



Applied Intelligence

X-Ray Quality Application:

Featuring Repeat/Reject Analytics (RRA)

Zero in on root causes, enhance training, drive efficiency and reduce dose

Today's healthcare environment demands high-quality diagnostic images for accurate diagnosis while keeping patient radiation exposure to a minimum. Rejected images often are a significant barrier to achieving this goal. X-ray reject rates can be as high as 25 percent, and it's been documented that digital radiography systems have twice the reject rates as computed radiography systems.¹

The resulting X-ray repeats contribute to unnecessary patient radiation dose and operational inefficiencies, impacting both quality of care and your bottom line. Data analysis is an increasingly valuable tool to help reduce rejected and repeated X-ray images. Web-based Repeat/Reject Analytics (RRA) from GE Healthcare gives you insight into the root causes of rejected X-ray images so you can implement targeted improvement training.

While RRA delivers actionable data for any user, it is especially valuable for three types of hospitals. First, those hospitals with medium to large digital X-ray installed bases and multiple offsite locations with systems on the same intranet can benefit from RRA. Also, those hospitals driving rigorous low-dose initiatives and those with reject rates above target values or maintaining lower reject rates only through intensive manual work may find RRA useful. With repeat/reject reporting recommended by many professional societies and required in many states, it's important to make sure your department can analyze this data to comply with the latest guidelines and regulations.^{2,3}



The manual challenge

Manually collecting repeat/reject data is cumbersome and time consuming. One facility, for example, took more than 230 mouse clicks and approximately 7 hours of manual work to compile data for 13 systems.⁴ In fact, some departments don't have the resources to conduct a manual effort, so they don't know what their reject rate is.

GE's web-based RRA software helps you automatically gather and analyze repeat/reject data for quick and easy review, reporting and decision making. The app pulls repeat/reject data from X-ray machines remotely and compiles it in an easy-to-view analytics dashboard for use by managers and QA technologists, eliminating hours of manual work. The application is available for connection with certain X-ray systems. Check with your salesperson for the latest list of approved and compliant machines.⁵

The RRA dashboard includes:

Summary report – Enables quick review of your facility's reject rate so you can determine if the rate is improving or getting worse, and reveals the top contributing factors to rejections.

Detailed report – A deep dive into the causes of rejects by operator, time, exam, reject reason and more. This gives you the flexibility to use an operator name from the X-ray system or from a HIS/RIS data source. It takes just one click to review each rejected image for targeted transitioning.

Technologist view – Individual report based on each technologist's performance to identify targeted training needs without revealing peer performance. Includes one-click rejected image review.

Reprocessed data analysis – Analyzes images rejected as reprocessed image classification type so you can identify opportunities to improve image processing.

Display of rejected images – Shows the rejected image as a JPG file for further analysis and to enable centralized training on actual images without having to go to each X-ray system.

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Key benefits

Reduce dose – Help reduce unnecessary patient radiation dose by reducing the need for X-ray repeats

Save time, optimize resources – Automatically aggregate and archive reject data, across the installed base, over time (0 clicks, 0 hours)

Reduce privacy and security risks – Reduce the information privacy and security threat from traditional USB data collection

Ready to report – Enable ongoing audit readiness using a web-based app with daily updates

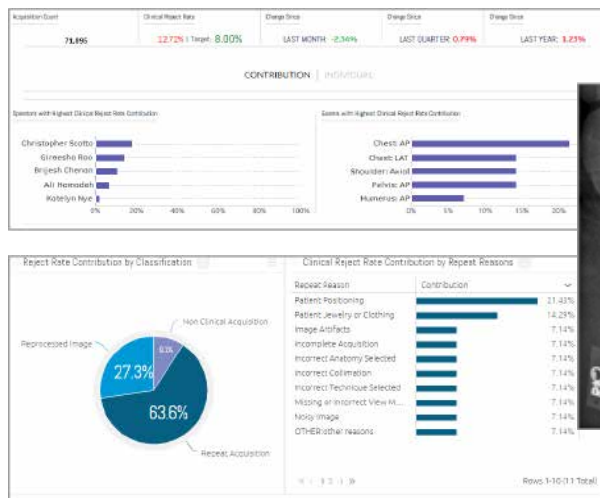
Improve reimbursements – Increase capacity and throughput for reimbursable diagnostic exams within your radiology suite

Real-time insight – Bring real-time feedback to technologists to aid in continuous improvement

High-quality data – Data quality is higher than data gathered manually because there are fewer opportunities for data loss and corruption, and the data can be pulled more frequently

Implement training – Conduct targeted technologist training by helping:

- Correlate technologist names from multiple systems and a HIS/RIS data source to rejected data
- Review individual technologist performance
- View each rejected image in the web-based app viewer as a teaching aid



A connected solution

RRA is part of the X-Ray Quality Application from GE Healthcare, a collection of digitally connected solutions that enable you to manage your X-ray program with ease. These dashboards connect to compatible new and legacy X-ray systems with powerful visualization tools that deliver valuable intelligence on how your X-ray systems are being used.

Analyzing machine data for outcomes-focused, targeted applications, the X-Ray Quality Application allows you to detect trends, identify root causes and implement targeted solutions throughout your imaging department. It is designed to manage an effective QA program by automating processes, while providing daily updates, documentation and data insights to help improve clinical, operational and quality practices.

Applied Intelligence

Applied Intelligence from GE provides real-world analytics for sustainable outcomes by helping unleash the power of your healthcare data to solve your most significant challenges and achieve clinical, financial and operational outcomes. With the help of GE Healthcare's Applied Intelligence solutions and professional services, you can focus on running at peak performance to thrive in an increasingly complex, competitive and value-based world.

We can help

We're already invested in the expertise needed to help you achieve your efficiency, patient care and financial goals. Now let us help you get there.

Imagination at work

The countries of availability for X-Ray are the U.S. and Canada.

¹ Little, Kevin J., et al. "Unified database for rejected image analysis across multiple vendors in radiography." *Journal of the American College of Radiology* 14.2 (2017): 208-216.

² ACR technical standard for diagnostic medical physics performance monitoring of radiographic and fluoroscopic equipment, ACR Technical Standard (2011); Best Practices in Digital Radiography, ASRT White Paper (2012); J ones, A. Kyle, et al.

³ "Ongoing quality control in digital radiography: Report of AAPM Imaging Physics Committee Task Group 151." *Medical physics* 42.11 (2015): 6658-6670.

⁴ Unleashing the Power of Small Data in Healthcare Organizations, interview with GEHC RRA beta site, whitepaper.

⁵ The X-Ray Quality App is available for approved and compliant X-ray machines from GE Healthcare. Check with your salesperson for the latest list of approved machines.

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