

May 14, 2012

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**Subject:***Imaging Services – Orders and Reports*  
*AMAS Audit Project 2010-20*

Audit & Management Advisory Services (AMAS) has completed an audit of selected UCSD Health System (UCSDHS) Imaging Services (Imaging Services) pre and post-exam processes in accordance with the Fiscal Year 2009-10 audit plan.

### **Background**

Department of Radiology (Radiology) faculty members provide specialized imaging services and advanced procedures to diagnose a wide variety of medical conditions. Radiology specialists have expertise in most imaging areas, including abdominal imaging, breast imaging, neuroradiology, interventional and vascular radiology, musculoskeletal radiology and ultrasound.

Imaging Services provides the staff and infrastructure to perform radiographic studies. Orders are processed, and exams are completed using UCSDHS core systems and specialized equipment. In calendar year 2009, the department received approximately 213,000 orders. Ensuring that procedures performed are consistent with physician orders can be challenging for the Imaging Services staff, considering the large volume of orders and complexity of some of the studies performed.

At the time of our review, Imaging Services management was collaborating with Revenue Cycle Administration (RCA) to streamline pre-exam business requirements and responsibilities to expedite the scheduling of most outpatient exams. To achieve that goal, exam protocol review and scheduling processes continued to be performed by Imaging Services Radiologists and staff; and responsibility for completing all financial clearance processes<sup>1</sup> was re-assigned to the Patient Access department. The sequence of those tasks was restructured to complete exam protocols and scheduling when an order was received in the Radiology Information System (RIS). Financial clearance was initiated after those steps were completed to ensure that Patient Access staff had accurate exam information. These process changes were initiated as a pilot project in July 2010 and were officially adopted in July 2011.

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<sup>1</sup> Financial clearance procedures include verifying insurance eligibility, reviewing associated insurance benefits, and securing the payer's authorization to provide the ordered service, if required.

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**Audit Objectives, Scope and Procedures**

The objectives of our review were to determine whether manual and/or automated process controls ensured that exam orders were consistent and updated as needed; whether reports were completed on a timely basis; and to evaluate the impact of the re-engineered pre-exam processes.

We performed the following procedures to achieve the project objectives:

- Interviewed selected Patient Access, Imaging Services, and RCA personnel to obtain information about business processes; and to identify the data available to assess the consistency of orders and results;
- Evaluated the re-engineered Imaging Services outpatient pre-exam order processes in place at the time of our review;
- Prepared a flowchart of Imaging Services outpatient pre-exam processes as they were performed at the start of the audit (*Attachment 1*);
- Prepared a flowchart of the re-engineered outpatient pre-exam processes established during the course of the audit, (*Attachment 2*); and,
- Analyzed a sample of 50 Orthopaedic, Nuclear Medicine, Computed Tomography (CT), and Magnetic Resonance Imaging (MRI) completed exam orders from October to December 2009 to verify that orders were consistent with the exam results, and that results were reviewed and approved within established standards.

**Conclusions**

Based on our review procedures, we concluded that exam order and reporting process controls were adequate, and helped to ensure that exam orders were consistent with the exams performed and reported. Final exam reports were authenticated on a timely basis in most cases. Exceptions noted during our testing of the 50 exam orders were non-recurring events and were discussed with Imaging Services management.

The re-engineered pre-exam processes implemented in July 2011 have resulted in improved wait times for scheduled exams, which has had a positive impact on patient care. However, we identified additional opportunities for process improvements, which are discussed in more detail below.

