The Power of Commitment: Improved Communication in Critical Cases

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The Power of Commitment

- "Until one is committed, there is hesitancy, the chance to draw back…Boldness has genius, power and magic in it. Begin it now." --Goethe

Study Objectives

- 1) Define the term critical result.
- 2) Choose the critical results to track.
- 3) Gather baseline data.
- 4) Educate the staff on the importance of reporting a critical result.
- 5) Reassess staff compliance and reinforce the importance of critical result documentation.

Why is Critical Results Reporting Important?

- Identifying the critical result may not be helpful if the information is not communicated to those responsible for treatment decisions.
- The risk of communication errors should be minimized.

Why is Critical Results Reporting Important?

- Joint Commission: nearly 70% of sentinel events are related to communication errors.
- Hospital discharge with results available: primary MD not aware of actionable result in 61% of cases.
- 6th most common claim against radiologists.
- Among the most likely paid claims.

Radiologist Compliance with Institutional Guidelines for Use of Nonroutine Communication of Diagnostic Imaging Results JACR April 2015. Volume 12, Issue 4, Pages 376–384

Joint Commission

- In 2005, the Joint Commission added "reporting of critical results" to its National Patient Safety Goal.
- The Joint Commission now requires accredited hospitals to have written policies regarding critical results .
- The policy must define what constitutes a critical result, who is responsible for reporting the result and to whom, and must set a time frame for reporting the result.

Defining Critical Results

- Definition: a finding which needs immediate intervention and is life threatening or can result in severe permanent harm.
- Based upon the ACR's Practice Parameter for the Communication of Diagnostic Imaging Findings.

Critical Results

- No national standard, varies by institution.
- For our department it includes:
  - Tension Pneumothorax
  - Aortic rupture or impending rupture
  - New acute intracranial hemorrhage
  - New intracranial herniation
  - New pneumoperitoneum in a non post-op patient
  - New acute pulmonary embolus
  - Ruptured ectopic pregnancy
  - Cord compression with cord edema
  - New signs of child abuse
  - Misplaced lines and tubes

Our critical result items

1. Pulmonary Embolus
2. Cord Compression with Edema
3. Misplaced Lines and Tubes

- Chosen in part because they cross sub-specialties and modalities.

Methods

- 109 radiologists participated at multiple hospitals and outpatient sites.
- Data was gathered using a software package, Montage ™, that uses natural language processing to identify critical results. The language processing software flags studies that were documented appropriately and those that were not documented appropriately.
- Three radiologists reviewed the cases selected by the software package. Any cases labeled as a critical result that were not a critical result were discarded. In addition, any cases that were incorrectly categorized as communicated or not communicated, were discarded.
- Pre-intervention data was collected for a one month period.

MONTAGE
Quality Control

Report

[redacted] - [redacted] (CT CTA CHEST W CONTRAST) - 2015-09-23

EXAM: CT CTA CHEST W CONTRAST

PROCEDURE DATE: Sep 23 2015

INTERPRETATION: CTA of the Chest

HISTORY: Shortness of breath. Rule out PE.

TECHNIQUE: Axial CT images were obtained from the level of the thoracic
inlet through the upper abdomen following the administration of 90 cc of Omnipaque-350. 10 cc was discarded. Coronal and sagittal reformatted images
were provided. Axial reformatted MIP images were also provided.

COMPARISON: No prior studies.

FINDINGS:
There are filling defects in the lobar and segmental pulmonary arteries throughout both lungs.

There is dilatation of the right cardiac chambers, suggesting right heart strain. There is no pericardial abnormality. There are scattered atherosclerotic aortic and coronary artery calcifications. The partially visualized thyroid gland is unremarkable in appearance. There is no significant axillary, supraclavicular, mediastinal or hilar lymphadenopathy. The lungs are grossly clear, allowing for motion artifact. There are no endotracheal or endobronchial lesions.

