WP

10 Essentials for a Long-term Teleradiology Partner ...

and Why They Matter to You [and Your Practice or Service Line].

These required competencies ensure rapid, high-quality radiology reports – elevating patient care and maximizing radiology efficiency.

vRad®
a **MEDNAX** Company

About This White Paper

Teleradiology continues to evolve at a rapid pace – and most local and regional providers have been unable to keep up with the clinical, technical and financial requirements demanded by a dynamic market. Delivering a complete teleradiology solution to keep clients competitive and relevant in today's ever-changing environment is more than having a doctor available to read in the middle of the night. A teleradiology solution needs to be delivered by a practice with the scale and scope to make you a long-term, indispensable partner to your key stakeholders: the patients, physicians and hospital administrators who will demand excellence from your overall imaging solution.

While many of the 80+ teleradiology providers showcasing at the 2010 RSNA Annual Conference in Chicago – not that long ago – are no longer providing service, vRad has remained an innovative partner, expanding its clinical breadth to over 500 board-certified radiologists, serving over 2,100 hospital, health system and radiology group facilities in all 50 states. Our practice has also expanded its operational scope, leveraging 17 patents covering our proprietary platform and workflows designed to deliver the highest level of service to our clients and radiologic care for the patients we collectively serve.

This white paper highlights the Top 10 Essentials required of a true teleradiology partner, why they are important and how they should benefit your hospital, practice and radiology service line.

Why it Matters

The right technology investments deliver significant response time improvements for better patient care on your most critical cases.

Teleradiology provides a unique opportunity to deploy technology and workflow innovations to improve the speed and quality of patient care. A teleradiology partner must reinvest in innovation to maximize their technology platform's performance to get the right study type to the most appropriate radiologist in the shortest amount of time. Differentiating and prioritizing care of high-risk emergent cases results in improved patient outcomes and improved relationships with referring physicians and hospital partners in a highly competitive healthcare environment where quality and value are increasingly important.

Proof Points

17 patents and over $55 million invested in innovation focused on improving patient care including: automated study assignment, online and real-time order priority escalation, and workflows for consistent turnaround times of under 11 minutes for our clients' most critical cases.

Trauma Protocol – Up to 40% Faster Radiology Reports, under 11 Minutes on Average

In 2015, vRad automated trauma case prioritization and distribution to multiple subspecialty-trained radiologists working concurrently on multiple body regions of a single patient case – resulting in up to 40% faster radiology reports. As part of the workflow, all trauma cases are prioritized at the top of our radiologists' worklists and are required to be read next. Radiologists are automatically notified which colleagues are reading the other body regions for the same patient, enabling real-time collaboration. The radiology reports for each body region are sent as soon as they are completed, allowing treatment to begin as quickly as possible.
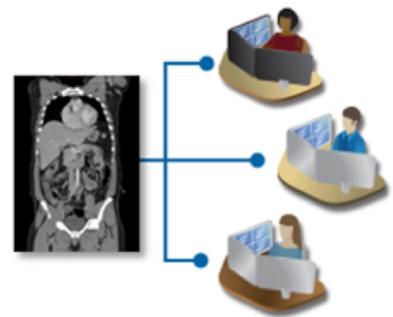
Stroke Protocol – Average TAT under 9.5 Minutes

Every second counts in the "golden hour" for a patient suffering a stroke. That's why Stroke Protocol cases are designated with our highest prioritization and fastest turnaround time targets; the current average turnaround time for Stroke Protocol studies is under 9.5 minutes. Patent-pending workflows and 75+ subspecialty-trained neuroradiologists deliver rapid, high-quality reports, making vRad the trusted partner of stroke centers nationwide, reading over 67,000 stroke studies annually.

