



STAT! STAT! ... STAT?: A Multidisciplinary Collaboration to Develop and Implement a New Multi-tiered Order Priority Classification System

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Background

- Ordering daily morning chest radiographs (CXRs) was customary practice in the Neonatal and Pediatric Intensive Care Units (NICU/PICU) at our large academic medical center.
- For image acquisition prior to morning rounds, studies were ordered as STAT, though few truly required STAT interpretation. Under such circumstances, radiologists cannot appropriately prioritize the urgency of STAT studies.

Development

- Collaborators:** Radiology Department, NICU/PICU and Medical Informatics
- Aim:** Develop and implement a new multi-tiered order priority classification system to allow clinicians to order studies based on urgency of image acquisition and interpretation
- Implementation:** Training sessions held with NICU/PICU residents at their monthly meetings to ease transition to the new ordering system

Methods

- Retrospective analysis of STAT morning CXRs ordered from NICU/PICU completed between 5:00AM and 9:00AM for a one-month period pre-intervention and post-intervention
- Studies ordered for acute clinical decompensations or new line/tube placements considered "true STAT." All other studies classified as "daily follow-up" CXRs.

Pre-intervention order options:

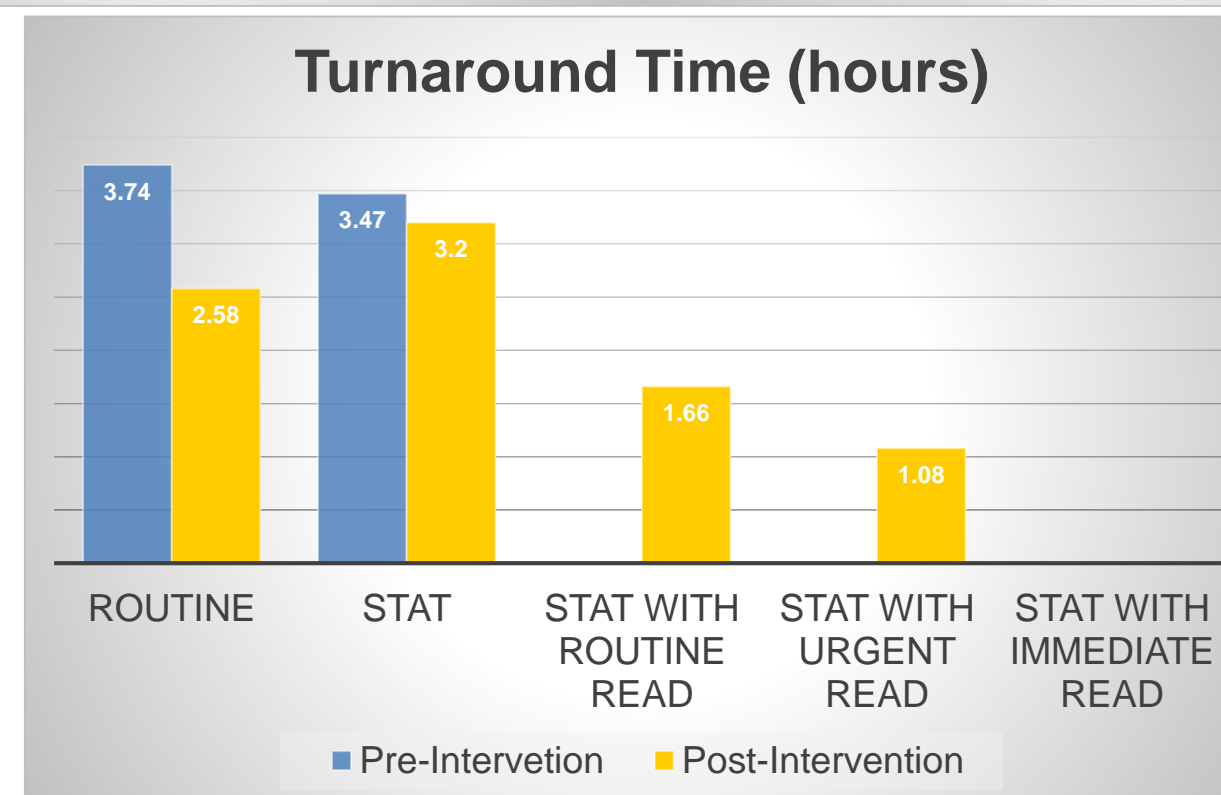
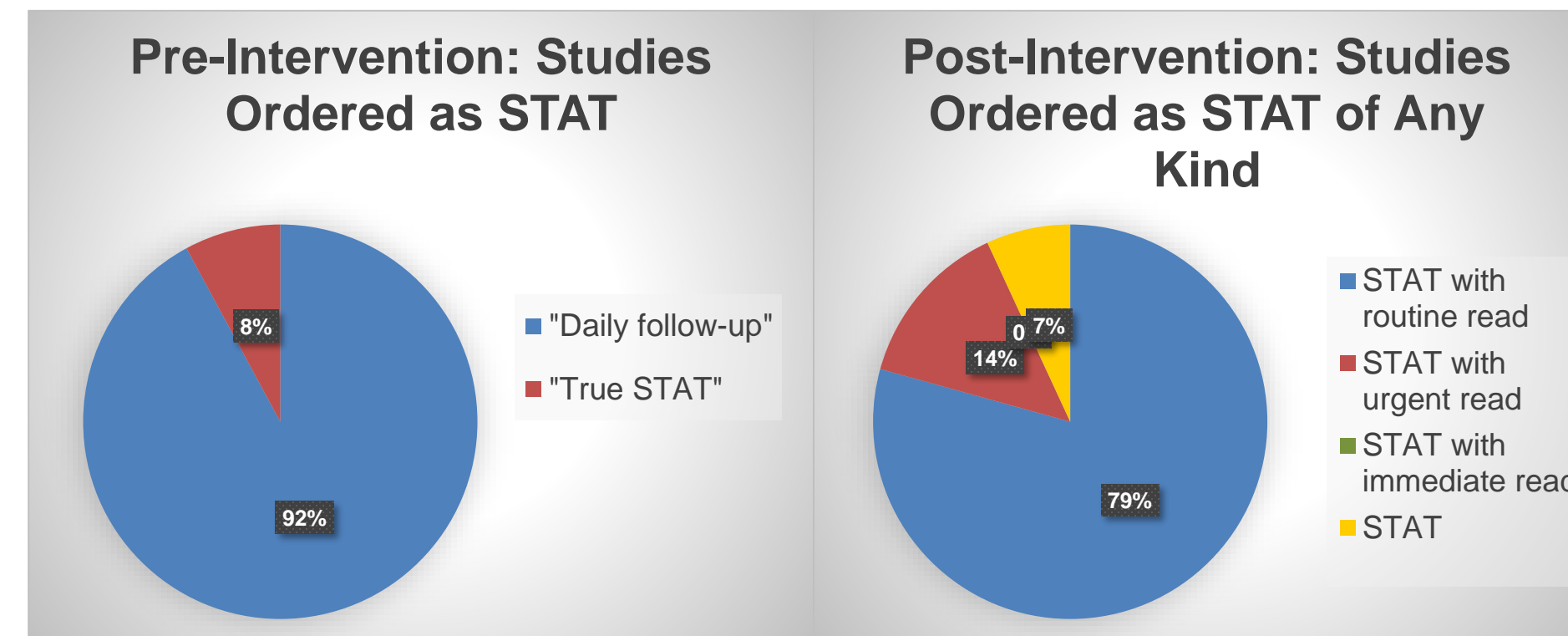
Priority:

