



**Achieving Performance Excellence:
The Case for Standards-Based
Radiology Quality Assessment**

Teri Yates
Executive Director
Radiology Quality Institute
216-595-8440
teri.yates@radiologyqualityinstitute.com

Radiology's Role in the Healthcare Continuum

Nearly every hospital patient receives diagnostic imaging services and the quality of the radiology group's professional interpretations are a significant driver of patient safety, ED throughput, inpatient length-of-stay and patient experience.

Because radiologists play such a prominent role in the diagnostic process, it is critical that their interpretations are both definitive and accurate.

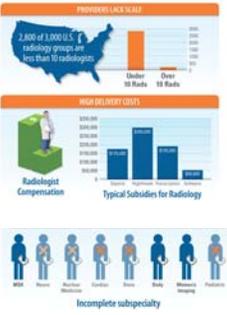


ECONOMICS

- \$175 Billion for Radiology, \$2.5 Trillion total U.S. healthcare spend
- 7.5% of U.S. healthcare spend
- 8% annual growth rate
- 3rd largest hospital spend category (Labor, Radiology, Lab)
- 2nd most profitable service line in outpatient setting (EEM, Radiology, Lab, Cardiology, Ophthalmology, Orthopedics)

The Current Delivery Model is Flawed

Most radiology groups lack the scale to offer subspecialized interpretation of *complex* imaging studies like breast MRI, PET or CCTA. Small groups cannot reliably provide nighttime or weekend coverage, forcing the hospital to contract for vague and costly preliminary reads. These problems are particularly serious in rural markets.



FRAGMENTED SCALE

- 2,000 of 3,000 U.S. radiology groups are less than 10 radiologists
- Under 10 Reads vs Over 10 Reads

HIGH DELIVERY COSTS

- Radiologist Compensation
- Typical Subsidies for Radiology

Incomplete subspecialty

Radiology Groups Aren't Accountable for Quality

HOSPITALS AND PATIENTS SUFFER AS A RESULT

<p style="text-align: center; background-color: #0056b3; color: white; padding: 2px; margin-bottom: 5px;">Hospital Issues</p> <ul style="list-style-type: none"> - High delivery costs/Slipends - Preliminary reads - Slow turnaround times - Sporadic access for consults - Poor medical staff satisfaction - Revenue leakage 	<p style="text-align: center; background-color: #0056b3; color: white; padding: 2px; margin-bottom: 5px;">Patient Issues</p> <ul style="list-style-type: none"> - Wrong/Redundant scans - Unnecessary radiation dose exposure - Inconsistent diagnoses - Longer wait times and hospital stays - Significant out of pocket expenses
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A lack of defined performance standards in radiology leaves hospitals and radiologists uncertain about how to measure and improve quality.

Radiology Performance Measurement Initiatives

Hospital Payers and Accrediting Organizations are Focusing More on Radiology

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
CENTERS FOR MEDICARE & MEDICAID SERVICES

ACCREDITED HEALTH CARE ORGANIZATIONS

Radiology Reimbursement is At Risk

Radiology Groups Must Measure Quality—and Improve Performance

<p style="background-color: #e0e0e0; padding: 5px; margin-bottom: 5px;">PQRS Mandates Physician Reporting of Quality Measures to CMS</p> <ul style="list-style-type: none"> ✓ Still a voluntary program with incentives in 2012; changes to a penalty program in 2013. ✓ Physicians (and physician groups) must report on at least three quality measures through claims, registry or EHR. ✓ Failure to comply will result in a net .5% reduction in 2013 and a net 1% reduction in 2014. Adjustment figures for 2015 and beyond have not been released. 	<p style="background-color: #e0e0e0; padding: 5px; margin-bottom: 5px;">Health Care Reform & New Payment Models Make Radiology a Cost-Center</p> <ul style="list-style-type: none"> ✓ Hospital-Physician Bundled Payments will include a single payment to cover all hospital and physician services provided during a single inpatient stay. ✓ Episodic Bundled Payments will include a single payment for all health services during an episode of care. ✓ Shared Savings enables Accountable Care Organizations to receive shared savings payments if spending grows slower than the national rate. 	<p style="background-color: #e0e0e0; padding: 5px; margin-bottom: 5px;">Hospitals Must Include Performance Expectations in the Radiology Contract</p> <ul style="list-style-type: none"> ✓ Joint Commission and the Medicare Conditions of Participation require that radiology contracts include performance expectations and that the hospital holds the group accountable for the terms of the contract. ✓ If the radiology group does not perform as expected then the hospital must work with the group to improve performance or terminate the agreement.
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Evaluating Radiology Isn't Easy for Hospitals

