LEAR
medical

Pioneering Safety and Quality in Radiology

Transforming Radiology
Through Data-Driven Quality
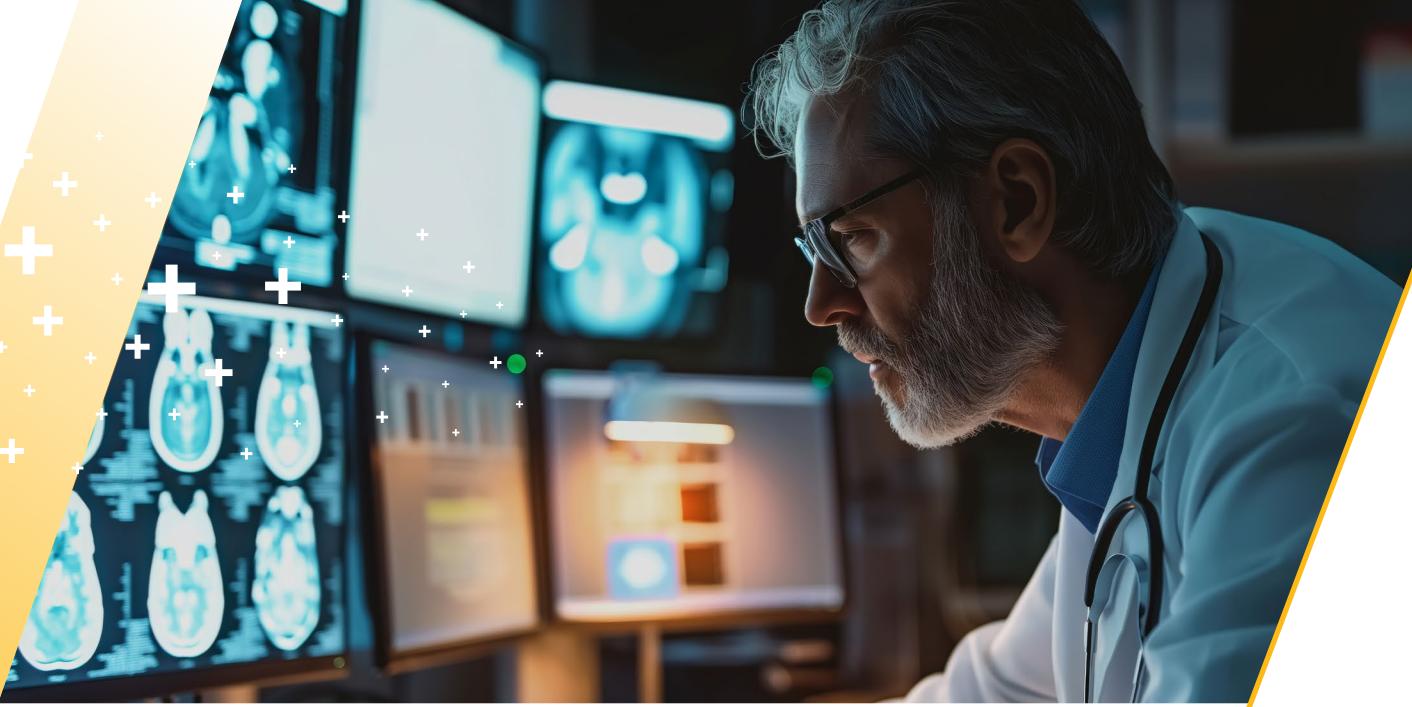
Addressing
Radiology's Quality Crisis

Demand for imaging is growing exponentially. This is exerting more and more pressure on the imaging units and radiologists globally. Unfortunately, quality assurance practices haven't kept pace with this growing demand, exposing institutions to errors and medical negligence. This has significant cost implications with potential reputational damage to well-established hospitals.

Lear Medical, is bridging this gap by applying proven aviation-grade practices to medical imaging. We ensure every institute achieves and excels in quality and safety standards while maintaining optimal efficiency and productivity.

The challenges in radiology today

» Around **3-5%** of radiology reads involve clinically significant errors (Approx **40 million errors globally each year)***

» Traditional peer reviews are manual, inconsistent, and biased.

» Rising workloads and burnout are affecting **68%** of practitioners hurting quality and efficiency. **

» Lack of standardized, actionable QA protocols inhibits improvement.