Auto-Dialed Critical Findings – 2 Minute Relay Times

vRad radiologists have always verbally notified client partners' ordering physicians of a critical finding; the current average for the vRad Operations Center is 10 minutes to establish a conference call. Now, vRad is able to use Natural Language Processing (NLP) technology to "listen" for critical finding statements in real-time during the radiologist's dictation. If a critical finding is dictated, and a client has registered physician contact numbers with vRad, an outbound call to the referring physician or facility is automatically triggered to conference in the referring physician – reducing critical finding relay times to as little as 2 minutes. Faster quality radiology insight means faster quality patient care in the ED.

Advancing Teleradiology Technology for Patient Care

At vRad we call them "CMO Initiatives" – intensely patient- and client-focused technology development initiatives stemming from the unique clinical and technology partnership formed between vRad Chief Medical Officer, Benjamin W. Strong, MD and President and COO, Shannon Werb. Many of vRad's advancements are a direct result of this daily collaboration, including stroke and trauma protocols, auto-dialing, and many more.

> *"There's not a healthcare technology executive in the world that would not relish the chance to collaborate with a visionary clinician on work this important with the potential to change the game and save lives, faster."*
>
> **Shannon Werb, vRad President and COO**

Essential #2 – A Culture of Quality and a Dedicated Quality Assurance (QA) Program with 24/7 Online Access and Analytics

Why it Matters

Because "Agree/Disagree" doesn't cut it anymore for a QA program. In order to actually improve quality, an effective program must integrate peer review, standardize monitoring of quality metrics, employ active clinical oversight and management, and most important, foster a culture of quality throughout the teleradiology practice. A teleradiology provider should define quality simply by using metrics that matter to patient outcomes, accuracy and efficiency, (i.e., the accuracy of radiologic interpretations and the efficiency that meets clients' needs and expedites time to diagnosis and treatment). Quality scores and QA program results should be transparent and accessible 24/7.

Proof Points

vRad has maintained a consistently high accuracy rate of 99.7% even as study volume has increased. Our practice Quality Assurance program was launched in 2004 and includes critical elements shown to drive ongoing oversight and improvement, including:

Subspecialist Utilization

vRad's patented rules-based, auto-routing technology assigns studies to the right radiologist. In addition, all vRad radiologists can consult in real time with any colleague on difficult or rare cases by simultaneously viewing / discussing on synchronized monitors.

> *Mammographers: 76% more likely to detect breast cancer – identified 75%+ more cancers in an early stage.* [1]

> *Neuroradiologists: 34% more accurate than generalists in interpreting neurologically focused studies.* [2]

Review by an Experienced Quality Assurance Committee

Discrepancies submitted by a client, or identified by a randomized internal review (minimum of 1% of reports), are over-read by a Quality Assurance Committee member who is fellowship-trained in the case in question.

Uniform Grading Scale

Discrepancies are graded using a uniform scale that factors overall severity and the effect on patient care. This data is a critical foundation for the analytics necessary to evaluate radiologist performance. Clients receive regular reports detailing total reads and discrepancy outcomes, and have access 24/7 via vRad's online reporting tool.

Review by vRad Interpreting Radiologist

Each QA request is reviewed by the interpreting radiologist, who must agree or disagree and explain the reason for their initial interpretation. This process capitalizes on the learning opportunity and contributes to the quality culture.

Data-Driven Performance Improvement

All deidentified data that is collected is made readily available on the QA Portal for use by client QA committees for statistical review and reporting purposes.

This QA data, collected over many years, is also invaluable for measuring the quarterly performance of each teleradiologist. If there are significant concerns regarding the quality of a radiologist's performance, vRad's Medical Director can begin a Focused Professional Performance Evaluation process to identify an improvement plan and will continue focused evaluation to ensure quality improvement.

Key performance metrics include:

Every radiologist graded on:

- Requests for removal (from facilities)
- Discrepancy percentage and rank
- Major miss factor and rank
- Focus group participation
- Inappropriate case delays
- Number of addenda (billing corrections)

- Number of addenda requests (clinical)
- Level 4 DA: severe misses
- Number of complaints
- Number of compliments
- Overall ranking score

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[1] Sickles E, Wolverton, DE, Dee KE, et al. Performance parameters for screening and diagnostic mammography: specialist and general radiologists. Radiology 2002;224 (3):861-9.