Collaboration with the Radiology Group is Needed for Effective Assessment

As the subject matter experts, radiology groups are essential partners in the quality improvement process and should actively demonstrate their value to the hospital rather than simply cooperating with hospital-led performance assessment efforts.

Hospital

- Growth Opportunities
- Economic Risk

Radiology Group

- Subject Matter Expertise
- Growth Opportunities
- Economic Risk

Radiology Performance Elements to Consider

There are many elements of performance that should be evaluated in the radiology department, including appointment wait times, image quality and patient safety. To evaluate the quality of the professional radiology service there are more than a dozen standards to consider.

There are only two of these areas where clear benchmarks for performance have been issued by professional societies or regulatory bodies.

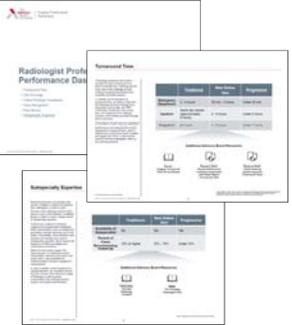
RQI Radiology Performance Standards

The Radiology Quality Institute has developed a set of radiology performance standards that may be used to assess the quality of the service.

Advisory Board Company Performance Dashboard



The Advisory Board Company's Imaging Performance Partnership has published the "Radiologist Professional Services Performance Dashboard" to help its members benchmark the performance of their radiology group against traditional, status quo and progressive levels of performance.




Essential Radiology Performance Standards

To ensure quality and safety, the assessment process for the radiology group should evaluate, at a *minimum*, five essential performance standards.




Report Turnaround Time

Why It Matters	How to Measure
<ul style="list-style-type: none"> Vital to ED physician satisfaction and is an important driver of ED throughput. Strongly tied to hospital outpatient satisfaction, where consumerism is on the rise and referral leakage to freestanding facilities is a significant threat. Significant influence on hospital length of stay. The standard of care for stroke includes availability of brain imaging results within 45 minutes of ED arrival. Radiologists own 20 minutes of this window to interpret and communicate the exam. 	<ul style="list-style-type: none"> Report TAT should be measured by place of service, including emergency department, inpatient and outpatient. Average TAT and the percentage of cases completed within the contractual service levels should be evaluated. Special reporting should be provided for stroke protocol patients to ensure compliance. <i>Optimal assessment would also include end-to-end reporting times for key segments such as the ED.</i>



Best Practice for Radiology Peer Review

Traditional Model of Retrospective Medical Peer Review

RADPEER Retrospective Radiology Peer Review

Next Generation Prospective Radiology Peer Review

- Statistically valid sampling enables accurate estimation of error rates.
- Eliminates any potential bias by ensuring that reviews are double-blind.
- Rapidly uncovers previously unsuspected errors to facilitate the correct treatment.
- Helps radiologists by increasing opportunities for feedback and learning.

Systems Approach to Quality & Safety

Spotlight: Diagnostic Checklists

- Radisphere's proprietary structured examination reporting system provides a diagnostic checklist for more than 400 examination types.
- Framework for systematic inspection of all images & anatomic structures, lessening the likelihood that obvious pathology will distract the reader from detecting a subtle or unexpected finding.

Diagnostic checklists ensure reports are consistently formatted & promotes consistency in report terminology.

Case Study: Diagnostic Error in Radiology

78 yr. old female presented to the ED with intractable neck pain one week after a cervical spine epidural injection for pain management was performed. Cervical spine MR was performed; the radiologist correctly identified the patient's multi-level severe stenosis and associated cord compression but failed to appreciate the posterior and left lateral epidural hematoma extending distally from C3-C4.