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**Observations and Management Corrective Actions**

**Verification of Financial Clearance and Unscheduled Exams**

**Imaging Services was not confirming that financial clearance procedures were complete prior to the patient's arrival for a scheduled exam; and patients were not contacted to follow-up on exams that had been ordered, but not yet scheduled (call outs).**

**Financial Clearance**

The financial clearance process is critical to ensuring that charges are submitted to the appropriate payer (insurance company or individual) and to identify and communicate patient financial responsibility before services are rendered. The successful completion of financial clearance for radiology exams is dependent upon accurate information about the type of exam being performed. It would be optimal to complete financial clearance prior to scheduling exams. However, Radiologist approval or modification of an original order is critical to ensuring that the correct exam is scheduled and authorized. Therefore, the exam protocol review and scheduling processes are completed before financial clearance procedures are initiated in the re-engineered pre-exam processes (*Attachment 2*).

Imaging Services management advised us that the process changes have improved wait times for scheduled exams and increased the number of required authorizations. However, in some cases insurance authorization may not be received before the exam date, requiring that the exam (and possibly other related medical care) be delayed pending approval. Patients may arrive for a scheduled exam and be informed that it must be re-scheduled. Imaging Services and RCA managements are aware that delaying the financial clearance process increases the risk that all procedures may not be complete prior to the scheduled exam. However, the tools available in current financial systems are designed to drive the financial clearance workflow after a case is created (scheduled).

The implementation of the Epic revenue cycle modules, planned for 2013, will provide the functions and data needed to further improve the coordination and timeliness of pre-exam processes. In the interim, proactive monitoring of the status of the financial clearance process prior to the date of service, and continued coordination between Patient Access and Imaging Services will help to ensure that issues are raised prior to patient arrival, and resolved as timely as possible.

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**Management Corrective Actions:**

1. Imaging Services management will determine whether financial clearance processes have been completed for scheduled exams several days before the exam is performed and make schedule changes as appropriate.
2. Payer authorization processes will be redesigned as part of the Epic Revenue Cycle system implementation, which was initiated in April 2012. In the interim, Patient Access and Imaging Services personnel will continue to collaborate on financial clearance issues.

**Unscheduled Exams**

As identified in *Attachment 2*, patients are responsible for contacting Imaging Services to schedule outpatient exams. However, a process for identification and follow-up for exams that were ordered, but not scheduled was not in place. As a result, exams may not be completed, potentially impacting customer service and patient care.

**Management Corrective Action:**

Imaging Services management will establish guidelines for contacting patients with exams that have been ordered, but not scheduled.

Audit & Management Advisory Services appreciated the cooperation and assistance provided during the review. Because we were able to reach agreement regarding corrective actions to be taken in response to the audit recommendations, a formal response to the report is not required.

The findings included in this report will be added to our follow-up system. We will contact you at the appropriate time to evaluate the status of the corrective actions. At that time, we may need to perform additional audit procedures to validate that actions have been taken prior to closing the audit findings.

UC policy requires that all draft audit reports, both printed and electronic, be destroyed after the final report is issued. Because draft reports can contain sensitive information, please either return these documents to AMAS personnel or destroy them.

