- Engagement and communication with local GPs was weak and GPs were not involved in managing some of the challenges which the Hospital faced in providing a service to meet the needs of the local population; many of these problems, in particular the provision of an easily accessible OPD service, required an integrated primary and secondary care response.

- The orthopaedic consultants faced particular challenges in relation to the provision of elective orthopaedic services due to uncertain access to beds for surgery; this was exacerbated by a high volume of elective orthopaedic OPD referrals/workload from GPs and other hospitals. It was also exacerbated by a political imperative to clear patients waiting for admission on trolleys from the Emergency Department. In the absence of an effective mechanism for problem solving – a clinical director and clinical directorate structure – some of the Orthopaedic consultants collectively adopted a disputative and combative approach to engagement with management on this issue. It was clear that many Orthopaedic consultants saw these as problems for senior management to solve and as no part of their concern. A practice of not seeing all new elective orthopaedic outpatient department referrals (which we find to be highly questionable) was used to force management to resolve their problems. The response of senior management was not effective. This led to a stand-off between orthopaedic consultant surgeons and senior management with regard to elective orthopaedic out-patient referrals.
- From as far back as 2002, elective orthopaedic outpatient department referrals began to accumulate; they could not be fully processed because they were not clinically reviewed and triaged. This problem affected a variable proportion of such referrals and the consequence was, with time, the volume increased.
- There was knowledge of this problem within senior management at the Hospital as far back as 2003. The first decisive attempt to place an effective grip on the problem was in 2008, when it came into clear focus during efforts to implement the recommendations of the 2004 Meridian Report so as to improve OPD performance. The disputative and combative approach that some of the orthopaedic consultants adopted to engagement with senior management did not facilitate a smooth or timely response.
- It would be regrettable that, even in the search for optimal solutions, the needs of patients or potential patients for treatment or assessment be overlooked. If it were the case that the threat or the actuality, of withholding treatment for patients were to be used as a bargaining counter in a competition for scarce resources, it would, in our opinion, be inappropriate. The proposition that services should be withheld from one group in order to safeguard the treatment of others, even for the best motives, does seem to raise important ethical issues which require the most careful consideration.

6.9 Recommendations

6.9.1 For the Hospital

- Accelerate the processing of the remaining backlog to ensure those patients receive immediate clinical assessment.

Outpatients Department

- Develop and implement policies and procedures for OPD referral handling. Clear timelines should be established and complied with and these timelines should be monitored and audited. Referral letters should be seen by the appropriate clinician within a specified number of days. Appointments should be scheduled on a clear basis such as urgent, soon or routine. This information should be communicated to the referring institution or GP and to the patient within an agreed timeframe. Ensure these procedures are consistent across services. Monitor with Key Performance Indicators (KPIs) to provide assurance that OPD referrals are being handled in a timely way which is consistent with policy and procedure. Ultimately, these KPIs should be reviewed at the Hospital's healthcare records committee and a written monthly summary should be seen by the Hospital Board.
- Local GPs should be involved in process design in a meaningful way and should be part of a regular review process.
- Address the issue of the 12 month "horizon" – IT solutions may resolve this.
- Ensure that acknowledgements are issued to all patients (and GPs) where a timely appointment might not be offered.

- Develop and implement a monitoring framework for OPD access. Make results available to patients and GPs. Take cognisance of HSE development in this regard.
- Outpatient waiting times by consultant should be published by specialty and sub-specialty and made available to General Practitioners.
- All GP referrals should be recorded on a centralised registration/appointment system for overall management of OPD waits.
- A senior manager should be accountable for the effective management of the Outpatients Department and written policies, procedures and protocols should be developed and used to direct its management.

Clinical Directorates

- Establish a clinical directorate structure around orthopaedics (alone or in relevant specialist group). Within a clinical directorate structure identify a lead clinician and ensure executive support from a business manager. Implement a business planning process and devolve resources to this lead clinician. Develop and implement effective systems to monitor the performance of services at directorate level. Ensure that the clinical directorate structure provides a forum for engagement of all clinicians involved in the work of that directorate – from planning through to monitoring and evaluation of services.
- Consideration should be given to administrative staff being managed through the clinical directorate structure.
- Clinical accountability – code of conduct and relevant policies, procedure and guidelines to be defined for all staff, including clinical staff. Staff must be accountable for behaviour and decisions outside these parameters. Clinical accountability is better provided for through recent reform of the consultant contract and this function should be discharged by the clinical director within a clear framework.
- Waiting list management, bed utilisation and theatre utilisation for the service and for individual consultants should be monitored at directorate level; variation should be examined and opportunities to deploy available resources more efficiently should be sought and implemented.

Orthopaedic Services

- Future consultant appointments – minimise split commitments to ensure engagement in the planning and clinical governance of services as well as the actual delivery.
- Some consultants have split appointments with Naas General Hospital; furthermore there are specialised orthopaedic surgery facilities at Naas. Without undermining the quality and safety of services at either site, the Hospital should seek to capitalise on joint appointments and orthopaedic theatre facilities at Naas by providing an appropriate service across both sites e.g. day surgery.
- In conjunction with the HSE determine the purpose and scope of orthopaedic services to be provided at the Hospital.

6.9.2 General

Clinical Directorates

- We strongly support the development of clinical directorates nationally and would urge that they are developed as quickly as possible. The role of Clinical Director is key to managing the quality and safety of clinical services and the HSE must ensure that there is a strategy in place to which maximise the benefit of the role; this includes ensuring that individuals who take on the role of Clinical Director are equipped with the necessary training and development to be effective.

OPD referral handling

- The HSE should oversee both the handling of the remaining backlog and the development and implementation of a robust plan to prevent a repetition of recent events.
- The HSE NHO Code of Practice for healthcare records management should be applied. One or more key performance indicators for monitoring the performance of OPD referral handling should be defined nationally and should be monitored and publicly reported.
- Orthopaedic services would benefit from a national strategy for orthopaedic services and trauma.
- We recommend that consideration be given to the establishment of a central clearing system for OPD referrals in the Dublin area in conjunction with stakeholders.
- *General Practice Information Technology (GPIT) Project²³/IT recommendations.*

We met with members of the GPIT Project group in the course of our review; the Hospital should give serious consideration to adopting their recommendations, a summary of which is reproduced below:

- The HSE should establish protocols and best practice in relation to the handling of GP referrals to hospitals.
- Structured electronic referrals should be developed and resourced for a range of clinical specialties and the shared care of chronic diseases.
- Secure clinical email should be enabled for all clinicians in the health service.
- Healthcare messaging should be developed and resourced nationally so that a full range of messages is available to all GPs throughout the country.
- All hospitals should publish a directory of services and information for GPs on the Internet.
- HealthStat should include performance targets related to communication between hospitals and GPs.

²³ Members of the HSE and the Irish College of General Practitioners form the National General Practice Information Technology (GPIT) Group which concentrates on the two areas: education and projects.