Diagnostic and radiology-related errors drive significant healthcare expenditures—estimated to exceed **US$45 billion annually**, through overuse, repeat imaging, malpractice claims, delays, and longer hospital stays. ***

*   https://pubs.rsna.org/doi/full/10.1148/rg.2018170033

**   https://www.jacr.org/article/S1546-1440(16)00345-3/fulltext

*** https://www.marsbioimaging.com/2024/10/30/the-true-cost-of-misdiagnosis-in-diagnostic-radiology/

Lear Medical Solutions
Elevating Radiology Quality

Independent Value Chain Review - End-to-end, impartial evaluation of your R adiology process—identifying discrepancies, pinpointing root causes, and recommending corrective actions.

Aviation-Inspired Safety Practices - Implementing robust safety principles proven effective in the aviation industry.

Independent Peer Review -Non-punitive expert reviews of randomly selected cases to enhance diagnostic accuracy and maintain consistent quality.

Proactive Risk Management & Root Cause Analysis - Early identification of potential failures through structured threat modelling and RCA, ensuring issues are addressed before affecting patients.

AI-Powered Diagnostic & Workflow Optimization - AI/ML-driven tools to flag discrepancies, enhance report accuracy, and reduce QA burden

Data Driven Insights - Interactive dashboards tracking trends, benchmarks, and performance metrics—enabling proactive, data-informed quality improvements

Collaborative QA & Peer-Learning Cycles - Regular QA meetings that review findings, align on recommendations, and drive collective action—closing diagnostic gaps and fostering continuous improvement.

SPEQ: • Safety • Productivity • Efficiency • Quality

LM Analysis
-2nd Read
 (urgent findings)
-Access to the Dashboard

Onboard & Review of Practice

Radiologists
-RCR/ACR recommendations
-Discrepancies/Quality
-Urgent or Unexpected finding

Selected empanelled Radiologists using Lear's SPEQ

IT Integration Anonymization

Referral

Scan Quality/ Radiation exposure

Radiologist Report

Lear Medical
-Images
-Radiology Report
-Patient referral/history

Feedback/Report
-Immediately
-Monthly/Annually

Impact
- Reduce Errors
- Improve Safety
- Improve Quality
- Reduce Costs
- Increase Revenue
- Protect Reputation

Engineering safety into every diagnosis

LEAR Medical
Transforming radiology quality

LEAR Medical brings the discipline and precision of aviation safety into radiology. Our proprietary S.P.E.Q (Safety, Productivity, Efficiency, Quality) Model redefines how quality is assessed, managed, and improved—using data, automation, and actionable insights.

How It Works

Deep Workflow Review and Improvements by Combining the Best of Aviation, Radiology and Technology

How Assessments Are Done Currently	LEAR's Approach
Peer Reviewed	Holistic (S.P.E.Q. Model)
Potentially Biased	Aviation Safety Foundation
Resource Constraining	Deep Root Cause Analysis
Failing To Reduce Errors	Data and Insights Driven
	Live Dashboards

V/S

Diagnostic errors contribute to 10% of patient deaths and 6-17% of hospital adverse events*
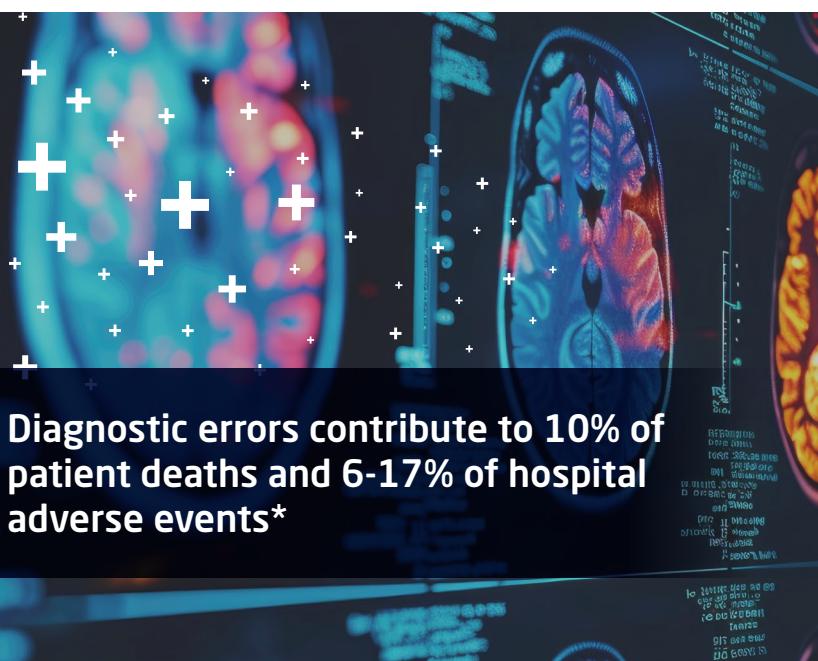
Safer Healthcare Starts with Better Radiology