Post-intervention order options:

Priority:

Results

- Pre-intervention (January 2016)
 - 38 out of 82 (46%) morning CXRs ordered as STAT
 - Only 3 of these studies were found to be "true STAT"
 - Remaining 35 studies considered "daily follow-up" CXRs
- Post-intervention (June 2017)
 - 29 out of 43 (66%) morning CXRs ordered as STAT of any kind
 - 23 of these studies (79%) ordered as STAT with routine read and 4 studies (14%) ordered as STAT with urgent read, all of which met criteria for "daily follow-up" CXRs
 - No morning CXRs ordered as STAT with immediate read
 - Two studies ordered as STAT, both met criteria for "true STAT" (choice to order studies as STAT remained as a legacy option)



Discussion

- Pre-intervention, only 8% of STAT morning CXRs had true STAT indications
- After implementation of a new multi-tiered order priority classification system, 93% of all STAT morning CXRs were ordered as STAT with routine read or STAT with urgent read, all of which were "daily follow-up" CXRs
- Findings suggest appropriate clinician utilization of the new ordering system to ensure STAT image acquisition with a non-STAT interpretation by the radiologist
- Radiology worklists adjusted to reflect the new STAT categories, and progressively decreasing turnaround times noted when comparing routine, STAT with routine read and STAT with urgent read studies, suggesting appropriate study prioritization by interpreting radiologists
- New ordering system subsequently applied institution-wide, with further analysis to be performed in additional patient care units

Conclusions

- By allowing clinicians to distinguish between urgency of image acquisition and urgency of image interpretation, radiologists can further stratify their worklists and better prioritize true STAT studies.
- The development and implementation of this new multi-tiered order priority classification system exemplifies the importance of multidisciplinary collaborative efforts in quality improvement projects that impact multiple departments.