[2] Briggs GM, Flynn PA, Worthington M, Rennie I, McKinstry CS. The role of specialist neuroradiology second opinion reporting: is there added value? Clinical Radiology 2008; 63 (7), 791-5.
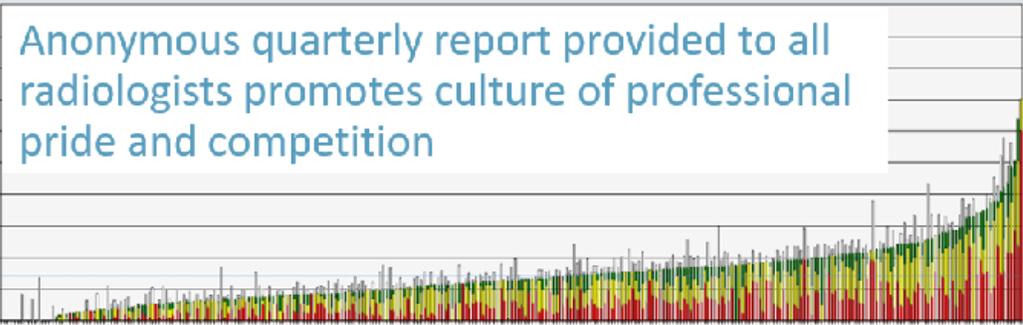
Anonymous quarterly report provided to all radiologists promotes culture of professional pride and competition

Online Client Portal

Clients are also able to easily submit and manage their QA submissions online, check case status in real-time, view case details and download QA reporting.

Essential #3 – Clinical Research Investments

Why it Matters

Simply stated: faster "eyes on images" means faster results for your ED physicians and patients. Investments in technologies such as AI and Deep Learning mean your teleradiology provider is at the forefront of imaging innovation – helping to define versus being defined by the next level of radiological care.

Proof Points

Artificial Intelligence/Deep Learning

vRad is conducting research on machine-learning powered workflow to get radiologists' "eyes on images" more quickly for better patient care. One powerful example of how artificial intelligence could be used in the care of critical patients is for the identification of potential Intracranial Hemorrhage (ICH). vRad's research utilizes a real-time, algorithm-based review of images to identify a potential ICH which could be used to automatically escalate a study for priority interpretation by the radiologist, reducing average reporting time by as much as 65%.

Additional Client Partner Resources:

News Release – June 22, 2016: vRad Among Medical Imaging Leaders to Tap IBM and Watson to Tackle Cancer, Diabetes, Eye Health, Brain Disease and Heart Disease.

Why it Matters

Because referring physicians need (and are asking for) clarity and consistency in the radiology reports they receive, regardless of who reads the study.

In order to get referring physicians the information they need – fast – radiology reports must be organized in a uniform, comprehensive, structured template regardless of the individual radiologist's reporting style. The ideal reports include exam, technique, comparison, findings and impression – and should have information categorized according to organ system.

Consistently organized reports make it easy for physicians to quickly find and understand the information they need for patient care.

## Proof Points

Custom Structured Reports

Customizable layouts to meet client expectations are how all of our reports are delivered. How is this possible? Our integration of voice recognition and structured reporting, using a highly customized version of rScriptor by Scriptor Software, is a custom, unique workflow that delivers a consistent diagnostic solution that allows referring physicians to take quick action and leads to higher-quality patient care.

This unique technology solution allows vRad's radiologists to quickly populate a complete report in a thoroughly customized fashion that leverages each radiologist's unique approach to structure evaluation. After a vRad radiologist has gone through the entire search pattern appropriate for that given study type, they simply press a mapped mouse button to process the report through our Custom Structured Report program.

