Shedding Light on the Off-Hours Coverage Gap in Radiology: Improving Turnaround Times and Critical Results Reporting

Gilda Boroumand, MD
Thomas Jefferson University

Jaydev K. Dave, PhD, MS
Thomas Jefferson University

Christopher G. Roth, MD, MS-HQS
Thomas Jefferson University

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Delays in radiology reporting have direct ramifications on patient care & outcomes, patient safety, and costs.

Per The Joint Commission, “Delay of treatment” ranked as the sixth most frequently reported sentinel event in 2016.

Traditionally, off-hours radiology coverage is disproportionately limited:
- Daytime subspecialty teams cover inpatient studies from 8AM-4PM
- On-call residents and fellows provide off-hours coverage for some stat cases, but their primary responsibilities are ED studies
- Limited radiology off-hours coverage poses threat to patient safety

Increasing volume of cross-sectional studies, increasing ED imaging utilization, and Joint Commission mandate on ED throughput have compounded the problem—utilization, and Joint Commission mandate on ED throughput have limited:
- Care & outcomes, patient safety, and costs

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Daytime subspecialty teams cover inpatient studies from 8AM-4PM
- Neuroimaging, Body Imaging: staggered shifts, 12-8PM
- General (plain film): extended shifts, 7:30AM-8PM

2) Establishment of Emergency Radiology mini-fellowship
- Senior resident ER coverage, 7 PM-12 AM
- Decrease junior resident call burden

3) Change Emergency Radiology faculty hours to extend early AM attending coverage
4) Extend resident Night Float shift by 1 hour

With the exception of resident Night Float (not pictured) and faculty General shifts, work hours were not increased

Results

Structure Measures
- Replaced subspecialty teams for isolated residents/fellows
- Added faculty members to evening coverage

Process Measures
- Obtained from analytics software using data from the radiology information system
- Evaluated pre & post implementation metrics:
  - Radiology imaging turnaround times (TAT)
  - Percentage of studies exceeding departmental benchmark of 6 hrs TAT

Outcome Measures
- Critical results communication (CRC) times for pneumothorax (PTX) and intracranial hemorrhage (ICH) pre & post plan implementation
- Survey results: faculty, resident and technologist perceptions

Conclusions
- Better matching of radiology staffing with inpatient imaging workflow patterns improves turnaround times and critical results reporting
- Expect improved reporting of imaging findings to translate into fewer delays in patient care and improved patient safety
- Further improvements/future directions & enterprise solution, optimizing inter-disciplinary communication, addressing hospital operational inefficiencies

References