Critical Results Reporting

Automating physician communication and tracking urgent findings using information technology

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Reporting critical or urgent findings in a diagnostic imaging study is an important patient safety and quality of care issue that many healthcare facilities deal with on a daily basis. A failure to communicate is often cited in malpractice or liability claims and this led the Joint Commission to emphasize the communication of urgent findings as part of their 2008 National Patient Safety Goals.

According to a 2009 presentation at the Healthcare Information and Management Systems Society (HIMSS), 75% of malpractice cases at Yale-New Haven are communication related. Another article covering a 2009 SIIM presentation reported that 20% of lawsuits were the result of failure to communicate findings. Ramin Khorasani, MD, vice chair of radiology and director of medical imaging information technology of Brigham and Women's Hospital (Boston) was quoted in the article as saying, “The state of monitoring critical results is woefully inadequate… IT will play a critical role in optimizing communications of current performance gaps.”

Not only is there an incentive for hospitals to reduce liability by documenting communication and receipt of critical results, but two accrediting organizations are addressing the issue as well. Improving the effectiveness of communication between caregivers is Goal 2 in the Joint Commission’s 2008 National Patient Safety Goals. According to the Joint Commission, “ineffective communication is the most frequently cited category of root causes of sentinel events.” The report further notes that timely, complete, accurate and unambiguous patient information that is clearly understood by the recipient (typically the referring physician) can increase patient safety and reduce errors.

In 2005, the American College of Radiology (ACR) provided new practice guidelines for the communication of diagnostic imaging findings. Specifically, ACR emphasizes the role of the radiologist as a consultant in providing timely communication to referring physicians to minimize risk of errors. The ACR guidelines note that, “in emergent or other non-routine clinical situations, the diagnosing imager should expedite the delivery of a diagnostic imaging report (preliminary or final) in a manner that reasonably ensures timely receipt of the findings.” It stresses the timeliness of the communication as being more important than the delivery method. The ACR guidelines also go one step further and include the need for radiologists to retain documented, verifiable records that demonstrate the delivery of critical results to the referring clinician (or whoever ordered
the study).

For many hospitals, communication and acknowledgement of critical results/urgent findings remains a manual task. The radiologist must interrupt their workflow to contact the referring physician via telephone or pager. Radiology interruptions are often noted as a continued cause of inefficiency in diagnostic reading, and can potentially interfere with reading accuracy. Plus, this inefficient, manual method can reduce radiologist compliance with communicating critical findings in a timely manner, which can further pose unnecessary risks to a patient’s immediate and long-term health.

For administrators, the task of monitoring compliance is also a time-consuming and inefficient task. In our discussion with administrators, we found it to be a common practice that they will read through reports on the RIS or archive and look for instances where the radiologist has called out an urgent finding. The administrator will then look to see if the radiologist communicated the finding within the institution’s prescribed (or accepted) time range. However, the administrator often cannot determine if the referring physician acknowledged receipt of the critical result. Administrators will further concede that they are not confident a manual review will cover all instances of critical results reporting and, in some sites, the review process is simply a random sample.

Automating critical results reporting communication

The healthcare industry widely accepts the notion that information technology can help improve patient safety and the quality of care primarily by eliminating manual, error-prone data collection and entry methods. However, at this time there is no healthcare “standard” to communicate and track the receipt of clinical findings.

However, the IHE’s (Integrating the Healthcare Enterprise) proposed profile for Critical & Important Results does provide some guidance on the number of steps that should take place. These are:
1. Identify the appropriate person to contact with the critical result.
2. Identify methods to notify the selected person.
3. Log attempts to notify.
4. Convey the critical result details.
5. Log that the critical result was received.
6. Inform the radiologist/radiology group that the critical result was (or was not) received.

Further, the IHE states that critical results reporting systems should have the capability to use many different methods of notification based on the referring physician location, urgency of the finding and notification failure.

There are, therefore, certain capabilities that an automated critical results reporting solution should provide, including:
- Immediate communication via email, fax, phone or text message and on-going tracking of results to the ordering clinician(s);
- Document/verify receipt of the critical results notification by the ordering clinician;
- Interface (via HL7 or DICOM) to the department’s ordering system (i.e., RIS or modality) to capture ordering physician and patient location information;
- Provide tools (via the Web or phone) that allow the ordering physician to easily acknowledge receipt of the critical findings communication;
- A detailed critical results history log for audit trails that includes all messages, actions, time stamps and users; and
• An administrator panel for message monitoring and statistical analysis.

Additionally, a critical results reporting solution can help increase compliance without impacting radiology efficiency by:

• Seamlessly interfacing with existing workflow (PACS, RIS or EMR);
• Auto-calling of critical results without requiring any additional action by the radiologist;
• Supporting read-backs and ER discordance; and
• Making all updates to critical results instantly available throughout the healthcare enterprise.

Some of the challenges of a critical results reporting system are maintaining up-to-date contact numbers / method(s) of communication and achieving a high compliance rate from the referring physicians. Providing a method to regularly verify the contact methods in the system and allowing users to easily update their contact methods can greatly alleviate the challenge of contact methodology management. Achieving physician acceptance can be promoted by implementing a system that is easy to use and very flexible in managing contact methodology. The system should include tuning parameters to limit the calls to those that are most important and to redirect the calls to other providers, as appropriate. For example, emergency communications off-hours may be redirected to an on-call physician. Receiving and acknowledging the results should be as efficient as possible and should be available regardless of the location of the physician.

Summary
Communication of urgent findings are being closely scrutinized by the Joint Commission; and, regulations from Joint Commission and the ACR address how they are to be handled and tracked. IT can play an important role in achieving compliance by providing systems that automate the process, give the users the flexibility they require and generate statistics on physician communication workflow.

References
1. Critical test-result management systems help reduce malpractice suits. Health Imaging and IT. April 7, 2009. Available at www.healthimaging.com

About BRIT Systems
BRIT Systems is a technology company that provides custom, turn-key solutions for PACS, RIS, teleradiology, including ASP solutions, and digital reporting solutions. Founded in 1993 with the goal of providing affordable PACS based on standards, BRIT designs and deploys high-quality PACS/RIS based on the company’s comprehensive understanding of radiology departments, medical imaging, networks, DICOM integration, security and highly-available computer systems. BRIT is an employee-owned corporation headquartered in Dallas, Texas. More information can be found at www.brit.com.

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