The report is automatically formatted with standardized header information, including all relevant study and patient information imported in such a way as to make the header reliable, uniform and optimized for reimbursement.

One of the more important elements of our structured reporting workflow is its internal, automated error checking intelligence. For example, if the radiologist includes a statement about the prostate gland in a patient that is female, the program gives a warning to the reading radiologist.

While this is a relatively obvious application of integrated intelligence, the workflow software will also find errors related to left- and right-sided inconsistencies. It will assess the report for diction required for appropriate reimbursement for the current study. It will even warn the radiologist if critical findings have been dictated.
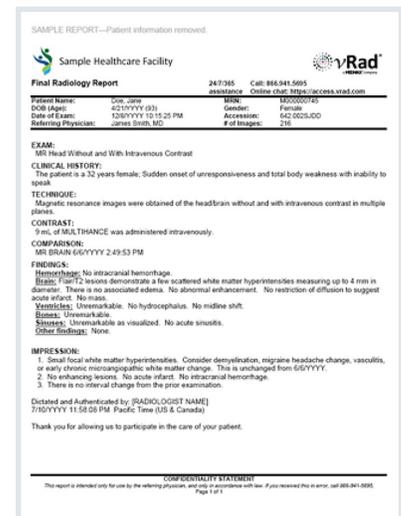
Custom Views

vRad's clients can choose from over 20 customizable report template attributes including:

- Impression first or last
- Bold, italics or underline finding items
- Custom header
- Group findings by organ system

Additional Client Partner Resources:

Watch vRad Chief Medical Officer Dr. Benjamin W. Strong provide a reading demonstration using vRad's custom radiology dictation and report-building system.

Sample: Custom Structured Report

Essential #5 – Final Radiology Reports

Why it Matters

ED and other referring physicians want to take clinical action based on the radiologist's final report. Not only is it better for patient care, but it's a better value too.

Once the norm of teleradiology providers, preliminary reports are rapidly being replaced by final reports to meet heightened expectations. Hospitals are unwilling to pay for redundant interpretations and want to promote that their patients receive the same level of care at 2AM as 2PM, including potentially faster discharge from the ED. And on-site radiologists shouldn't have to start their day re-reading last night's prelims. Instead they can be starting the day with a fresh worklist, allowing the hospital to schedule patients earlier and provide expanded growth opportunities for its imaging service line. While "finals" are becoming the norm, there are many hurdles to providing a consistent, compliant solution that many teleradiology providers cannot overcome.

Proof Points

Since 2004, more and more facilities have found significant clinical, operational and financial benefits in using vRad for Final Interpretations. In fact, more than 75% of our new business today is for Final Interpretations.

Prior Reports

With the proper HL7 interface, vRad can automatically pre-fetch prior reports from a facility's PACS and have them ready for the radiologist when they open the case. Access to priors is a common barrier for teleradiology providers to delivering final reports. Relying on a busy technologist or other non-automated means of accessing priors can be highly inefficient and ineffective.

Payer Enrollment and Billing Compliance

Enrolling radiologists with all payers is a labor- and resource-intensive job and a critical component to finals. Most providers simply don't have the necessary human resources. vRad's size and scope makes us uniquely capable of managing payer enrollment. In addition, providers frequently struggle meeting CMS rules requiring professional component bills be submitted with the Medicare Administrative Contractor (MAC) where the teleradiologist performs the interpretation. Since 2007, vRad has helped our clients navigate and remain in compliance with strict CMS billing rules. Learn more about how vRad can help you remain in CMS compliance.

HL7 Interfaces

Ensuring the proper transfer of information between the facility and the teleradiology provider requires an HL7 interface. vRad has the complete in-house technical infrastructure and expertise to build the HL7 and ensure successful implementation and support.

"vRad helped us move to final reads, which has made the reading process cleaner and more efficient for our department and improved turnaround times for our medical staff. By removing the headaches and redundancy of preliminaries, I also have 'found time' to manage our department and focus on strategic department issues."

