Critical Test Result Management:

How Critical Test Result Management (CTRM) solutions streamline critical communications, ensure regulatory documentation compliance, and enhance patient safety.

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OVERVIEW

This document will identify the workflow challenges that hospital diagnostic departments face when communicating critical or abnormal test results to a referring physician or care team member. It will also explore how Critical Test Result Management (CTRM) solutions can automate the critical communications process, measure and assess the performance of diagnostic departments against organizational objectives, and address the latest requirements from the Joint Commission and other regulatory bodies.

MARKET OPPORTUNITY

Within U.S.-based hospitals, diagnostic departments perform more than 12 billion radiology, laboratory, cardiology, and pathology tests each year. While the majority of these diagnostic tests are negative and require no follow-up with the referring physician or care team member, approximately 4–5% percent of these tests is deemed to be critical or abnormal, which could indicate the patient is in imminent danger unless appropriate therapy or treatment is immediately initiated.

Leading healthcare authorities, including Institute of Medicine, Joint Commission, American College of Radiology, and College of American Pathologists, have identified that delays, failures, and errors in communicating critical or abnormal test results can negatively impact patient safety and the quality of patient care.

Since 2005, the Joint Commission has released guidelines as part of its national patient safety goals requiring healthcare organizations to streamline critical communications between diagnostic departments and referring physicians when reporting urgent test results. These guidelines require healthcare organizations to:

- Report urgent test results and verify their receipt within established time periods based upon medical evidence and industry best practices.

- Regularly measure and assess documentation and communication processes as part of an established quality assurance program.

- Perform corrective action when timely communications of Critical Test Results (CTRs) are found to be deficient.

PROBLEM

Diagnostic clinicians working in radiology, laboratory, cardiology, and pathology have an obligation and moral responsibility to issue a substantive report with a reasonable interpretation AND to communicate critical or abnormal test results to a referring physician in a timely manner. Although diagnostic clinicians have access to advanced technologies to identify and diagnose disease processes they lack standardized tools and processes to effectively communicate CTRs.

Diagnostic clinicians work long hours in high-stress, data-intensive environments in which they are required to manage very large patient case loads. They spend significant amounts of time tracking down referring physicians to communicate critical results. Because of the large numbers of tests ordered and the relative infrequency of urgent results, critical communications can easily slip through the cracks, especially if the referring physician cannot be reached immediately.

Existing communication tools and processes are manual, inefficient, and labor-intensive, which significantly reduces a diagnostic clinician's productivity and the amount of time he or she can devote to patient care. Communication processes have become more complicated over the past decade with the proliferation of more ways to communicate, including landline phones, mobile phones, email, fax, and instant messaging.

> *"With our previous process, we had to manually review all the critical test result reports, analyze mounds of data, and develop performance graphs. It was a tedious, time-consuming process, which is now improved by our CTRM solution's comprehensive data tracking. We also wanted to remove the phone tag from our radiologists' processes so that they could focus more on their core initiatives rather than hunting down doctors. Our CTRM solution immediately starts the communication process for them and documents all critical test result communications, increasing radiologists' productivity and turnaround time."*
>
> **— Linda Frazier**
> Radiology Director
> Mountain States Health Alliance
> Johnson City, Tennessee

SOLUTION

CTRM solutions are an emerging product category. These enterprise-class solutions enable a healthcare organization's diagnostic departments to automate the communication, receipt, and verification of CTRs. Since 2004, more than 200 U.S.-based hospitals have successfully migrated their existing manual systems, processes, and tools used for communicating CTRs to CTRM solutions.

Streamlines critical communications. CTRM solutions streamline communications between diagnostic departments and referring physicians, and verify the receipt of CTRs. This can significantly reduce turnaround time, decrease a patient's length of stay, and improve the timeliness of patient care decisions.

Message management tools enable diagnostic clinicians to create a voice message containing detailed information and an interpretive analysis of a patient's CTRs. The referring physician is immediately notified of a pending message and its urgency level via his or her preferred communication device. He or she can retrieve the voice message using a toll-free phone number and password. The diagnostic clinician is alerted after the referring physician has reviewed and acknowledged the receipt of the test results.

Escalation management tools continually resend notifications to the referring physician until the message is received and acknowledged by someone responsible for the patient's care. Other medical personnel or care teams may also be notified based upon predefined rules and escalation procedures.

"We were looking for a solution that could be easily integrated with our current workflow, while still providing the highest level of service to both patients and referring physicians. The CTRM solution we chose has helped our radiology department speed patient care and become more reliable and timely in its communication of critical test results. What's more, our staff has decreased critical result communication time from one hour to just

16 minutes, and our CTRM solution has, in part, helped us to increase the number of radiology exams processed annually from 312,000 (FY 2008) to 360,000 (FY 2009)."

— **Ron Miller**
Director of Radiology
VCU Health System
Richmond, Virginia

Ensures regulatory documentation compliance and reduces risk of medical liability.
CTRM solutions ensure documentation compliance with Joint Commission, American College of
Radiology, College of American Pathologists, and other regulatory bodies. Diagnostic departments
can create a complete and auditable documentation trail with associated time/date stamps for all
attempted critical communications with referring physicians. They can also produce customizable
reports for auditing compliance and performance management.