Chapter 7 Common Themes

7.1 Governance

- 7.1.1** From both the review of the management of x-ray reporting and the GP referral letters, common themes emerge. It is clear that until a very late stage in the process the hospital did not have appropriate written protocols, that there were no effective measures of performance and no systematic monitoring (e.g. of the time taken from x-ray or GP referral until results were reported to the patient or doctor), no regular count of the backlog in either case, no person with specific responsibility for monitoring the backlog and no formal quality programmes in place for the relevant areas. Whilst we were aware of limited clinical audit activity, the existence of FAIR, the Clinical Governance Committee and a patient advocacy service and the Chief Executive Officer Designate advised that a risk management system was in development, arrangements for overall risk management for the relevant area were not embedded in the Hospital.
- 7.1.2** Health care governance includes the systems, processes and behaviours by which health service organisations lead, direct and control their functions in order to achieve organisational objectives, safety and quality of service and in which they relate to patients and carers, the wider community and partner organisations (see footnote 8).
- 7.1.3** Even in the best regulated systems errors will occur and systems will fail. During the period of our review, similar problems were reported in hospitals as far apart as Harlem, New York and Melbourne, Australia. What is important is that any failure is promptly detected and remedial action taken immediately, that risk of failure should be minimised by procedures and training and by a culture of watchfulness throughout the organisation, and that system failure or poor performance should be brought to the attention of senior management and the hospital board on a regular basis and that lessons are learned to prevent recurrences.
- 7.1.4** There is a pattern, too, in both fields, and during the timescales that we reviewed, of problems having been brought to attention, of representations by clinicians in the hospital and GPs to senior management, of working groups being set up and reports produced – unfortunately these did not result in effective action.
- 7.1.5** There was, for example, a consultancy report in 2004 which made clear and practical recommendations for monitoring the flow of patients through the OPD, on which no action was taken until 2008. We have seen reference, too, to a report on governance by another firm of management consultants, in 1998 on which no action had been taken by 2009, by which time, unsurprisingly, the problems remained the same.
- 7.1.6** It is clear from this that the management structures did not meet the requirements for managing a large and busy modern hospital in a rapidly developing area with an ever-increasing demand for services, and that governance at Board level was not sufficiently robust to discharge the responsibilities usually associated with the Board of a large and complex organisation.
- 7.1.7** We are aware that with the appointment of a new Board Chairman in September 2008 the Clinical Governance Committee became a formal sub-committee of the Board to ensure that there was a direct reporting line in relation to clinical governance issues. However this initiative was hampered due to the uneven quality of the reports provided to the Clinical Governance Committee. The Hospital has acknowledged this issue and cited information technology issues as a cause.
- 7.1.8** Some members of the Board including the Chair of the Clinical Governance Committee told us of a lack of investment in governance, of the absence of regular and formal reports to the Board, and a failure generally to track the implementation of Board policy decisions. Clinicians complained that departments and specialities which happened to be represented at Board level were advantaged in the making of appointments and the allocation of resources. Whether justified or not, this reflects a confusion of roles, if not conflict of interest, and a divisive and competitive culture. There was a sense too that the separate historic components of the Hospital had not melded into a single corporate identity with a strong sense of direction
- 7.1.9** Our study of Board and Committee minutes disclosed an absence of systematic reporting, a preference for oral reports on the day or power-point presentations over written submissions in advance of meetings, and poor arrangements for risk-management. The Clinical Governance Committee, which should have had a

critical role, was very often inquorate, which meant there could be no effective meeting and which inhibited its ability to report regularly to the Board. The Board Minutes record only limited discussion of these issues.

7.1.10 At the beginning of our review we were given by the then Chief Executive Designate a copy of a July 2009 PWC presentation (which had been commissioned by the new Chairman of the Hospital Board). We endorse the findings of this work.

The PWC presentation for example contained the following recommendations;

- *'tightly define Board function vis-a-vis AMNCH management*
- *'redefine Board agenda to focus on decision making input only. FYI (For your information) materials should be minimised'*
- *'develop and implement a code of conduct for Board members to ensure focus on AMNCH interest'*
- *'reduce AMNCH Board size'*
- *'redefine the relatively broad ToR (Terms of Reference) of the Resources Committee, giving explicit consideration to its function regarding VFM and focusing on strategic issues'*
- *'related to the foregoing define Audit Committee function regarding VFM as distinct from controls, and ensure that all corporate risk is covered'*
- *'rebalance Board skill set to address business, finance and management deficit'*

7.1.11 We believe implementation of these recommendations is necessary to fulfil the need for the Board to hold senior management to account.

7.1.12 We also support the reference in the PWC presentation of the need to *'develop a strategy with a very clear direction' and 'non-structural issues need to be addressed' (the PWC research indicates 'that many AMNCH issues are cultural in nature')*.

7.1.13 The Board members we met were obviously concerned and committed individuals. We are aware of the importance attached to protecting the character and ethos of the Hospital, as set out in the Charter, and of which we were reminded by Board members, but this is quite distinct from the task of managing the Hospital.

7.1.14 The PWC presentation also highlights the inefficiency of a management structure in which 22 people reported directly to the Chief Executive Officer.

7.1.15 We were concerned about the poor quality of communication within the hospital and with the main stakeholders. Frequently the dialogue between management and clinicians in the relevant fields veered from confrontation to confusion. From the staff we interviewed in the area under review, there appears to have been an inability, or a reluctance to take decisions, imprecise patterns of delegation and a feeling among relevant staff that they had been by-passed or short-circuited.

7.1.16 It is fair to say that for most of the period under review, senior management was hampered by the lengthy absences on sick-leave of the former Chief Executive Officer, and a constant rotation of senior personnel in acting and other roles. This however is not sufficient to explain the consistent failure of management to take effective action to deal with problems as they arose.

7.1.17 There should be a Director of Operations who would act as Deputy, and take the load of day-to-day running of the hospital off the Chief Executive Officer, who would thus be able to concentrate on strategic issues in a role which requires whole-time and single-minded focus and commitment. Given the budgetary and other challenges in what is likely to be a period in which resources are likely to be constrained while demand keeps rising, there is a need too for a strong finance function to be reflected at Senior Management level.

7.1.18 It is important to proceed rapidly with strengthening Board and Committee structures and to build on the work which has been put in hand by the former Chief Executive Officer Designate to transform management and to develop risk management and quality control. We acknowledge steps already taken by the former Chief Executive Officer designate to implement the main findings of the PWC report and would support their rapid implementation.

7.2 HSE

- 7.2.1** The complex relationship between the HSE and the large voluntary hospitals does not fall within the scope of our review. However, as we describe them, events in Tallaght in the early period under review lend force to the concerns expressed in a Comptroller and Auditor General's report in 2005 about the lack of robust arrangements for governance and monitoring in quasi-autonomous voluntary organisations which are largely dependent on public finance for the services they provided. Had such arrangements been in place in Tallaght, the problems we are investigating might have come to light much earlier and remedial action taken.
- 7.2.2** We welcome the introduction by the HSE of service level agreements with the main providers and voluntary hospitals, and note that the Hospital signed on the 11th May 2010 Part 2 [2009 schedules], on the 15th May 2010 Part 1 [2009-2011], on the 21st June 2010 Part 2 [2010 schedules].
- 7.2.3** We have had sight of a report to the HSE Board in May 2010 setting out a Management Framework for the Governance and Funding Arrangements with the non-statutory (voluntary) sector, which would, if implemented, go a long way towards the introduction of national standards of service and performance.
- 7.2.4** It is important that the HSE, as commissioner of services on behalf of the public, should ensure compliance with standards of risk management and service delivery which would provide quality control and protect the patient and ensure such matters as access to treatment, waiting times, reporting standards and communication with the patient and his/her doctor.
- 7.2.5** This should not involve HSE in micromanaging voluntary hospitals but in ensuring that robust procedures and protocols are in place and in regularly monitoring performance.
- 7.2.6** There can be stress in the relationship between the HSE and large voluntary hospitals. However with proper dialogue, an effective Board structure and a problem solving approach on both sides, this can be a creative tension as we saw in operation in other voluntary hospitals that we visited. But in the case of Tallaght, this relationship seemed to be more fraught than most. Whether justified or not, this suggests a need for both parties to work on the relationship in the interest of patients – by the HSE as the main commissioner of services, and by the hospital as the recipient of large sums of public money and in the interests of the strategic direction of the Hospital.
- 7.2.7** In the absence of prescription in a service level agreement, there was regular dialogue at HSE network management level, but it appears there was more emphasis on compliance with budgets than on standards of care or service to patients. While it is important that hospitals should live within budgets, they are in the business of patient care, and standards of service need to be part of the equation too.
- 7.2.8** We are equally concerned by the length of time taken over the years by the HSE and its predecessors in responding to the need for additional radiologist consultant posts to meet a steadily rising workload. The faults were not all on one side: radiology posts were not always prioritised within the hospital, and when they were, were not always argued for with HSE with sufficient advocacy, and there appeared to be a reluctance to suppress the junior doctor posts which policy required for the approval of a new consultant post. The former Chief Executive Officer has also referred to the policy regarding the Accident and Emergency Department. Nevertheless, as the case study in Table 6 illustrates a ten year process for creating and filling a consultant post is poorly designed to respond in a timely fashion to a rapidly expanding workload in a developing speciality.
- 7.2.9** We recommend that steps are taken to streamline procedures in a way which would synchronise consultant appointments with emerging need, would respond more quickly to local difficulties, and would take a more strategic approach to service development in individual hospitals and across specialities.
- 7.2.10** The situations we are reviewing have occurred in other hospitals, some not far from Tallaght and there have been other similar reviews with reports and recommendations. However neither the Hospital nor the HSE seem to have learned from the experience of others in similar cases and there are no real sign that questions have been asked or lessons learned.