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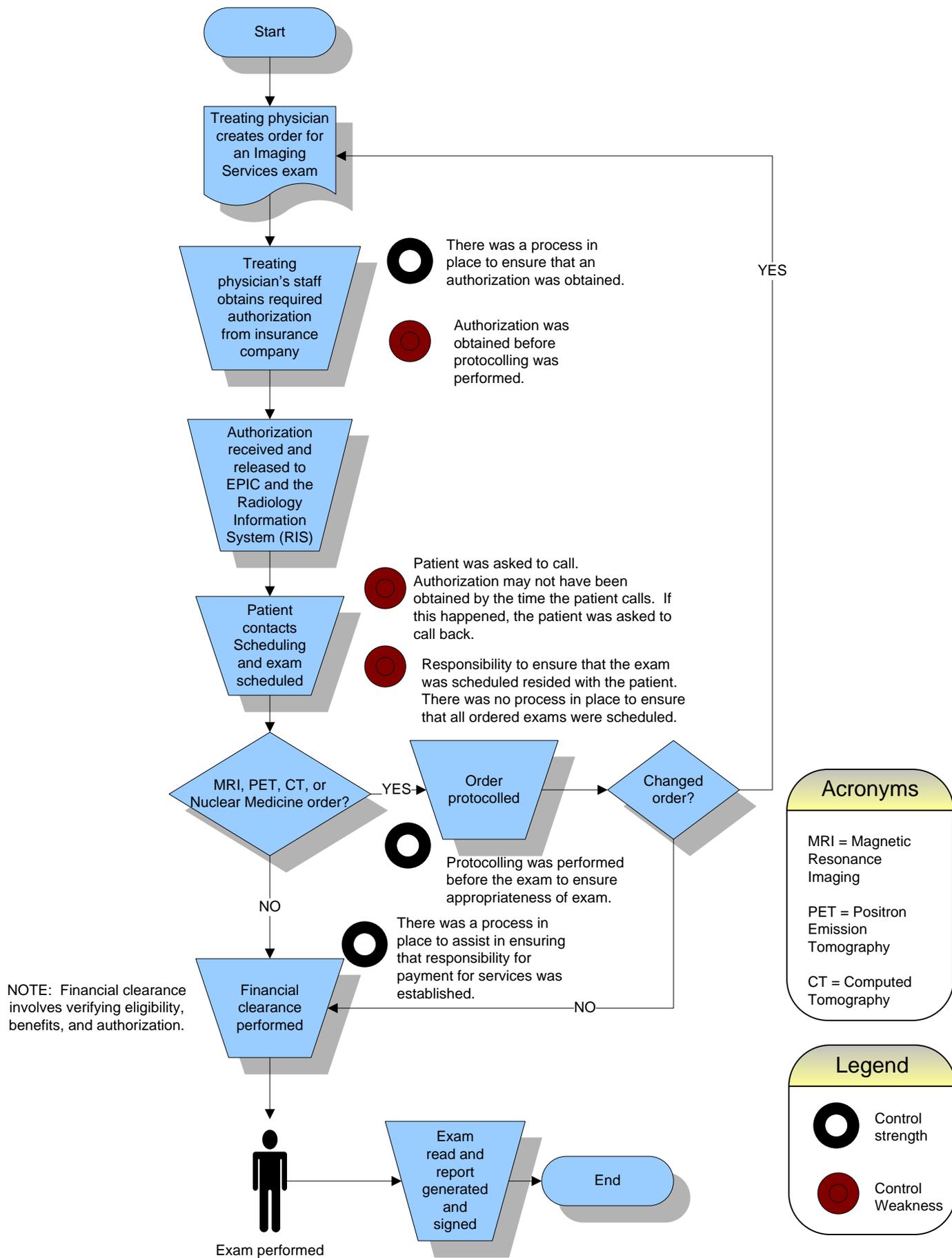
If you have any questions regarding this report, please call me at (858) 534-3617.

Stephanie Burke  
Assistant Vice Chancellor  
Audit & Management Advisory Services

