Improving Radiologist Protocoling Efficiency: An Initiative to Improve Resident Productivity and Speed of Patient Diagnosis

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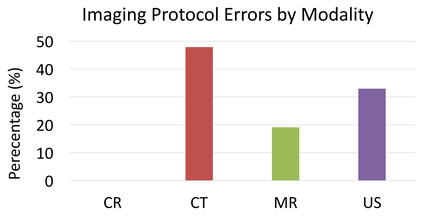
Problem Statement

Radiology residents at UMMHC spend more time than other radiology programs on protocoling CT exams for adult patients daily which leads to delays in patient diagnosis and clinical care.

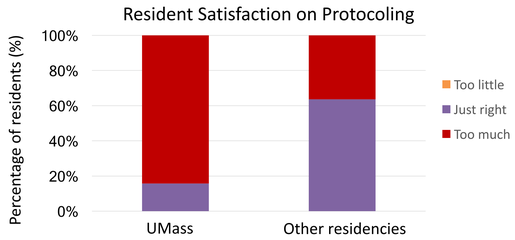
Background

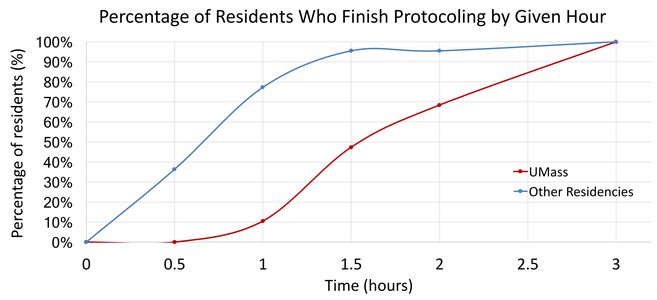
Protocoling is the process by which radiologists review ordered studies to ensure appropriateness of the diagnostic test and limit unnecessary radiation and contrast exposure to patients.

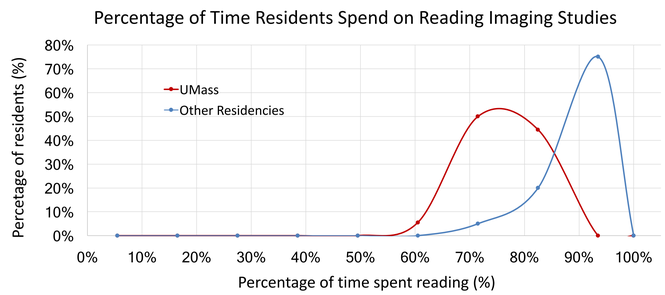


Data adapted from Golnari P, et al. Online error reporting for managing quality control within radiology. J Digit Imaging (2016) 29:301-308.

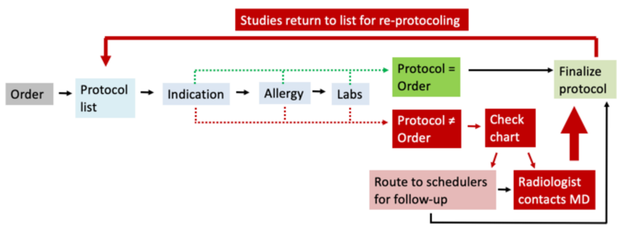
Our residents protocoled 79% of the protocoling volume while only reading 24% of the imaging volume between June and September 2018.



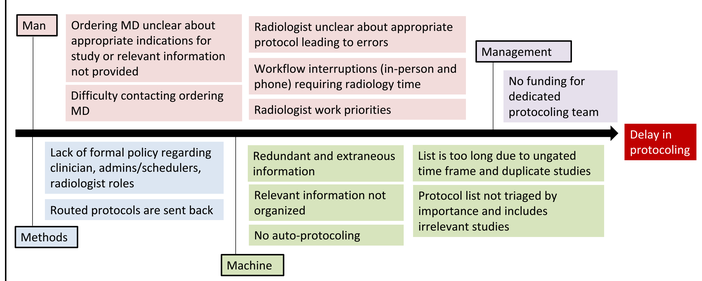




Current Condition



Root Cause Analysis

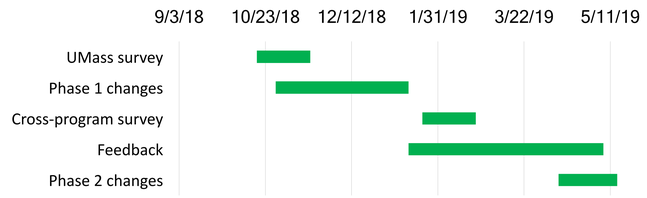


Goals

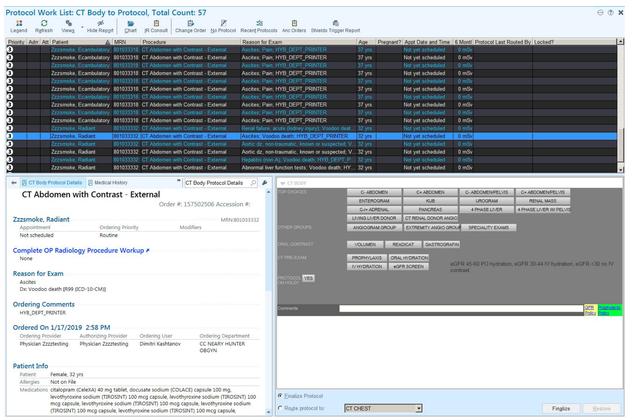
Improve radiologist protocoling workflow efficiency by reducing time spent on protocoling by 50% and increasing volume of cases read by 50% by 5/31/19.

PDSA

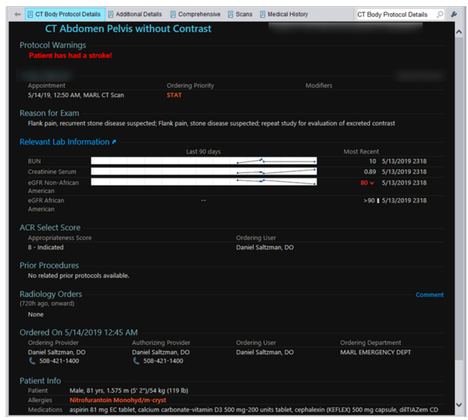
- Development of a more user-friendly protocoling dashboard interface
- Strategic reorganization of essential information
- Elimination of irrelevant information and protocols



Phase 1



Phase 2



Pre-implementation

82% reduction in length
41% reduction in time

Post-implementation

39.8 sec to protocol

23.4 sec to protocol

Overall, positive feedback from faculty, residents, and technicians and only 1% of all errors reported through the Epic QA reporting system were attributed to incorrectly protocoled exams by radiologists.

Conclusions

Streamlining the protocoling dashboard at our institution has improved our workflow efficiency, resulting in a 41% reduction in the time spent to protocol a study. Residents can more quickly complete protocols for ordered exams and dedicate more time to interpreting studies. Future PDSA cycles will focus on reducing order-to-reporting times, thereby minimizing delays in patient diagnosis and clinical care due to protocoling.

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Less waste
More time for
Quality care
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