7.2.11 The HSE has told us that steps have been taken to disseminate learning arising from incident reports and reviews, and of the intention to promulgate national programmes to develop best practices and procedures and we welcome the development of a learning culture by the HSE. We are advised that patient safety and quality assurance are two key focus areas for the recently formed Quality and Clinical Directorate. In addition a Serious Incident Management process disseminates the learning from reviews through a series of master classes and within the Healthcare Audit function, systems are being developed to monitor the progress of implementation of recommendations; to more effectively manage the capture, processing and dissemination of information and learning from service user complaints and incident reporting, audit of clinical practice and the identification and management of risk in service delivery. In practice organisations can learn most from their own mistakes and should develop a culture of self examination which predisposes them to do so.

7.3 General Practitioners

7.3.1 It will be remembered that the issues which gave rise to this review were first brought to public attention by a local GP. In the course of our review we received representations from other GPs in the area about the failure of the hospital to engage with them in a meaningful manner, to consult adequately, about poor arrangements for referrals, of letters being lost or mislaid, of a tendency by doctors in some specialities to disregard “Dear Doctor” letters which were not addressed to a named consultant, and of a poor appreciation generally of the needs of GPs and their patients.

7.3.2 We were struck too by the fact that efforts made from time to time to improve the situation concentrated on correcting procedures within the hospital and did not involve GPs in the process.

7.3.3 Much of this can be achieved through the continued roll out of the primary care strategy with particular attention to Tallaght area.

7.4 HIQA

The role of HIQA when alerted to concerns regarding radiology and GP letters could be characterised as somewhat inconclusive which is perhaps inevitable given the limitations on HIQA’s powers. This could have been avoided had there been a licensing process as outlined by the Madden Report under which HIQA would have a leading role in developing protocols, in prescribing national standards and in monitoring these. We understand that HIQA is responsible for promulgating national standards and has begun this process. We endorse this approach and recommend a speedy roll out of such standards. Hospitals should be required to adopt relevant protocols as a condition of licensing/registration. Such a system, developed and policed by HIQA, would go a long way towards preventing similar occurrences in the future although it will not entirely eliminate them.

7.5 Common Themes Recommendations

7.5.1 In addition to the specific recommendations to address particular issues identified arising from our review of the x-ray and GP referral letters, we make general recommendations to address underlying themes.

- We see no reason to dissent from the PWC report on governance, or to disagree with the main thrust of the recommendations that the size of the Board should be reduced from 23 to a more manageable 8-12, with the introduction of non-executive directors with appropriate skills and experience and a clear definition of the respective roles of the Board and senior management of the hospital. We have been advised by the Hospital that the PWC report has been adopted by the Board and that steps are being taken to streamline the Board and management arrangements within the Hospital. This action, we believe, will go a long way in providing the changes in governance and management that are required.
- In line with the practice for boards generally we also recommend that there should be training for all Board members of all Hospitals on the requirements of their role under corporate governance and on fiduciary and other responsibilities of Board members.
- We would urge that there should be a representative of local GPs on the Board and of a representative person who could articulate the needs and the expectations of the local population in the area served by the hospital.

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- It is important to proceed rapidly with strengthening Board and Committee structures and to build on the work which has been put in hand by the former Chief Executive Officer Designate to transform management and to develop risk management and quality control. We commend steps already taken by the former Chief Executive Officer designate who has decided not to take up the substantive post.
- We recommend that the Management Framework for the Governance and Funding Arrangements with the non-statutory (voluntary) sector be introduced as soon as possible, and specifically, in relation to Tallaght Hospital, that any recommendations arising from our review which are accepted by HSE should be made part of a service level agreement with the Hospital which will prescribe standards of service, provide for monitoring and auditing and the issue of sanctions for performance issues should also be included.
- There should be a Director of Operations who would act as Deputy, and take the load of day-to-day running of the hospital off the Chief Executive Officer, who would thus be able to concentrate on strategic issues in a role which requires whole-time and single-minded focus and commitment. Given the budgetary and other challenges in what is likely to be a period in which resources are likely to be constrained while demand keeps rising, there is a need too for a strong finance function to be reflected at Senior Management level.
- We support the appointment of clinical directors who are an essential part of effective hospital management. Clinical directorates led by clinical directors should continue to be established locally and nationally. Clinical accountability is better provided for through recent reform of the consultant contract and this function should be discharged by the clinical director within a clear framework. As well as providing the framework for clinical accountability and clinical governance, the clinical director and clinical directorate structure has a key role in monitoring the split of consultant practice between the publicly funded and privately funded parts of the system. We are aware that this is a developmental agenda and that it will take planned and concerted effort to develop the role as we have described it above. A clear strategy and action plan must be developed by the HSE to give effect to the benefit of clinical directorate structures. This development must be prioritised by the HSE and must happen if clinical services are to be effectively led, governed and managed.
- The process for appointing consultants (new and replacement) should be modified significantly to ensure a transparent streamlined process, which addresses departmental deficiencies in a timely manner. The process should ensure that the cause of any delay is clearly demonstrable.
- We recognise that local GPs in the Tallaght area do not speak with one voice and that there is no GP co-operative in the area. The queue does not start at the hospital door, and there is a need to develop outreach and procedures in co-operation with GPs which would provide better access, a more orderly flow of referrals and a better service for patients. This can be achieved through the continued roll out of the primary care strategy, the creation of primary care teams and the involvement of the Irish College of General Practitioners as the representative body for GPs in matters of standards, education and training.
- We welcome the revival of the GP Liaison Committee, and believe that the situation could be further improved by having a GP representative on the Board.
- In line with national policy²⁴ and in conjunction with the HSE, the Hospital should seek to find ways to engage with the local community and to engage the service user in advising on the quality of hospital care through involvement in panels and other methods.
- We understand that HIQA is responsible for promulgating national standards and has begun this process. We endorse this approach and recommend a speedy roll out of such standards. Hospitals should be required to adopt relevant protocols as a condition of licensing/registration. Such a system, developed and policed by HIQA, would go a long way towards preventing similar occurrences in the future although it will not entirely eliminate them.
- The HSE should embody whichever of these recommendations it adopts in Service Level Agreements with the Hospital and monitor them to ensure compliance.