JR Rockhold, Director of Radiology, Greater Regional Medical Center, Creston, IA

Essential #6 – Breast Imaging Subspecialists Reading 3D Tomosynthesis and Connecting with Partners and Patients using Live Video Diagnostics

Why it Matters

When you provide compassionate women's imaging services to your community, you provide better patient outcomes – and your organization builds loyalty for those patient families' future healthcare decisions.

A teleradiology partner should be able to help you deliver compassionate care and breast-center quality to the women of your community – regardless of your geographic location. You should be able to tap into your teleradiology provider's deep bench of subspecialists to grow your practice, meet staffing needs and deliver a truly exceptional level of care with 100% of cases read by fellowship-trained breast imaging specialists, certified for 2D and 3D tomosynthesis – a "must-have" service to meet today's patient and referring physician demands.

Proof Points

vRad clients get "must-have" breast imaging solutions, plus our latest innovation – Breast Imaging Diagnostics Days and Live Video Diagnostics

On designated workdays, your vRad radiologists are available at their workstations, consulting in real-time with you via phone, email, and now, live video diagnostics for real-time:

- Video conferencing between vRad's fellowship-trained breast imaging specialists, technologists and patients.

- Sharing of complex mammography images.

- Annotating images to articulate and communicate problem areas or findings.

Live video diagnostics has allowed our clients to realize a more compassionate patient experience, fewer call-backs, shorter appointments, minimized waiting for results and more time to schedule additional patients.

"By bringing vRad radiologists in 'face-to-face' contact with our technologists, they can discuss specific images, plan detailed next steps and provide instant feedback...while patients wait. We're already seeing a reduced need to call patients back for additional imaging."

Becky Wiscombe, Supervisor of Women's Imaging, Medical Center Hospital, Odessa, TX

Click to view the Cisco-vRad Video on Live Video Diagnostics

Additional Client Partner Resources:

Read the Full Case Study: [Medical Center Hospital Adopts vRad's Live Video Diagnostics Solution for Breast Imaging](#)

View the Cisco-vRad Video: [Live Video Diagnostics](#)

Essential #7 – Live 24/7/365 Support and User-friendly Order Management

Why it Matters

Because doctors should be empowered to focus on what they do best – be doctors, and not be burdened with administrative work, like chasing down priors or looking up referring physician

phone numbers. And from the client standpoint, whether you need to escalate an order for a patient whose condition is worsening or just need to check the status of an order, your patient care team needs answers fast, regardless if it's 2 a.m. or 2 p.m. Physician and technologist support should be the foundation of any teleradiology relationship so that the entire patient care process can be as efficient as possible.

Proof Points

The vRad Operations Center (OC)

vRad's OC support center is located in Eden Prairie, MN, and is staffed 24/7/365, relieving your facility's technologists and vRad physicians of many administrative and logistical distractions so they can keep their "eyes on the images" and focus on their most important priority: patient care.

vRad's Operations Center provides:

- Single point of contact for clients, medical facilities and radiologists.

- Dedicated customer service for order management, troubleshooting and communications.

- Resources and tools to quickly get your team the answers they need.

- Constant monitoring of every order with real-time status updates via our Order Management System (OMS).

- Direct contact for critical findings facilitated and documented – including a dedicated physician's hotline to call when responding to notifications.

- Direct communication with teleradiologists whenever you need it.

vRad Order Management System (OMS)

No more faxed requisitions! Integrated with the OC, vRad's OMS is your user-friendly online resource for managing all vRad orders, including intuitive online order entry and management, a real-time order status tracking dashboard, enhanced "chat" support, and automated phone systems to check order status, verify image count and access physicians.

Ongoing Personalized Support

Your vRad area director is a field-based representative that will regularly meet with your leadership to ensure we are constantly meeting (and exceeding) your expectations. In addition, a vRad account manager manages questions about services, billing, adding or changing coverage, and all other technical and support needs.