*"Not only did we receive the Joint Commission's Gold Seal of Approval and renew our
accreditation status, but the Joint Commission representative described our CTRM
solution as a 'best practice' technology solution for meeting CTR communication
requirements. From a management standpoint, our CTRM solution is dependable and
flexible, which means I don't have to spend time managing the system. Our CTRM
provider offers outstanding support and maintains the database to ensure that contact
information is accurate and current, which is critical as our physician community is
constantly changing."*

— **Deane Baldwin**
Operational Director and
PACS Administrator
Mercy Des Moines Medical Center
Des Moines, Iowa

CTRM solutions can also help a healthcare organization reduce its risk of medical liability. According
to industry experts, more than two-thirds of medical malpractice claims result from communication
failures rather than from errors in medical diagnosis.

Enhances patient safety and improves organizational effectiveness. CTRM solutions can
enhance patient safety and improve organizational effectiveness by automating and standardizing
the tools and processes for communicating and verifying CTRs within diagnostic departments
across the hospital. Diagnostic clinicians and referring physicians will have a consistent and reliable
way to communicate about critical patient information, which is a necessity to ensure patient safety.

Contact management tools enable healthcare organizations to build and maintain an enterprise-
wide communications directory for referring physicians, including all relevant contact information
to reach them in the event of an emergency. These entries also identify the physician's preferred
method for receiving critical notifications, including mobile phone, pager, fax, instant messaging, and
email.

Real-time monitoring and reporting tools enable healthcare organizations to set performance goals
and targets for communicating CTRs, monitoring performance against organizational objectives, and
performing remediation if patients are at risk from communication delays.

"Since deploying our CTRM solution, we've seen dramatic improvements in accurate documentation, which makes attaining our 90% compliance goal for a 60-minute red- alert threshold more of a reality. Our CTRM solution instantaneously starts the communication process and removes the message-tracking burden from radiologists so they can focus on their core initiatives."

— Stephanie Spencer
Administrative Director
Newark Beth Israel Medical Center
Newark, New Jersey

CRITICAL SUCCESS FACTORS

There are a number of critical success factors for healthcare organizations that are planning to deploy CtrM solutions including:

Institutional endorsement and support. CTRM solutions will only be successful if they are fully endorsed and supported by senior hospital management and each diagnostic department. These solutions must be looked upon as a core component of the organization's overall closed communications strategy as a way to improve the quality of care and enhance patient safety.

End-user education and buy-in. CTRM solutions require the training, education, and buy-in from both diagnostic clinicians and referring physicians. They must be willing to adapt and explore new methods and ideas for improving critical communications processes.

Identification of critical tests and values. Diagnostic departments, according to the Joint Commission, are responsible for determining what constitutes critical tests, results, and values, based upon the care needs of their patient population. Critical tests and values must be categorized based upon their status, ranging from "routine" to "urgent" to "life-threatening." They must also create critical test processes and procedures to clearly identify how to handle each of these results.

Continuous process improvement. CTRM solutions must be deployed as part of a healthcare organization's ongoing quality-assurance initiatives focused on identifying, reducing, and eliminating suboptimal processes. Quality-assurance methodologies being used by U.S.-based hospitals include Six Sigma, Lean Manufacturing, and total Quality Management.

CONCLUSIONS

Diagnostic clinicians working in radiology, laboratory, cardiology, and pathology have an obligation and a moral responsibility to issue a substantive report with a reasonable interpretation AND to communicate critical or abnormal test results to a referring physician in a timely manner. They spend significant amounts of time tracking down referring physicians to communicate critical results. Existing communication tools and processes are manual, inefficient, and labor-intensive, which significantly reduces a diagnostic clinician's productivity and the amount of time he or she can devote to patient care.

Leading healthcare authorities, including Institute of Medicine, Joint Commission, American College of Radiology, and College of American Pathologists, have identified that delays, failures, and errors in communicating critical or abnormal test results can negatively impact patient safety and the quality of patient care.

CTRM solutions can automate and streamline critical communication processes, measure and assess the performance of diagnostic departments against organizational objectives, and address the latest requirements from the Joint Commission and other regulatory bodies.

ABOUT NUANCE HEALTHCARE

Nuance Healthcare, a division of Nuance Communications, is the market leader in providing clinical understanding solutions that accurately capture and transform the patient story into meaningful, actionable information. These solutions are proven to increase clinician satisfaction and HIT adoption, supporting thousands of hospitals and providers to achieve Meaningful Use of EHR systems and transform to the accountable care mode.

ABOUT SPYGLASS CONSULTING GROUP

Spyglass Consulting Group is a market intelligence and strategy firm focused on the nexus of information technology and healthcare. We deliver technology-related insights required for our healthcare-focused customers to make the right investment decisions related to mobile and wireless technologies.

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