Chapter 8 Summary of all Recommendations

8.1 Radiology

8.1.1 For the Hospital

- The recently circulated national guidelines on radiology reporting should be implemented with appropriate written protocols and staff training.
- There is a clearly identified need for additional consultant radiologists to avoid the same problem occurring, i.e. the creation of another backlog. In this regard the two posts signed by the HSE Network Manager in February 2010 should be approved and filled as a matter of urgency.
- The Hospital should ensure the transfer of data from the original system to the upgraded system is completed as soon as possible pending a review.
- The Hospital should take immediate steps to procure a voice recognition system which will allow reports to be produced in a timely fashion, such a step would free up valuable clerical and administrative resources.
- A review of the performance of the current radiology IT systems should be undertaken which should take account of the recommendations of the NIMIS report (Appendix 2) and should be implemented as soon as feasible.

Those recommendations are summarised below:

- *RAID (Redundant Array of Independent Disks – a mechanism of data storage characterised by rapid archiving and retrieval) – Clearly a system utilising only RAID as primary storage would be preferable.*
- *Poor performance of the integrated PACS/RIS: this issue requires more study as it is not possible to say whether the fault for this lies with the PACS, RIS or both. This is a complex issue, which requires a more detailed analysis.*
- *Management reports – a modern RIS should be able to generate such reports. All staff should be satisfied that this is possible with the current software. If this is not possible then other systems should be considered to generate such data.*
- *Poor performance of radiology workstations: there is to be an upgrade of the PACS software, if problems persist, a PACS system from the same vendor is currently operating in another Dublin hospital, and the first step should be to benchmark the performance of the AMNCH workstations with those in the other hospital. Following this a decision on the overall suitability of the PACS workstations should be made.*
- *Voice recognition systems should be introduced*
- *A long terms goal should be the introduction of a full electronic order-communication system. In the short term scanning the requests onto the RIS or the PACS should be considered.*

8.1.2 General Recommendations

- Consultant radiologist staffing should be reviewed to ensure it is appropriate to work load in all radiology departments. This may be best achieved by evaluating the outcome of the recently established national survey of consultant radiologist staffing.
- Workforce planning should be an integral part of the management process in all radiology departments. Where significant planned developments are undertaken within hospitals which are likely to impact on radiology workload, appropriate workforce planning should be undertaken. This particularly relates to the development of new services, the expansion of existing services, the appointment of new consultants in disciplines other than radiology and the introduction of new imaging technologies. Example of methods to help in work force planning include the Addenbrooke's formula (see footnote 19) , which help identify the number of radiology sessions required for an additional clinician (e.g. 3-4 radiology sessions for each new medical oncologist)

- Consultant radiologist expertise should be used to its maximum efficiency. This can be achieved by optimizing workflow practices within radiology departments. Consideration should also be given to evaluating role expansion in other disciplines, through the recently established National Radiology Programme.
- Where there is an identifiable shortage of radiologist staffing in a radiology department, recently introduced national guidelines on radiology reporting should be supported, implemented and monitored.
- A structured equipment maintenance and replacement programme needs to be formulated for each radiology department, with clear time guidelines.
- In conjunction with the National Integrated Medical Imaging System (NIMIS) project the standard and functionality of existing RIS/PACS systems should be validated.

8.2 GP Referral Letters

8.2.1 For the Hospital

- Accelerate the processing of the remaining backlog to ensure those patients receive immediate clinical assessment. We are aware that the Hospital was providing regular reports on progress in clearing the backlog to the HSE Serious Incident Management Team. Whilst we were reassured with the approach which the Hospital had adopted to managing the backlog, the pace of progress is slow and it is apparent to us that clearance will not be achieved for several months. We recommend that a robust ongoing solution is put in place to deal with referrals received in 2010 and ongoing into the future. We conclude that while the backlog of unprocessed orthopaedic referrals which came to attention in March 2010 is being managed, this process is ongoing and will require a focus to bring it to completion. We recommend that systematic and effective plans are in place to prevent the problem from recurring.

Outpatients Department

- Develop and implement policies and procedures for OPD referral handling. Clear timelines should be established and complied with and these timelines should be monitored and audited. Referral letters should be seen by the appropriate clinician within a specified number of days. Appointments should be scheduled on a clear basis such as urgent, soon or routine. This information should be communicated to the referring institution or GP and to the patient within an agreed timeframe. Ensure these procedures are consistent across services. Monitor with Key Performance Indicators (KPIs) to provide assurance that OPD referrals are being handled in a timely way which is consistent with policy and procedure. Ultimately, these KPIs should be reviewed at the Hospital's healthcare records committee and a written monthly summary should be seen by the Hospital Board.
- The health care records committee to review and ensure compliance with HSE NHO Code of Practice for Healthcare Records Management.
- Local GPs should be involved in process design in a meaningful way and should be part of a regular review process.
- Address the issue of the 12 month "horizon"—IT solutions may resolve this.
- Ensure that acknowledgements issue to all patients (and GPs) where a timely appointment might not be offered.
- Develop and implement a monitoring framework for OPD access. Make results available to patients and GPs. Take cognisance of HSE development in this regard.
- Outpatient waiting times by consultant should be published by specialty and sub-specialty and made available to General Practitioners.

- All GP referrals should be recorded on a centralised registration/appointment system for overall management of OPD waits.
- A senior manager should be accountable for the effective management of the Outpatients Department and written policies, procedures and protocols should be developed and used to direct its management.

Clinical Directorates

- Establish a clinical directorate structure around orthopaedics (alone or in relevant specialist group). Within a clinical directorate structure identify a lead clinician and ensure executive support from a business manager. Implement a business planning process and devolve resources to this lead clinician. Develop and implement effective systems to monitor the performance of services at directorate level. Ensure that the clinical directorate structure provides a forum for engagement of all clinicians involved in the work of that directorate – from planning through to monitoring and evaluation of services.
- Consideration should be given to administrative staff being managed through the clinical directorate structure.
- Clinical accountability – code of conduct and relevant policies, procedure and guidelines to be defined for all staff, including clinical staff. Staff must be accountable for behaviour and decisions outside these parameters. Clinical accountability is better provided for through recent reform of the consultant contract and this function should be discharged by the clinical director within a clear framework.
- Waiting list management, bed utilisation and theatre utilisation for the service and for individual consultants should be monitored at directorate level; variation should be examined and opportunities to deploy available resources more efficiently should be sought and implemented.

Orthopaedic Services

- Future consultant appointments – minimise split commitments to ensure that there is adequate commitment to the Hospital to ensure engagement in the planning and clinical governance of services as well as the actual delivery.
- Some consultants have split appointments with Naas; furthermore there are specialised orthopaedic surgery facilities at this site. Without undermining the quality and safety of services at either site, the Hospital should seek to capitalise on joint appointments and orthopaedic theatre facilities at Naas by providing an appropriate service across both sites e.g. day surgery.
- In conjunction with the HSE determine the purpose and scope of orthopaedic services to be provided at the Hospital.

8.2.2 General

Clinical Directorates

We strongly support the development of clinical directorates nationally and would urge that they are developed as quickly as possible. The role of Clinical Director is key to managing the quality and safety of clinical services and the HSE must ensure that there is a strategy in place to which maximise the benefit of the role; this includes ensuring that individuals who take on the role of Clinical Director are equipped with the necessary training and development to be effective.

OPD referral handling

- The HSE should oversee both the handling of the remaining backlog and the development and implementation of a robust plan to prevent a repetition of recent events.

- The HSE NHO Code of Practice for healthcare records management should be applied. One or more key performance indicators for monitoring the performance of OPD referral handling should be defined nationally and should be monitored and publicly reported.
- Orthopaedic services would benefit from a national strategy for orthopaedic services and trauma.
- General Practice Information Technology (GPIT) Project /IT recommendations (*see footnote 22*). We met with members of the GPIT Project group in the course of our review; the Hospital should give serious consideration to adopting their recommendations

8.3 Common Themes and Governance

8.3.1 In addition to the specific recommendations to address particular issues identified arising from our review of the x-ray and GP referral letters, we make general recommendations to address underlying themes.