Essential #8 – Comprehensive Credentialing, Licensing & Privileging Services

Why it Matters

Time and money savings. Your teleradiology partner should relieve your Medical Staff Office of almost all radiologist CV-related activity. Ensuring the right radiologist roster is scheduled to support and enhance a client's radiology service line is the responsibility of the teleradiology service provider – not the client. With limited resources, clients should depend on their

teleradiology practice to do the heavy lifting when it comes to ensuring the right number of radiologists, with the appropriate subspecialties and licensing requirements, are available to your patients and referring physicians. Automated and online tools for efficient communication, tracking and analytics are also essential elements of a teleradiology partnership.

Proof Points

vRad's Credentialing and Privileging Agreement

Used by half of vRad client facilities, this agreement and other vRad expedited credentialing services greatly diminish Medical Staff Office burden by eliminating the need to independently credential physicians and simplifying radiologist roster refinements as needs change.

vRad's Physician Credentialing Portal

vRad's clients receive free, 24/7 access to their facility's teleradiologist credentialing information. Authorized users can see pending or actively privileged vRad physicians, sort the physician roster by expiration date, pull full credentialing files – including education, insurance and work history – and receive email notifications when new documents are available. Primary Source Verifications (PSVs) are also available.

The Joint Commission

vRad has maintained The Joint Commission Gold Seal of Approval® since 2004. Our verification processes go above and beyond standard expectations of technical competency review. All teleradiologists are fully credentialed and are subject to an internal board review and approval at initial appointment and reappointment.

"vRad's online access has reduced the time required to complete our processes by 50% and improved workflow efficiency significantly."

David Creamer, BS, Clinical Analyst, AnMed Health; Anderson, SC

Essential #9 – Comprehensive (and Complimentary!) Radiology Analytics

Why it Matters

Imaging analytics are no longer an option; they're a requirement. Measuring healthcare performance and proving quality and value requires data and analytics. Using a normalized data set allows radiology groups and hospitals to objectively compare their own use of imaging to relevant peer groups to take control of the dialogue around quality and value as it moves from a fee-for-volume to fee-for-value world. Analytic tools should be core deliverables from any teleradiology solutions provider to help clients align with physician and hospital partners – reinforced with evidence, not opinions. A true teleradiology partner will help hospital clients better manage costs and improve operating efficiencies, and help radiology groups demonstrate a new level of leadership and value in a challenging healthcare environment.

Proof Points

vRad Analytics lets clients see inside their data with custom views into vRad's database of 45+ million imaging studies. It's "command central," giving client partners the transparency and insight they need to make informed decisions about optimizing staffing, imaging utilization and clinical quality. Whether it's straightforward monitoring of teleradiology turnaround times via automated online monthly reports, or more complex tracking of on-demand key performance indicators of a radiology service line, including technologists' productivity, vRad has a continuum of free radiology analytics reports for client imaging metrics and national and peer-based metrics, including:

Teleradiology Metrics Report

Good or bad, clients want to know how their teleradiology provider is performing. The vRad Teleradiology Metrics Report is a transparent, year-to-date monthly rolling snapshot of the teleradiology studies vRad has read for each of our client facilities. Each monthly report is prepared exclusively for our client organization and provides facility-specific study volumes and trending data including:

- Transparent view of vRad's average turnaround times, by modality and priority.

- Teleradiology study volumes, by modality and priority.

- Critical findings information, and much more.

Global Practice Information Report

The GPI report leverages vRad's patent-pending vCoder^{SM} data normalization tool. Radiology groups and healthcare facilities can now objectively review their own Imaging Service Line to improve scheduling, department throughput, utilization and cost management, while contributing to an improved patient experience. Benefits of vRad's GPI Report:

- Delivered monthly via email, including year-to-date rolling snapshots.

- Consistent summary and facility-level metrics for trending and effective overall practice management.

