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Empowering Radiologists to Standardize Care and Improve Outcomes

Diagnostic decision support for optimal performance

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The downstream impact of radiology is significant in today's healthcare environment. Optimal care often begins with an accurate imaging analysis and its accompanying clinical recommendations.

As a specialty, radiology is a growing field of influence in healthcare, accounting for 10% of annual U.S. healthcare spending. In truth, the work of radiologists has broad reach, touching nearly every patient and disease category—which, in turn, opens the door to great risk and great opportunity.

Increased performance expectations introduced by value-based care demand that radiologists make the best decisions for each patient. With so much at stake, healthcare organizations must standardize best practices to improve performance with key metrics such as patient safety, mortality, length of stay and patient experience. This eBook aims to educate healthcare stakeholders on the increasingly critical role of reference and decision support tools within radiology.

The teleradiology market is expected to grow from $4.6 billion in 2017 to $21.8 billion by 2026, underscoring increasing demand for radiologic expertise to improve diagnostic turnaround and quality of care.[i]

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JAMA Internal Medicine estimates that between **20% and 50% of inpatient diagnostic imaging is clinically unnecessary**, creating an estimated $12 billion in medical imaging waste annually in the U.S.[ii] Current initiatives on the public and private payer front point to increased scrutiny and efforts to ensure more appropriate use of radiologic services.[iii, iv,v]

The Bottom Line on Clinical and Cost Challenges

National healthcare movements are placing greater focus on quality metrics and cost reductions. As one of healthcare's highest cost centers, radiology is a natural focal point of performance improvement.

There is an overutilization of radiology services, increasing risks to patients who receive unnecessary radiation and tests based on meaningless clinical findings. In addition, inadequate subspecialty expertise increases diagnostic errors and litigation, affecting bottom-line fallout. The *Journal of the American College of Radiology* estimates that, at minimum, a staff of 20 radiologists is needed to provide sufficient expertise across all subspecialties—a difficult goal for most healthcare organizations.

The reality is that there is already an existing lack of radiologists to meet market demand, according to the *Journal of Academic Radiology*.[vi] In addition, imaging volumes are growing at a disproportionate rate to staffing increases. One study found that the average radiologist must now interpret one image every 3-4 seconds to meet workload demands, opening the door to increased error.[vii] Add to that unexpected surges that further tax healthcare resources like that of the COVID-19 epidemic, and the crisis facing diagnostics supply and demand is clearly evident.

Amid the convergence of these trends, the industry is also witnessing an uptick in litigation with settlements and verdicts increasingly occurring against the radiologist.[viii, ix] Consequently, it is no surprise that radiologists rank among the top five physicians at greatest risk of burn out.[x]

As these challenges converge, the need for consistent, sustainable and credible radiologic care becomes critical.

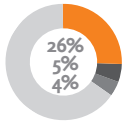
Radiology Performance: Primed for Improvement

Forward-looking healthcare organizations understand that value-based care requires continuous and ongoing performance improvement. When considering initiatives that have great potential for return-on-investment, radiology ranks high. Consider these statistics from a recent report analyzing more than 10,000 professional liability claims from 2013-2017: [xi]

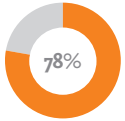
- Roughly 15% of malpractice claims with a diagnosis-related allegation involve radiologists, second only to those of general medicine providers.

- Over 80% of missed-diagnosis claims involved permanent injuries to the patient or death.

Another report that analyzed nearly 6,000 malpractice claims against radiologists from 2013-2018 found: [xii]



- Of the top missed, delayed or wrong diagnoses claims, 26% involved malignant neoplasms; 5% involved thrombi, hemorrhages or abscesses in the cranium; and 4% were bone fractures.



- Misinterpretation of diagnostic studies was present in 78% of radiologist medical malpractice cases.

The following five diagnostic studies make up 98% of the total misinterpreted:

• CT scan	97 – 34%
• X-ray	81 – 28%
• MRI	50 – 18%
• Mammogram	35 – 12%
• Ultrasound	16 – 6%

Standardized, Reliable Radiology: The Value Proposition

Use of credible, evidence-based medicine is a focal point of national healthcare reform initiatives to improve outcomes and costs. In fact, mounting industry evidence points to the positive impact of using best practice guidelines to increase appropriateness and decrease utilization.[xiii]

As health systems grow, the challenge of eliminating variation in radiology across multiple facilities and organizations intensifies. The field of radiology simply lacks uniform standards for quality, efficiency and effectiveness.

The industry at large agrees that there is a clear need for relevant, vetted decision support for radiologists, and that standardized practices positively impact patient care. In truth, even marginal improvement is worthy of strategic top-down commitment and resource allocation.

Outside of mammography, no national organization has taken on the cause of radiology quality standards. **Without credible decision support, radiologists often seek out alternative sources such as Google, YouTube or other unreliable options across the Internet.**[xiv]

The Good News About Decision Support

Reliable decision support solutions are available in the industry to increase accuracy and confidence in diagnosing complex imaging cases. Easily integrated into existing systems, these tools equip radiologists with:

- **immediate, accurate and current answers to complex cases**
- **key insights related to unfamiliar specialties such as neurology**
- **resources needed to teach students and residents**

When placed appropriately into physician workflows, these tools reduce variation by empowering radiologists to deliver the best clinical decisions, provide patient care recommendations based on the latest industry best practices and lower costs. And they can be easily deployed for system-wide use to elevate strategies that reduce variability in quality and cost across an entire health network. Most importantly, radiologists can trust that the content and guidance is always up-to-date, current and credible, especially during times of crisis—like that of a global pandemic—when evidence may change rapidly.

STATdx: The Right Solution

STATdx is the industry leading online diagnostic decision support solution that increases accuracy and confidence in diagnosing complex imaging cases. Widely regarded as the "Gold Standard" of radiology reference solutions, STATdx is used in 19 of the top 20 hospitals and 83% of the top radiology group practices in North America.

Written by renowned radiologists in each specialty, key features include:

- Over 4,700 common and complex diagnoses
- 200,000 expert-selected and annotated image examples
- Approximately 1,400 differential diagnosis modules
- 20,000 easily sortable patient cases with cine clips for select topics
- Over 200 basic and advanced procedures
- Powerful, Google-like search
- Compare multiple diagnoses side by side
- Earn *AMA PRA Category 1 Credit*™ for STATdx search queries

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