- We see no reason to dissent from the PWC report on governance, or to disagree with the main thrust of the recommendations that the size of the Board should be reduced from 23 to a more manageable 8-12, with the introduction of non-executive directors with appropriate skills and experience and a clear definition of the respective roles of the Board and senior management of the hospital. We have been advised by the Hospital that the PWC report has been adopted by the Board and that steps are being taken to streamline the Board and management arrangements within the Hospital. This action, we believe, will go a long way in providing the changes in governance and management that are required.
- In line with practice for boards generally we also recommend that there should be training for all Board members of all Hospitals on the requirements of their role under corporate governance and on fiduciary and other responsibilities of Board members.
- We would urge that there should be a representative of local GPs on the Board and of a representative person who could articulate the needs and the expectations of the local population in the area served by the hospital.
- It is important to proceed rapidly with strengthening Board and Committee structures and to build on the work which has been put in hand by the former Chief Executive Officer Designate to transform management and to develop risk management and quality control. We commend steps already taken by the former Chief Executive Officer designate who has decided not to take up the post.
- We recommend that the Management Framework for the Governance and Funding Arrangements with the non-statutory (voluntary) sector be introduced as soon as possible, and specifically, in relation to Tallaght Hospital, that any recommendations arising from our review which are accepted by HSE, should be made part of a service level agreement with the Hospital which will prescribe standards of service and provide for monitoring and auditing.
- There should be a Director of Operations who would act as Deputy, and take the load of day-to-day running of the hospital off the Chief Executive Officer, who would thus be able to concentrate on strategic issues in a role which requires whole-time and single-minded focus and commitment. Given the budgetary and other challenges in what is likely to be a period in which resources are likely to be constrained while demand keeps rising, there is a need too for a strong finance function to be reflected at Senior Management level.
- We support the appointment of clinical directors who are an essential part of effective hospital management. Clinical directorates led by clinical directors should continue to be established locally and nationally. Clinical accountability is better provided for through recent reform of the consultant contract and this function should be discharged by the clinical director within a clear framework. As well as providing the framework for clinical accountability and clinical governance, the clinical director and clinical directorate structure has a key role in monitoring the split of consultant practice between the publicly funded and privately funded parts of the system. This should help to clarify the reporting arrangements. We are aware that this is a developmental agenda and that it will take planned and concerted effort to develop the role as we have described it above. A clear strategy and action plan

must be developed by the HSE to give effect to the benefit of clinical directorate structures. This development must be prioritized by the HSE and must happen if clinical services are to be effectively led, governed and managed.

- We are of the view that the recent proposal to disperse administrative staff within the clinical directorate structure will make for more effective operations. We were struck in interview by how poorly relationships were developed between administrative and clinical staff – there was no sense of a cohesive team – and an arrangement which places administrative staff within the clinical directorate structure can ameliorate this. However, in this model, the Hospital will need to ensure that there is an individual who has overall responsibility to develop policies and procedures and ensure that they are implemented and monitored. This position would cover the totality of the outpatient function.
- The process for appointing consultants (new and replacement) should be modified significantly to ensure a transparent streamlined process, which addresses departmental deficiencies in a timely manner. The process should ensure that the cause of any delay is clearly demonstrable.
- We recognise that local GPs in the Tallaght area do not speak with one voice, that there is no GP co-operative in the area, and no development of groups in which some GPs with a special interest could operate at a level which would obviate the need for some patients to be referred to hospital in the first instance. The queue does not start at the hospital door, and there is a need to develop outreach and procedures in co-operation with GPs which would provide better access, a more orderly flow of referrals and a better service for patients. This can be achieved through the continued roll out of the primary care strategy.
- We welcome the revival of the GP Liaison Committee, and believe that the situation could be further improved by having a GP representative on the Board.
- In line with national policy (see footnote 23) and in conjunction with the HSE, the Hospital should seek to find ways to engage with the local community and to engage the service user in advising on the quality of hospital care through involvement in panels and other methods.
- We understand that HIQA is responsible for promulgating national standards and has begun this process. We endorse this approach and recommend a speedy roll out of such standards. Hospitals should be required to adopt relevant protocols as a condition of licensing/registration. Such a system, developed and policed by HIQA, would go a long way towards preventing similar occurrences in the future although it will not entirely eliminate them.
- The HSE should embody whichever of these recommendations it adopts in Service Level Agreements with the Hospital and monitor them to ensure compliance.

8.4 We have made some recommendations. So have others. There have been enough reviews and reports: what has been lacking is action and a sense of direction. The actual road-map used is less important than that all should be marching in the same direction and to the same drumbeat.

Appendix 1 Contributors

We are grateful to the following with whom we spoke or who made submissions to us in the course of our review.

General Practitioners

- Prof. Tom O'Dowd GP
- Dr. Deena Ramiah GP
- Dr. Aodhagan O'Reilly GP
- Dr. Andrew Jordon GP
- Dr. Lynda Hamilton GP
- Dr. Alison McSorley GP
- Dr. David Hanlon GP

Hospital Staff

- Dr. David McInerney, Consultant Radiologist (retired)
- Dr. William Torreggianni, Consultant Radiologist
- Dr. Fintan Regan, Consultant Radiologist
- Dr. Sam Hamilton, Consultant Radiologist in Administrative Charge
- Mr. Paul Nicholson, Chair, Orthopaedic Surgeons Subgroup
- Mr. John McElwain, Consultant Orthopaedic Surgeon
- Mr. Maurice Neligan, Consultant Orthopaedic Surgeon
- Dr. James Gray, Consultant in Emergency Medicine
- Mr. Tim Delaney, Head of Pharmacy and Portfolio Director
- Ms. Carol Mullins, Patient Advocacy Co-ordinator
- Ms. Mary Hickey, Process Improvement Manager
- Ms. Jean Murphy, OPD Administrative Support Team Leader
- Ms. Jean Whelan, Acting Clerical Administration Co-ordinator
- Mr. Niall McNally, Director of Human Resources
- Ms. Anne Murphy, Project/Human Resources Manager
- Ms. Caitriona Kelly, CEO and Management Team Support
- Mr. Brendan Carr, Director of ICT
- Mr. Deaglan MagFhloinn, Project Manager
- Dr. Gerry Fitzpatrick, Consultant Anaesthetist
- Mr. John O'Connell, Acting Deputy Chief Executive Officer
- Prof. Philip Murphy, Consultant Microbiologist
- Dr. Eric Colhoun, Consultant Paediatric Radiologist
- Prof. Des O'Neill, Consultant Geriatrician
- Mr. Brendan Fagan, Chairman of the Alliance of Hospital Trade Unions (AMNCH)
- Prof. Kevin Conlon, Professor of Surgery

Former Hospital Staff

- Ms. Catherine MacDaid, Chief Executive Officer, Mount Carmel, formerly Deputy Chief Executive Officer at the Hospital
- Mr. Michael Lyons, former Chief Executive Officer

Board Members

- Mr. Lyndon MacCann, Chairman
- Ms. Gillian Ruffi;
- Dr. Fergus O’Ferrall,
- Ms. Mairead Shields,
- Mr. Alan Gillis, immediate former chair to Board
- Prof. Ian Graham, Vice Chairman
- Archdeacon Gordon Linney,
- Dr. David Moore.