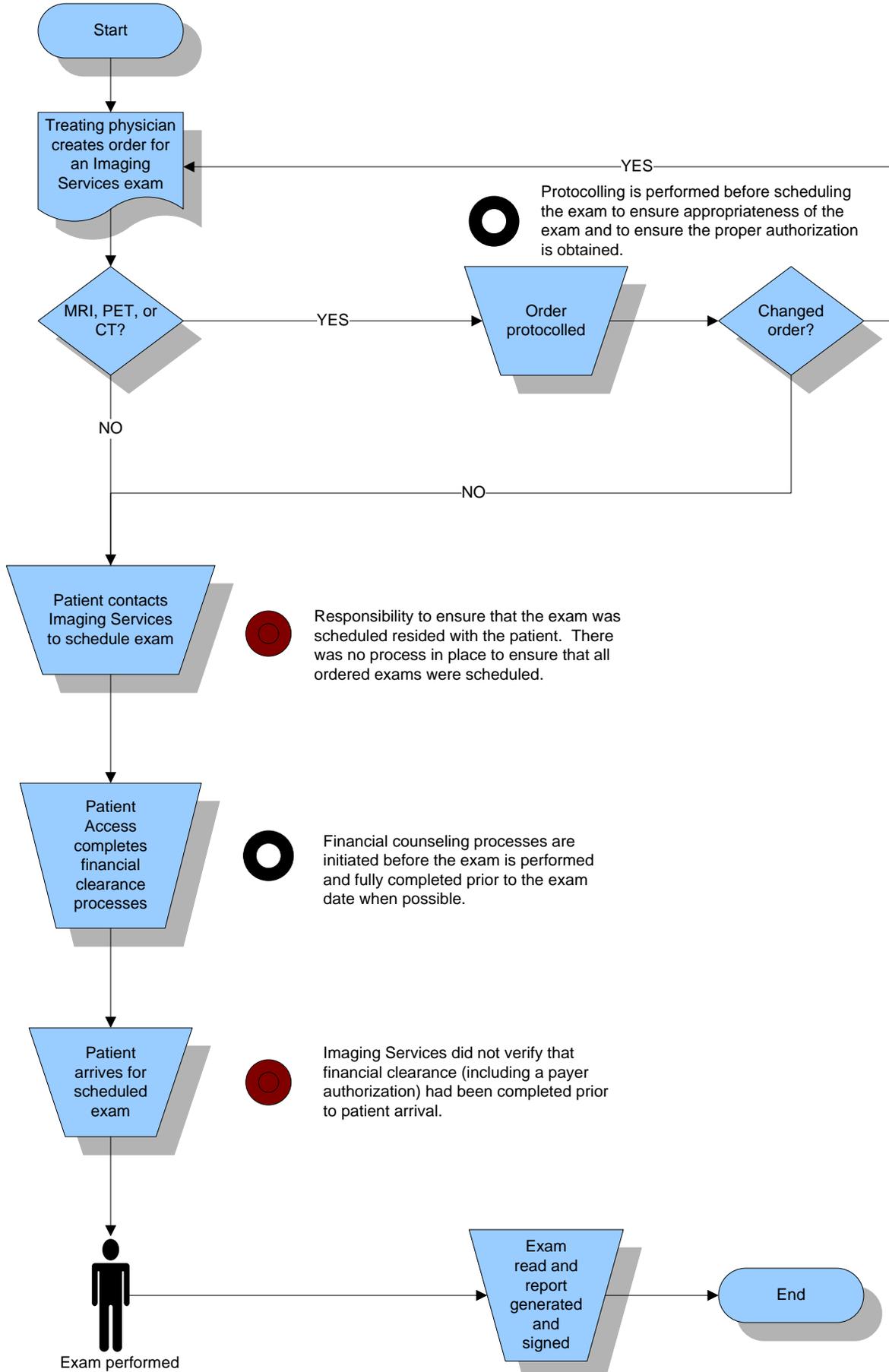
Attachments

cc: M. Baggett  
D. Brenner  
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**Imaging Services – Orders and Reports**  
**Audit & Management Advisory Services Project 2010-20**  
**Radiology Outpatient/Inpatient Processes Overview– Attachment 1**



**Imaging Services – Orders and Reports**  
**Audit & Management Advisory Services Project 2010-20**  
**Re-Engineered Imaging Services Outpatient Pre-Exam Processes Overview – Attachment 2**



Protocolling is performed before scheduling the exam to ensure appropriateness of the exam and to ensure the proper authorization is obtained.



Responsibility to ensure that the exam was scheduled resided with the patient. There was no process in place to ensure that all ordered exams were scheduled.



Financial counseling processes are initiated before the exam is performed and fully completed prior to the exam date when possible.



Imaging Services did not verify that financial clearance (including a payer authorization) had been completed prior to patient arrival.

**Acronyms**

MRI = Magnetic Resonance Imaging

PET = Positron Emission Tomography

CT = Computed Tomography

**Legend**

 Control strength

 Control Weakness