



U.S. Department
of Veterans Affairs

Collaboration Between Radiology and Utilization Management to Reduce Inappropriate MRI Orders and Patient Wait Times

A. Chang, C. Hyun, N. Mehta, S. Kim, M. Grube,
M. Blair, A. Yi

VA Loma Linda Healthcare System
November 2017

For inquiries contact: arthur.chang@va.gov



Problem/Goal

- At our facility with two MRI magnets, patient wait times were steadily increasing up to a maximum of 7 weeks despite extending evening and weekend hours.
- No concerted effort had previously been made to reduce the high level of overutilization as perceived by the Radiologists.
- The Radiology service and Utilization Management (UM) team, after an initial separate review process, determined to jointly review all outpatient MRI orders for appropriateness. By reducing the number of inappropriate scans, we expected a decrease in patient wait times.
- Goal was to reduce patient wait times for ordered MRIs to **less than 30 days**.

Implementation Experience for Radiologists

The Initial Radiologist Experience (Nov-Dec 2013):

- Denial rate: 27.7%
- Limited time for detailed review
- No time to call ordering physicians about denials
- Limited time for discussion/education with ordering physicians
- Lack of record keeping of decisions
- Potentially setting up adversarial relationship between Radiology and all other physicians
- Allowed consensus within Radiology about how to apply criteria

Implementation Experience for UM

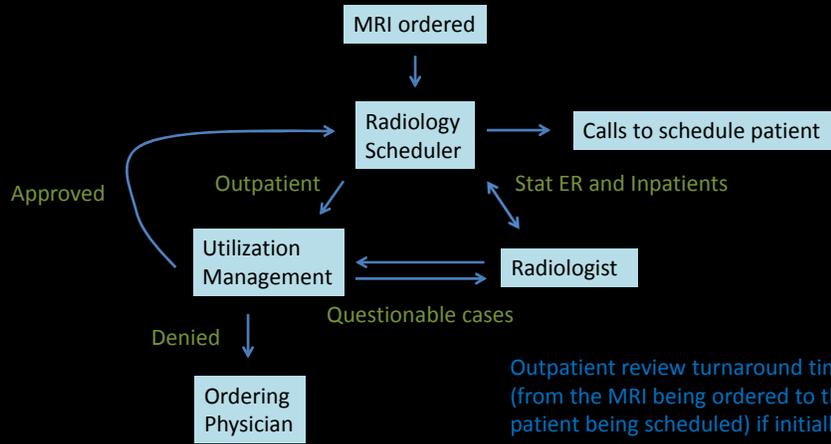
The Initial UM Experience (Jan-Feb 2014):

- Lack of experience on how to apply McKesson InterQual® Criteria (commercially available software)
- Difficulty denying studies. Lower denial rate: 14.4%
- No physician backup
- What to do about questionable cases
- Gained more familiarity with InterQual® criteria compared to other physicians

Start of UM and Radiology collaboration (late Feb 2014)

- To better achieve optimal results, the Radiology and UM departments coordinated efforts to provide further training to the UM nurse reviewers, established protocols and specialized guidelines, and designed radiologist consultation workflows for challenging cases
- Collaboration denial rate: 21.7%

Utilization Review Workflow



UM will first page ordering physician to discuss. If no response, e-mail will be sent stating reasons for denial.

Outpatient review turnaround times (from the MRI being ordered to the patient being scheduled) if initially approved: 1-2 days

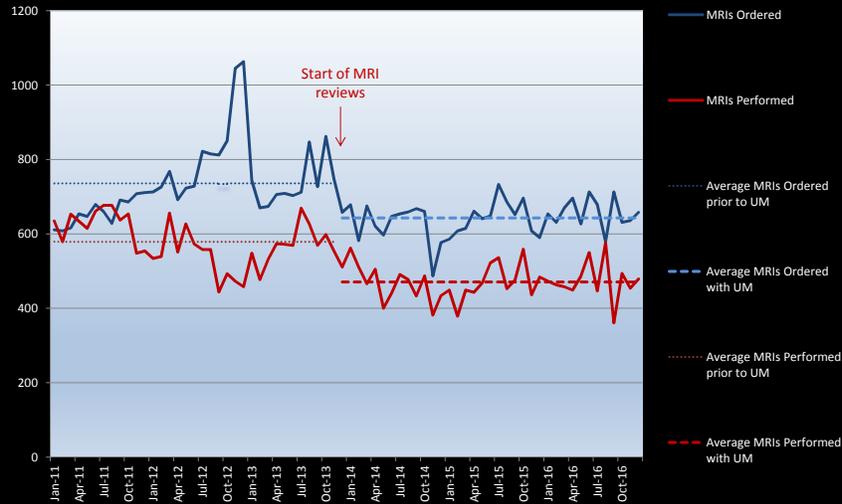
Outpatient review turnaround time if denied or questionable case: no more than 4 days

Detailed Denial Rates (First Year of Intervention)



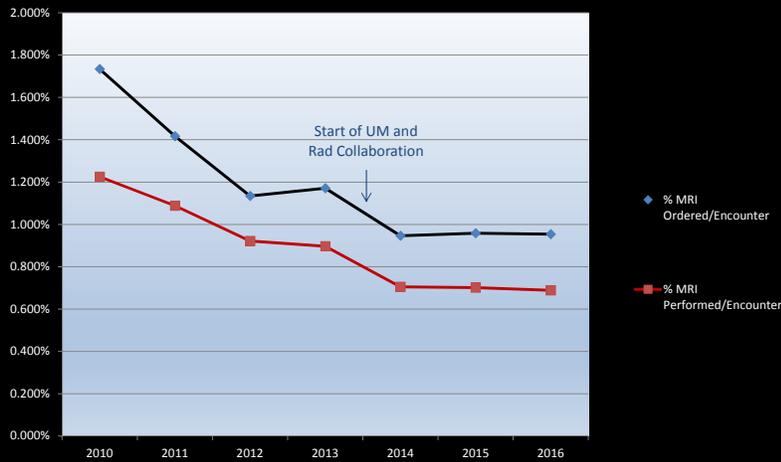
- Initial Radiology only review denial rate: 27.7%.
- Initial UM only review denial rate: 14.4%.
- After collaboration between Radiology and UM, overall denial rate: 21.7%.
- Denial rate subsequently declined to 12-13% over the next few months as ordering physicians were increasingly educated on MRI ordering guidelines.

Monthly Number of MRIs Ordered and Performed



- Total number of MRIs performed during the intervention period (2014-2016) decreased by 20.3% compared to baseline.
- Mainly due to decrease in physician ordering by 17.7%.

Percentage of Patient Encounters where an MRI was Ordered and Ultimately Performed



The annual number of MRIs ordered and performed remained steady during the intervention years (2014-2016) after adjusting for yearly increases in our patient population.

Average Wait Times for MRI



The average time to wait for an MRI prior to the intervention was **33 days** which dropped to **17 days** and has remained steady since mid 2014.

UM and Radiology Collaboration

The success of our intervention relied on synergy between Radiology and UM.

- UM documented final decisions, conversations with clinicians, and other data for statistical tracking.
- UM helped Radiology by contacting clinicians, a time-consuming process itself, and educating them on the review and appeals process.
- Radiology contributed by providing ongoing training to UM regarding appropriateness criteria as well as serving in an advisory capacity on difficult decisions.
- Radiology led the efforts to reach out to the ordering clinicians, helped them understand the UM review process and clinical guidelines, and addressed physician concerns.

Utilizing the strengths of both departments achieved results that benefited the patient and satisfied clinicians with the timeliness of MRI availability.