Health Service Executive

- Prof. Brendan Drumm, Chief Executive Officer, HSE
- Mr. John Bulfin, Network Manager HSE

Health Information and Quality Authority

- Dr. Tracey Cooper, Chief Executive
- Mr. Jon Billings

Tallaght Hospital Action Group

Others

- Deputy Conor Lenihan, TD
- Deputy Brian Hayes, TD
- Deputy Charlie O’Connor, TD
- Mr. Ian Elliot, Price Waterhouse Coopers.
- Ms. Claire Halstead, Price Waterhouse Coopers
- Mr. Jim Collins, Ahearne, Collins Management Consultancy
- Mr. Donal Duffy, Irish Hospital Consultants Association
- Mr. Stephen McMahon, Irish Patients’ Association
- Mr. Ian Carter, Chief Executive Officer St James Hospital, Dublin 8
- Prof. Tom Mitchell, Chairman, St. James’s Hospital, Dublin 8
- Mr. Nicholas Jermyn, Chief Executive Officer, St. Vincent’s University Hospital, Dublin 4
- National General Practice Information Technology (GPIT) Group (HSE & ICGP)
- Mr. William McKee, former Chief Executive Officer, Belfast Health and Social Care Trust

Appendix 2 Review of PACS/RIS in the Hospital²⁵

“A Review of the PACS/RIS System in the Adelaide, Meath and National Children’s Hospital.

Professor Neil O’Hare
Department of Physics and bioengineering, St James’s Hospital
Project Lead, National Integrated Medical Imaging System

Dr Niall Sheehy
Consultant Radiologist, St James’s Hospital
Lead Radiologist, National Integrated Medical Imaging System

Background: It recently emerged that a large number of plain radiographs performed in AMNCH had not been reported over a number of years. As a result of this a review has been initiated as to the causes and consequences of this fact. As part of that process, the Faculty of Radiology asked senior members of the National Integrated Medical Imaging System (NIMIS) Project to review the in-situ PACS/RIS system.

Purpose: To examine the PACS (Picture, Archive and Communication System) and RIS (Radiology Information System) systems installed in AMNCH and assess whether its design or implementation may have contributed to the problem of unreported examinations.

Note: These comments were made after an inspection of the department on 10/5/2010 and interviews with the personnel from AMNCH listed below. They are intended only as a brief overview of the radiology IT infrastructure in AMNCH and how aspects of its design and implementation may have impacted on the ability of the department to report all of its examinations. This is not intended to be a full review of radiology IT infrastructure and procurement in AMNCH.

- Dr Samuel Hamilton, Clinical director, AMNCH radiology
- Dr Ronan Browne, Consultant Radiologist
- Dr William Torregiani, Consultant Radiologist
- Sean Humphreys, Radiographer / PACS Manger
- Adrian Rath, Operations Manager, ICT Dept,

Abbreviations and definitions

PACS	Picture archiving and communications system A system that acquires, transmits, stores, retrieves, and displays digital images and related patient information from a variety of imaging sources and communicates the information over a network.
RIS	Radiology Information system A Radiology Information System (RIS) is used by radiology departments to store, manipulate and distribute patient radiological data. The system generally comprises patient tracking and scheduling, result reporting and image tracking capabilities.
VR	Voice recognition A system that can recognize words or phrases and convert them into text. In radiology it provides a mechanism whereby a dictated report can be placed immediately into the RIS and distributed to the ordering clinicians.
RAID	Redundant Array of Independent Disks A mechanism of data storage characterised by rapid archiving and retrieval.
OCM	Order Communication Systems Healthcare IT systems that allow electronic placement of reports and distribution of results.

²⁵ The Hospitals comments on a draft of this report have been incorporated as appropriate.

Introduction

When AMNCH opened in 1998 it was one of the first hospitals in the world with a radiology department that was completely digital. The system was intermittently upgraded and underwent a major refurbishment in 2008. The system composes of a PACS and RIS. AMNCH does not possess either VR or OCM (Though OCM exists in AMNCH for other departments, it is not used in radiology). The major components and upgrades are summarised below:

PACS

The PACS was supplied by a single vendor in 1998 and underwent a major upgrade in 2008.

The initial design consisted of a short-term RAID archive and a long-term tape archive (known as 'near-storage'). At the time of installation, tape archives were used for long-term storage in preference to RAID for capacity and economic reasons and are a common feature in PACS systems of that era. The disadvantage of tape-based archives is that they can take some time to retrieve images, typically minutes to hours. In addition, tapes can degrade with repeated use and become unsuitable for long-term data storage. Initially the RAID was designed to hold several months of images for rapid retrieval. However, as the workload of the department increased, the duration that images were on RAID decreased and they would rapidly go into 'near-line', which made them difficult to report in a timely and efficient manner. In addition, prior to the system upgrade in 2008, repeated failures of the tape-archive were occurring particularly when the workloads increased.

In 2008 as part of a major upgrade, a new PACS platform was introduced. By this time, underlying efficiencies in IT had greatly reduced the costs of long-term storage and it had become common practice to dispense with tape-archive and use RAID for all PACS storage. Several Irish PACS projects prior to 2008 had done this e.g. Naas (2003), Tullamore (2005), and St James's (2006). However, in AMNCH the old architecture was maintained albeit with an increase in the size of the RAID and a new mechanism of tape-archive was installed. Moving to a new tape archive required that the old long term tape-data was transferred (via the new RAID) onto the new tapes. This process was not carried out prior to go-live of the new system but is running concurrently with day to day applications and limits the capacity of the RAID for clinical use – the transfer is still on-going. Although the new RAID storage system should retain enough memory for 9 months of data, the radiologists interviewed all stated that this period of time had occasionally been much shorter with images obtained a few weeks prior being listed as 'near-line'. This appears to be as a direct result of the migration process mechanism.

The current platform is not liked by the radiologists who feel that it is cumbersome and slow when used with datasets with large image numbers, such as Computed Tomography. It is also felt to be too slow to accommodate the very large data-sets from multi-slice CT. Despite being just over two years old, the Radiologists interviewed expressed a desire to move off this platform and progress with the installation of a new integrated PACS/RIS system.

Radiology Information System (RIS)

The RIS is supplied by a separate single vendor. Prior to 2008 there was limited connectivity/poor integration between the RIS and PACS – the RIS could send DICOM work-lists and reports. Modern radiology reporting systems typically feature a comprehensive integration with the RIS. This gives the radiologist a complete over-view of all the patient's radiological investigations, with their indications and results in addition to improving the workflow processes for the Radiologist. After 2008 the RIS underwent a considerable upgrade and had a much tighter integration with the PACS, however it appears that significant difficulties in the function of the integrated PACS/RIS system existed in the 12-18 months post upgrade.

The current workflow is now 'RIS-driven', that is the radiologists queries the RIS, which then controls the images the PACS displays. This is a robust workflow and a feature of many modern systems. However, it requires the integration of two large databases (RIS and PACS). The radiologists complained that the RIS was often very slow to respond taking seconds to minutes to display patient data or worklists. It was not clear whether this is due to difficulties with the PACS, RIS or the interface between them. Recent "PACS" projects such as those identified above, have progressed with a single supplier highly integrated PACS/RIS solution to avoid many of the difficulties encountered in the early stages of the upgrade process and current performance issues. This approach was not taken in AMNCH.

Another key function of the RIS is to generate statistical data, which may monitor a department's performance. There were differences of opinion as to the functionality of the current system in this regard: staff interviewed stated that it was very difficult to generate routine statistical reports but ICT state that it has a full suite of such reports. A modern PACS/RIS solution would routinely be delivered with reasonably powerful management reporting tools.

Report Transcription

Voice recognition was not available at the time of the initial system design in 1998. By 2008 however, it was a mature technology and had been included in other Irish PACS systems (E.g. St Vincent's, St James's, UCHG) and to our knowledge has been included in all subsequent PACS systems installed in Ireland both in the public and private sector. Nonetheless it was not part of the 2008 upgrade as it was stated that the benefits were unproven. Reports are dictated onto tape by the radiologists and transcribed onto the RIS within the department. This process can be lengthy and can lead to considerable delays as clinicians wait for formal results prior to making decisions. In addition, a substantial portion of the radiologist's time was spent re-interpreting images that had already been read, as clinicians were unable to access the reports in a timely fashion.