There is a small hiatal hernia. Images of the partially visualized upper abdomen are otherwise grossly unremarkable. Degenerative changes are noted throughout the visualized spine.

IMPRESSION: Lobar and segmental pulmonary emboli throughout both lungs. Dilatation of the right-sided cardiac chambers, suggesting right heart strain.

The above findings were discussed with Dr. [redacted] at 1:47 AM on 9/23/2015.

Report Details
Modality: CTA
Organization: LUMC
Patient Status: Inpatient
Patient Sex: M
Patient Age: 71
Patient MRN: [redacted]
Patient Name: [redacted]

Report Timeline
Wed, Sept. 23, 2015
00:03 Ordered [redacted]
01:11 Exam Completed
01:48 Report Finalized [redacted]

QC Events
Pulmonary Embolus

Detection Details
Pulmonary Embolus Critical Result
Notification Date
2015-09-23 01:47
Detection Date
2015-09-24 01:17
Current Status
Reviewed & Valid
Reviewed by
[redacted] on 2015-09-30 15:09

Intervention

- A staff meeting of our entire group was held and pre-intervention documentation was discussed.
- The department discussed the importance of critical value reporting and shared tips regarding communication and documentation.
- The department was told that the active monitoring would continue.

Methods

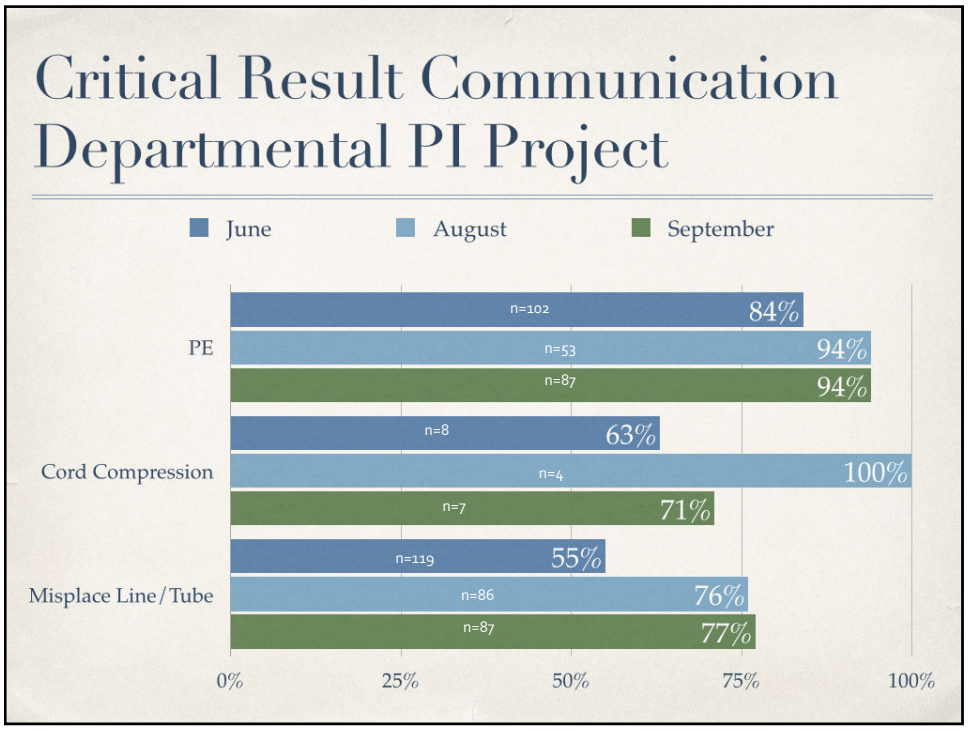
- For the following two months, reports were monitored on a monthly basis for documented communication.
- The data was presented and discussed at monthly staff meetings.

Pre-Intervention Results

- Baseline Pre-intervention data was gathered in June of 2014:
  - Pulmonary embolus reporting had a compliance of 84%
  - Cord compression with edema reporting had a compliance of 63%
  - Misplaced lines and tubes reporting had a compliance of 55%.