- Includes information not easily obtained or possibly unavailable from a client's existing RIS or EMR.

Hospital Insight Report

Prepared monthly to include a 24/7 look inside a client's complete Radiology Service Line metrics, including both onsite and teleradiology volume:

- Delivered monthly via email, including year-to-date rolling snapshots.

- Consistent information across a client's complete Radiology Service Line for trending, benchmarking and imaging operating plan oversight.

- Includes information not easily obtained or possibly unavailable from your existing RIS or EMR.

"The data and graphs provide a much clearer picture of what is happening in our practice. It also shows our hospitals that we are being proactive and monitoring issues and that we want to partner and work with them to solve problems."

William S. Wilson, Practice Administrator

Essential #10 – Ability to Foresee and Navigate Clients through Change in Radiology

Why it Matters

Because change is the norm in radiology, and how change is managed will make or break an organization. Radiology groups and hospitals need a teleradiology partner who anticipates change and provides practical, cost-effective solutions to help clients differentiate themselves and thrive in an uncertain environment.

Proof Points

ICD-10 – Prepared, ahead of schedule, and a valuable client resource

Despite CMS's announcement of a 12-month grace period before the full ICD-10 adoption requirement, vRad decided there was no justification to delay getting the best clinical information to our physicians so they would be equipped with the information to diagnose accurately and quickly – and provide better service to our client partners and better outcomes for the patients we collectively serve.

vRad was ready – with the full level of code specificity – for the original October 1, 2015, deadline.

For our clients, being ready meant online access to an intuitive "intelligent branching" workflow to provide complete patient history within their existing online Order Management System.

Being ready for our clients also meant having the most relevant information with which to provide accurate coding for accurate reimbursement.

"ICD-10-CM requires a more complete clinical history prior to – in radiology's case – the images being interpreted by the radiologist. vRad worked with us to implement a best-practice 'reason for exam' workflow that allows us to capture better data at the point of ordering the imaging study. As a result, we are obtaining more complete patient data, which has reduced our potential rejection rate for non-specified ICD-10 codes from 64% to 8% since we implemented the program."

Edes Hill, Manager of Imaging Services, Saint Mary's Regional Medical Center, Reno, NV

Additional Client Partner Resources:

- Webinar Series: vRad Reimbursement and Coding
- vRad White Paper: ICD-10: An Informed and Intelligent Transition

Conclusion: The right partner makes the difference – over the long term.

When looking for a teleradiology provider, select a partner who can deliver the essentials for long-term success, including the highest level of patient care. By expanding your "partner check list," you can ensure you are working alongside an organization with the right scale and scope to make you an indispensable partner to your key stakeholders: the patients, physicians and hospital administrators who will demand excellence from your overall imaging solution.

Learn more.

To discuss any of these topics in greater detail, or to learn about other radiology solutions from vRad, contact us and a vRad Expert Advisor will be in touch.

▶ Click to Contact vRad

About vRad

vRad (Virtual Radiologic) is the leading national teleradiology services and telemedicine company, with over 500 U.S. board-certified and eligible physicians, 70% of whom are subspecialty trained. Its clinical expertise and evidence-based insight help clients make better decisions about the health of their patients and their imaging services. vRad is a MEDNAX Company (NYSE: MD), a national health solutions partner specializing in neonatal and other pediatric services, anesthesia, radiology, pediatric cardiology, and other physician and management services.

vRad interprets and processes patient imaging studies on the world's largest and most advanced teleradiology PACS for 2,100+ client hospital, health system and radiology group facilities in all 50 states. The practice has 17 issued patents for innovation in telemedicine workflow and is a recognized leader in imaging analytics and Deep Learning–assisted diagnostics. It is also a past winner of Frost & Sullivan's Visionary Innovation Award for Medical Imaging Analytics (North America). For more information, please visit www.vrad.com. Follow us on Twitter, Facebook and LinkedIn.

Click to find out more in our short About Us Video

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