Shortly after this the patient suffered an acute MI, was hospitalized and started on anti-coagulation therapy because the presence of the epidural hematoma was unknown. The patient suffered progressively worsening neurological impairment after anti-coagulation so three days after the initial MR the patient had a follow-up MR of the cervical and thoracic spine.

Dx: Epidural hematoma in the dorsal central canal greater on the left extending from C3 through the upper thoracic region, demonstrating cord impingement and peripheral enhancement.

Outcome: Patient was immediately taken to surgery to evacuate the hematoma but she never recovered, failed to wean off of the ventilator and expired two weeks after the initial pain management procedure.

Medical Leadership

Why It Matters

- Medical staff satisfaction is closely tied to radiologist participation.
- The radiologist is the hospital's subject matter expert for the dept.
- Regulatory pressure to address key safety concerns in radiology
 - Joint Commission Sentinel Alert on radiation risks
 - California Medical Radiation Safety Act
 - CIN as a HAC? Potentially yes. CMS proposed it for 2012, and withdrew based on concern that ICD-9 will not support accurate identification of the condition.

How to Evaluate

- Interview department staff to identify the level of radiologist participation in protocol development, tech training, etc.
- Assess radiologist contributions to hospital-wide quality and safety initiatives such as radiation dose reduction.
- Track radiologist attendance at medical staff meetings, tumor boards and quality committees.
- *Periodic medical staff satisfaction surveys provide vital feedback.*



Keeping Watch on Referrer Satisfaction



Name (Optional): _____ Specialty: _____

Your Specialty: _____

	Strongly Agree	Agree	Neutral/No opinion	Disagree	Strongly Disagree
1. I trust the radiology interpretations that I receive	<input type="checkbox"/>				
2. Radiology reports are delivered in a timely manner	<input type="checkbox"/>				
3. I am able to consult with radiologists in a timely and efficient manner	<input type="checkbox"/>				
4. The report format and content I receive meet my needs	<input type="checkbox"/>				
5. I have adequate access to IR services	<input type="checkbox"/>				
6. I would refer the current radiology service to a colleague	<input type="checkbox"/>				

Surveys of the medical staff:

- Provide a periodic snapshot of satisfaction with the radiology service
- Can identify potential sources of referral leakage
- Reveal opportunities for performance improvement and better collaboration



Achieving Excellence in Radiology

The Process Starts When the Goals are Defined

- The task of developing radiology performance metrics is best accomplished when the hospital and the radiology group collaborate. The requirements for basic professional performance metrics like report turnaround time should be included in the group's contract with the hospital.
- Stakeholders should review of published standards and research from credible industry sources like the American College of Radiology (ACR) and the Radiology Business Management Association (RBMA).
- Industry information provides the framework in the goal-setting process, but expectations for performance must be further refined based on the available resources, capabilities and current level of performance.



The Bottom Line

To achieve excellence in radiology the hospital and radiology group must be:

- Aligned in their objectives
- Curious about performance
- Transparent about results
- Driven to improve quality

Willing to invest the resources necessary to do it!



Additional Resources

- The Advisory Board Company has published the **"Radiologist Professional Services Performance Dashboard"** under its Imaging Performance Partnership. This resource provides specific benchmarks that hospitals can use to evaluate the performance of their radiology group on elements like report turnaround time, critical findings compliance and peer review.
- The Radiology Quality Institute has published **"Diagnostic Accuracy in Radiology: Defining a Literature-Based Benchmark"** which provides insight on interpretive accuracy based on a review of peer reviewed research.
- The Radiology Quality Institute has also published an eBook entitled **"Ten Best Practices for Remodeling Radiology"** to help hospitals learn how adopting a systematic approach to radiology performance assessment can help meet the growing demand to provide high-quality, safe and cost-effective care.



About the Radiology Quality Institute

The Radiology Quality Institute (RQI) is a collaborative research organization dedicated to the identification and promotion of radiology quality standards and process improvements. With access to Radisphere's extensive quality data, analytics, and outcomes, the Radiology Quality Institute is focused on developing performance benchmarks and sharing relevant information to deliver measurable improvements in radiology quality for unparalleled levels of patient care.

For more information please visit www.radiologyqualityinstitute.com and join the "Radiology Quality Institute" group on 