Order-Communications

There is no electronic order communication system in radiology, although there is one available for other departments of the hospital. All orders are received on paper. All results are printed and distributed on paper. The paper orders were not electronically 'scanned' into the PACS or RIS and during the recent review, it transpired that many were not immediately available at the time of reporting.

Order Vetting and Scheduling

Paper orders are vetted by the radiologists, graded as to urgency, then placed on the RIS. Therefore, the system had no knowledge of a clinician's order until it was vetted. Although some GP orders would be scheduled without vetting (e.g. Chest X-Rays), others (e.g. Ultrasound) needed vetting prior to entry on the RIS. An alternative approach utilized in other radiology departments is to scan the paper request upon receipt – this way the status of a request can be checked at all stages.

Summary of 2008 Upgrade

In 2008, a major system upgrade took place. At that time the system was apparently experiencing significant performance and stability issues. It was decided to upgrade the current PACS rather than look at the replacement of the 10 year old system. This being said, the 2008 upgrade seems to have addressed some of the problems that had built up with the old system:

- The size of the RAID was increased;
- The RIS integration was augmented and improved.

However, the system was not specified to a level that was typical of other PACS/RIS being installed at that time. Namely:

- It retained a long-term tape archive rather than being all-RAID;
- It did not move towards a single vendor integrated RIS/PACS solution;
- It did not incorporate VR;
- It did not incorporate any element of electronic OCM or document scanning.

A criticism made during our visit was that the RIS and PACS were not from the same vendor and that this should have been done as part of the upgrade. Although this point has merits, it is not uncommon for RIS and PACS to be from different vendors – it is the quality of the integration that is important.

From conversations with AMNCH personnel, the aims of the upgrade were unclear. The radiologists interviewed and the PACS manager stated that they were excluded from the decision to upgrade and did not contribute to any specifications for the new system – rather they were given the new system and told to implement it. From discussions with the current Radiology and ICT personnel, it appears that the specification was developed by the PACS vendor with input from the then Radiographic Services Manager and Clinical Director in Radiology. It is noted that the circumstances surrounding this upgrade are not known to the reviewers nor are the constraints - financial or technical - on those who made the decisions that may have limited their options.

Does the current system facilitate rapid and safe reporting of radiological images? How could it be improved?

As stated above the current PACS/RIS in AMNCH is of limited functionality compared to what would currently be considered state-of-the-art. Clearly, this limited functionality can be expected to impair the efficiency of the reporting process. However, many factors outside of the IT infrastructure also reduce the efficiency of the radiology department including radiologist numbers and workflow. In this context it should be noted that there are other Irish academic hospitals of similar size to AMNCH, which currently work with a much poorer radiology IT infrastructure.

The major weaknesses of the current system, which may have resulted in difficulties in reporting the backlog of radiographic images include:

1. *Images are not staying long enough on RAID*
 - a. *Images stored on 'near-line' or tape storage could still have been reported but the time delay in retrieving them would be expected to markedly reduce the efficiency of the process.*
 - b. *This was a particular problem prior to 2008, when images were frequently only available for report for a short period of time. Although this situation has been improved by the 2008 upgrade it still occurs.*
 - c. *Recommendation: Clearly a system utilizing only RAID as primary storage would be preferable.*
2. *Poor performance of the integrated PACS/RIS system.*
 - a. *This may have resulted in impaired efficiency in reporting images.*
 - b. *Recommendation: This issue requires more study as it is not possible to say whether the fault for this lies with the PACS, RIS or both. This is a complex issue, which requires a more detailed analysis.*
3. *Possible inability of the RIS to generate management reports*
 - a. *Regular reports run off the RIS, which would generate management information including the number of unreported studies or the waiting lists for certain examination subtypes might have highlighted the situation prior to becoming a critical issue.*
 - b. *Recommendation: A modern RIS should be able to generate such reports. All staff should be satisfied that this is possible with the current software. If this is not possible then other systems should be considered to generate such data.*
4. *Poor performance of radiology workstations especially with large image datasets.*
 - a. *This does not relate directly to the current "unreporting" issue as all such large datasets have been reported. However, if the system results in a delay in reporting these high-priority studies, this must have necessarily resulted in difficulties in reporting the lower priority plain radiographs.*
 - b. *Difficulties in dealing with large datasets can be an issue with many older PACS systems, but should not be present in a system that is almost brand new.*
 - c. *Recommendation: there is to be an upgrade of the PACS software, if problems persist, a PACS system from the same vendor is currently operating in another Dublin hospital, and the first step should be to benchmark the performance of the AMNCH workstations with those in the other hospital. Following this a decision on the overall suitability of the PACS workstations should be made.*
5. *No Voice Recognition.*
 - a. *The current process, which uses transcriptionists, results in substantial delays in formal reports being given to clinicians. This would not have a direct effect on the efficiency of reporting radiographs. However, departmental efficiency is impaired, as radiologists have to spend more time discussing preliminary reports with clinicians.*

- b. *Recommendation: VR systems should be introduced.*
- 6. *Requisition cards may not be available at the time of reporting.*
 - a. *This may lead to a poorer quality report as radiologists may have to report studies without clinical information. It may also reduce departmental efficiency if the radiologist is forced to wait until the card is found.*
 - b. *Recommendation: A long-term goal should be the introduction of a full electronic order-communication system. In the short-term, scanning the requests onto the RIS or the PACS should be considered.*

Clearly how these issues are addressed will depend on the resources available. A comprehensive assessment of the needs of the hospital and radiology department should be undertaken with a business case looking at the costs of up-grading the current system versus buying and implementing a new integrated PACS/RIS/VR system.”

Appendix 3 Radiology Activity Levels by Modality 2005 - 2009

Activity Levels by Modality 2005 - 2009

	2005	2006	2007	2008	2009
Angiography	384	309	279	233	156
Biliary / Hepatic Procedures	32	15	51	37	34
Biopsies	183	239	257	221	181
CT Scans	13,167	13,657	14,309	16,355	18,107
Cardiac	2,095	2,075	1,995	1,956	1,781
Dental	54	43	28	31	54
Discograms	30	14	20	8	8
Drainages	216	250	291	263	262
DXA		345	825	789	1,303
Facet Arthorgrams	259	285	280	190	116
General	135,768	133,590	127,880	127,514	127,905
IVP / Tomos	787	743	744	693	611
Lithotripsy	500	459	476	471	642
Mammograms / Breast Needl	2,169	2,324	2,422	2,413	1,660
MRI	4,960	5,559	5,785	6,285	6,611
NTPF				5	
Nuclear Medicine	3,707	3,659	3,620	3,460	3,108
Orthopantogram	304	294	349	369	306
Outsourced		758	1,827	1	
Screening	3,106	3,581	4,098	3,461	3,509
Special Procedures	3,225	3,171	3,422	3,122	3,016
Spinal Special Procedures	24	38	37	50	42
Trinity Study (MRI)			218	475	556
Ultrasound	16,637	16,998	16,689	16,973	15,985
Ultrasound Carotid / Dopple	8	103	177	197	143
Venography	36	58	34	29	41
Venous Access and Procedure	317	362	508	577	649
Total	187,968	188,929	186,621	186,178	186,786

Appendix 4 Faculty of Radiologists (RCSI) Report on Radiology Workload

“July 8th, 2010

Dear Dr. Hayes,

The Faculty of Radiologists, RCSI, is engaged at present in a national survey of radiology department and consultant radiologist workload, in an effort to establish appropriate benchmarks for consultant radiologist activity, and to assist in planning for future radiologist requirements. We have discussed this venture with the Business Intelligence Unit of the HSE, and have received their approval for the exercise.