*   https://qualitysafety.bmj.com/content/34/6/355
*   https://www.ncbi.nlm.nih.gov/books/NBK555525/

Service Framework

LEAR Medical offers a tiered engagement model tailored to the needs of hospitals, imaging centres & teleradiology providers at various stages of their quality journey. Whether you're looking for a one-time quality assessment or a long-term quality assurance partner, our solutions are designed to elevate diagnostic accuracy, support compliance, and unlock operational and financial value.

Flexible engagement Options
One-time QA assessment
Ongoing Quality-As-A-Service model
Peer Review Services for NABH/JCI

Designed for Impact

Scalable Solution

Hospitals, Imaging centers and Teleradiology providers

The Lear Advantage

LEAR Medical conducts an in-depth evaluation of the **entire radiology workflow**, examining over **100+ critical touchpoints** across the value chain—from request validation and image acquisition to reporting and communication. This structured process enables:

» **Error reduction** through root cause analysis and predictive analytics

» **Bias-free assessments**, combining expert insights from empanelled radiologists

» **Analytics dashboards** offering transparent performance metrics to clinical leaders

» Full **alignment with NABH, JCI, and global quality standards**

» **Transformational improvements** in diagnostic accuracy, efficiency, and compliance

» A model for **continuous quality improvement**, driven by regular audits and feedback loops

Real Stories, Real Results

Case Study: Closing the Gaps in Critical Radiology Communication

A leading multi-specialty corporate hospital partnered with **LEAR Medical** to enhance quality and safety in its radiology department. Our comprehensive audit revealed that **12% of radiology reports contained serious discrepancies**, with a majority linked to inadequate communication of critical findings.

Key patterns emerged—**errors peaked between 12 noon and 2 pm**, and **body CT/MRI scans** were particularly vulnerable. By addressing these insights, LEAR Medical helped implement:

» **Optimized reporting workflows**, targeting high-risk time windows

» **Specialized training** in abdominal imaging and error-prone modalities

» **Structured communication protocols** with real-time feedback loops

» **Stronger accountability**, leading to improved radiologist ownership

Outcome: A measurable reduction in diagnostic risk, more consistent reporting quality, and a culture of transparency and continuous improvement.

Case Study: Elevating Quality in Teleradiology Operations

LEAR Medical partnered with a leading teleradiology provider to enhance diagnostic accuracy and operational efficiency across its national network. Our structured review process and real-time dashboards uncovered key risk areas:

» High error rates during **6–10 pm** reporting hours

» **Brain MRI** scans most prone to discrepancies

» Root causes linked to **scan quality** and **incomplete clinical information**

Through targeted training and workflow interventions, the group achieved:

» A **20% boost in efficiency**

» **Reduced error rates** in high-risk modalities

» A **highly productive, quality-focused practice** with renewed trust across clients

Case Study: Identifying Safety & Quality Gaps in a PPP Hospital

In a high-throughput government hospital under a **Public-Private Partnership, LEAR Medical** was engaged to assess radiology quality and safety. While operational efficiency was commendable, our audit identified several critical vulnerabilities:

» **Poor report quality**, lacking depth in clinical interpretation

» **Unvetted scan requests**, leading to overuse and potential safety issues

» **Non-compliance with MRI safety zoning standards**

» **Inconsistent communication** of critical findings

LEAR Medical provided **detailed, actionable recommendations to**:

» **Optimize scan protocols** for improved throughput and reduced radiation exposure

» **Standardize MRI safety measures**

» **Strengthen communication workflows** to reduce risk and improve accountability