

# *Implementing a CTRM solution for a Hospital inpatient workflow*

*Challenges & important factors to consider*

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# Why pursue a CTRM solution?

# Critical Test Result Management (CTRM)

- Failures and delays in communicating a critical test result is a serious problem and a weak link in the delivery of patient care.
- For some healthcare providers, such as radiologists, communication breakdowns are a major generator of medical malpractice claims:  
Anywhere from 66.6% to 85% of malpractice lawsuits against radiologists are caused by miscommunication of findings.
- Case could also be made for lab test result:  
Malpractice lawsuits against **lab techs** are not as high.



# Test result communication volume

# Volume of Test result notification

- Approximately **12 billion** radiology, laboratory and cardiology tests are performed every year
  - About **1 to 5%** of a hospital's test volume, are abnormal or critical
  - Hospitals have a legal, ethical and moral obligation to ensure test results are communicated to the responsible physician or patient care team
  - Every day, radiologists, cardiologists and lab techs make **2 to 3 million calls** to communicate test results
- Can gobble an hour out of the work day for some highly paid specialists



# Automate critical test result notification

# Automation of CTRM

- Hospitals & clinicians increasingly rely on EMRs, PACS, RIS & LIS to improve efficiency in patient care delivery.

Efficiency can be further achieved by adopting intelligent automation and integration.

- In the case of critical test results → Absolutely essential that providers communicates this important finding to a provider who can seek further action.
- CTRM removes the burden of communication from radiologists, and instead, placing responsibility for communication on human operators.

# Automation of CTRM ... Cont'd

- According to Joint Commission Resources, Inc.:

“ ... a robust technology-based CTRM system should verify the **receipt of the message, escalate notifications** based on pre-set rules, **automate tracking, documentation and compliance** with legal and professional standard and enable real-time management oversight of CTR communications”



## Factors & challenges to consider

“Patient safety is poorly served when hospitals and clinicians rely on massive, complex clinical information systems to deliver critical test results.”

# Challenges to consider

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- Workflow
- Compliance
- Telecommunication
- Collaboration



# Workflow

# Workflow Challenges

- Distinction between the Ordering Provider and the Responsible Provider:

**Ordering Provider** is the clinician who ordered the test for the patient.

**Responsible Provider** is the clinician who is looking after the patient at any given time.

- Not uncommon, in an inpatient environment, that clinician who ordered the test(s) is not the same clinician who receives the test result(s).
- Patient-responsibility-handoff-cycle could repeat itself several times throughout the length of stay or cycle of care.
- CTRM solution should identify the Responsible Provider and their contact information, at any given time, in order to attempt to reach them.



# Compliance



# Compliance Challenges

- Secure messaging within the walls of healthcare provider institution has been (& still is) a major challenge for the industry
- The technology and the speed by which one can send a quick SMS message to a fellow clinician, nurse, administrator, etc. is too convenient and reliable for clinicians not to use.
- This method of communication is unsecure and opens up a Pandora's box of compliance and legal nightmares.

# Compliance Challenges

- CTRM solutions should offer the following capabilities:
  - ▣ Support multiple data & voice communication technologies: SMS, voicemail, secure email, mobile application, fax, etc..
  - ▣ Encryption if the communication technology supports it
  - ▣ Added level of security by asking the users to identify themselves prior to listening or reading the critical message.
  - ▣ Ability to reject the message prior to listening or reading it because he or she are no longer responsible for that patient or are in no position to act on it.
  - ▣ Two-step notification: First message to get the responsible provider's attention; Second message that details the critical finding.



# Telecommunication



# Telecommunication Challenges

- ❑ There are technology limitations to the telecommunication infrastructure that could pose challenges to the delivery of the CTR message.
- ❑ Signal strength for the mobile device receiving the CTR message.
- ❑ SMS messages can only accommodate 160 characters.
- ❑ Paging service provider needed to be able to handle the load.



# Collaboration

# Collaboration Challenges

- Extremely useful for the responsible provider to be able to reach the individual who **originated** this alert or discovered this unexpected or critical finding and discuss the finding or question it.
- It is important to get the radiologists or lab technician's opinion as to how to address this unexpected or critical finding.
- CTRM solutions must be able to capture the contact information of the party that's generating the alert.

**Q&A**

*Thank You*

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