Post-Intervention Results

- Post-intervention data was gathered in August and September of 2014:
  - Pulmonary embolus reporting had a compliance of 94% in August and September.
  - Cord compression with edema reporting had a compliance of 100% in August and 71% in September.
  - Misplaced lines and tubes reporting had a compliance of 76% in August and 77% in September.



Analyzing Pre-Intervention Results

- Analysis of various reasons we were initially not compliant:
  - Disagreement about the definition of a critical result
  - Communication but lack of documentation

How We Improved

- PDSA Cycle
  - Plan
  - Do
  - Study
  - Act
- Frequent repetition of the importance of critical result communication at staff meetings, and commitment by our chairman to improve the communication.
- Feedback on the staff's performance.

Study Weakness

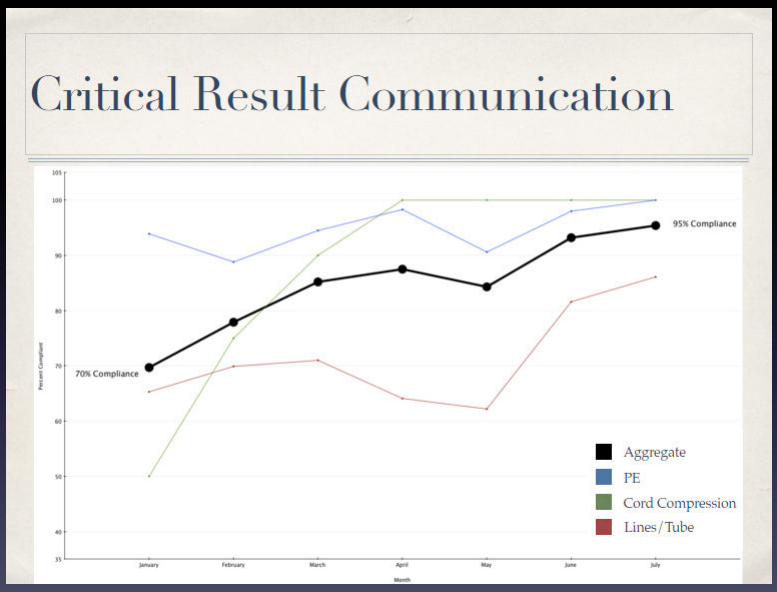
- Although there were a similar number of cord compression cases tracked each month by Montage™ relative to misplaced lines and tubes and pulmonary embolus, the number of cord compression cases with increased cord signal interpreted as cord edema were significantly fewer.
- The average sample size for cord compression with cord edema was 6 per month, as opposed to 81 per month for acute pulmonary embolus and 97 per month for misplaced lines and tubes.
- This likely contributed to the decline in compliance between august and september.

Further Intervention: **Bold Steps**

- Although critical result communication documentation had improved significantly, the group was determined to increase compliance further.
- Residents were informed of the project. The importance of communicating critical results was discussed.
- Critical result communication was assigned to our department's health system website dashboard to publicly show the results and to demonstrate continued improvement.
- Physician outliers were identified on an on-going basis and were contacted directly about the importance of critical value communication and appropriate documentation.

Results 2015

- Pulmonary embolus communication increased from 95% in January to 100% in July.
- Cord compression communication increased from 50% in January to 100% in July.
- Misplaced lines and tube communication increased from 65% in January to 86% in July.
- Aggregate documentation went from 70% in January to 95% in July.



Conclusion

- Defining critical results and recognizing the importance of communication were key initial steps.
- Monitoring performance, giving feedback on performance, and sharing tips regarding communication and documentation improved compliance significantly.
- Placing the results on a website dashboard incentivized staff even further.
- Identifying physician outliers and contacting them about the importance of critical result communication brought compliance to a significantly higher level.