In this survey, we are using a validated, published Australian methodology for measuring radiologist workload [references below]. This consists of two main components: Relative Value Units (RVUs) derived from the numbers of studies within different categories (e.g. plain films, ultrasounds, CT, MRI) performed within a department in a calendar year, and calculation of the time commitment of consultant radiologists to activities which cannot be easily counted (e.g. interventional and procedural work, teaching and administration, preparation of and conduct of multidisciplinary team meetings). By dividing the total number of RVUs by the number of consultant radiologist whole-time-equivalents (WTEs), we will calculate the crude RVU/consultant for each department. Taking account of the time commitment to other activities (as outlined above), we will also calculate the net RVU/consultant value. This latter calculation will be, we expect, a more true measure of consultant workload, as it should take account of the varying complexity of practice from hospital to hospital. Nonetheless, the crude RVU/consultant measure, which is more readily arrived at, is also a valid measure of workload.

In the 2006 paper referenced below, the Australian benchmark crude RVU/consultant identified was 40,000. In a later extension and update of their initial survey, published in 2009, the benchmark crude RVU/consultant had risen to 45,000.

Although most of the initial data returns from hospitals have yet to be received, some departments have submitted the data requested. Full analysis of the data will not be performed until all returns have been submitted. Nonetheless, we believe that some preliminary data comparisons may be of use to you in your review of unreported radiology studies in AMNCH.

Table 1

Hospital	Year	Total RVUs	Gross WTE Consultant Radiologists	Crude RVUs/ Consultant Radiologist
AMNCH (adult radiology)	2009	468408	5.5	85165
Dublin Teaching Hospital A	2009	578857	11.7	54098.8
Teaching Hospital outside Dublin B	2009	209862.5	4.53	46327.3
Dublin Teaching Hospital C	2009	488536.5	10	48853.7
County Hospital D	2009	63278	1	63278

The number of WTE Consultant Radiologists which would have been required to bring the radiology department in AMNCH to the same crude RVU/consultant level as the other hospitals in 2009 would have been as follows:

Table 2

AMNCH, 2009	
Actual no. WTE Consultant radiologists	5.5
No. of WTEs to achieve equivalency with Hospital A	8.7
No. of WTEs to achieve equivalency with Hospital B	10.1
No. of WTEs to achieve equivalency with Hospital C	9.59
No. of WTEs to achieve equivalency with Hospital D	7.4

Tallaght Hospital Review

The most-recently published data from Australia, applying this method of workload measurement (Pitman et al 2009), found that the benchmark annual workload per consultant radiologist had risen from 40000 RVU (measured in 2006), to 45000. Applying these figures to the hospitals listed above would mandate staffing levels as shown in Table 3:

Table 3

Hospital	Gross Wte Consultant Radiologists	No. Of Consultants Required To Achieve 40000 Rvu/ Consultant/Year	No. Of Consultants Required To Achieve 45000 Rvu/ Consultant/Year
AMNCH (adult radiology)	5.5	11.7	10.41
Dublin Teaching Hospital A	11.7	14.47	12.86
Teaching Hospital outside Dublin B	4.53	5.25	4.66
Dublin Teaching Hospital C	10	12.21	10.86
County Hospital D	1	1.58	1.41

Thus, relative to the Australian benchmarks, all sampled Irish hospitals are understaffed, but the degree of understaffing in AMNCH in 2009 was very substantially greater than in the other sampled hospitals outlined here.

I hope this preliminary analysis of data will be helpful to you in your deliberations.

Best wishes.

Yours sincerely,

Adrian Brady

Honorary Secretary.

Faculty of Radiologists, RCSI.

References:

Pitman AG, Jones DN. Radiologist workloads in teaching hospital departments: Measuring the workload. *Australasian Radiology* (2006) 50:12-20.

Pitman AG, Jones DN, Stuart D, Lloydhope K, Mallitt K, O'Rourke P. The Royal Australian and New Zealand College of Radiologists (RANZCR) relative value unit workload model, its limitations and the evolution to a safety, quality and performance framework. *Journal of Medical Imaging and Radiation Oncology* (2009); 53:450-458."

Appendix 5 Hospital Submission: Reasons why x-ray exams are recorded as unprocessed on RIS

“Reasons why x-ray exams are recorded as unprocessed on RIS²⁶

- *X-rays reported elsewhere but recorded and digitized on Tallaght PACs, e.g. PET Scans, x-rays from Naas, Peamount.*
- *Multiple Repeat Examinations on the same day, e.g. pneumothorax in casualty with serial chest x-rays taken before and after insertion of tube or sequential CT Examinations in Stroke to evaluation Haemorrhage, when done on the same day.*
- *Multiple examinations may all be reported under a single registration, e.g. if the details surveyed, contain 5 or 6 separate examinations on the RIS may be reported as a single one, thus apparently leaving 4 unreported.*
- *OPD images for Dentists are not usually reported.*
- *Theatre Radiology for Orthopaedics e.g. post reduction films for fractures,*
- *Theatre GU, theatre angiography performed by vascular surgeons, ERCP images.*
- *Daily chest radiographs in ICU/CCU. These are reviewed at the daily clinical radiological meetings and maybe reported en bloc as a single report after a period, thus leaving the majority of them apparently unprocessed.*
- *Video-fluoroscopy by Speech Therapists for swallowing assessment.*
- *X-rays registered and not done.*
- *The majority of Orthopaedic x-rays, particularly serial x-rays to assess fracture healing or joint replacement. These are assessed by the Orthopaedic Surgeons.*
- *Cardiac Angiography registered on PACS, reported separately by the Cardiologists; similarly with some radiographs for cardiac procedures, reviewed by Cardiologists.*
- *Examinations may be done in two separate x-ray Rooms entailing two registrations but only reported on one of these registrations, e.g. small bowel follow through examination.*
- *Serial KUB Abdominal x-rays for the Urologists in patients being treated by lithotripsy for renal calculi, films reviewed by Urologists.”*

Appendix 6 Summary of References to Radiology Backlog Numbers in Hospital Documentation

Summary of References to Radiology Backlog Numbers in Documentation and Files submitted to us by the Hospital which serves to highlight the confusion that existed regarding numbers.

DATE OF FILE LETTER/EMAIL ETC.	NUMBER ATTRIBUTED TO BACKLOG
03/11/2003	5,000
30/01/2006	6,900
08/03/2006	6,000
15/03/2006	6,000
30/11/2006	5,100
23/04/2007	8,250
23/09/2008	50,000
22/12/2008	35,100
21/01/2009	35,000
04/02/2009	40,000
06/02/2009	40,000
24/04/2009	42,000
05/05/2009	40,000
22/05/2009	40,000
24/06/2009	4,000
25/06/2009	4,000
25/06/2009	4,000
13/12/2009	57,000
04/01/2010	51,422
11/01/2010	48,000
11/01/2010	35,000
18/01/2010	35,000
01/02/2010	25,000
25/03/2010	15,185

Appendix 7 References

- 1) Medical Staffing and Workload in Clinical Radiology in the UK NHS. Royal College of Radiologists (1993).
- 2) Workload and Manpower in Clinical Radiology. The Royal College of Radiologists (1999).
- 3) Consultant Staffing levels in Radiodiagnosis. Faculty of Radiologists, Royal College of Surgeons in Ireland (2000).
- 4) Radiologist workload in teaching hospital departments: Measuring the workload. Pitman AG, Jones DN. Australasian Radiology (2006) 50:12-20.
- 5) How many radiologists do we need? A guide to planning hospital services. The Royal College of Radiologists (2008).
- 6) The Royal Australian and New Zealand college of Radiologists (RANZCR) relative value unit workload model, its limitations and the evolution to a safety, quality and performance framework. Journal of Medical Imaging and Radiation Oncology (2009); 53: 450-458.
- 7) The future role of radiology in healthcare, ESR 2009 (2010) Insights into Imaging 1:1; 2-11.

