

Integration of a Radiology Assistant Into Daily Workflow at an Academic Radiology Department

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Background

- As radiology has rapidly moved toward becoming a round-the-clock service to hospitals, the volume of studies and workload of radiologists has grown exponentially.
- Attending and resident physicians expend a large amount of time on tasks beyond reviewing studies, including communicating findings to providers, triaging and approving emergent same-day add-on studies, and discussing protocol and pre-authorization issues with providers.
- Much of this burden is shouldered by the residents, which can lead to a sub-optimal learning experience.



Objectives

- Address the increasing demands of daily workflow in the reading rooms by introducing a radiology assistant
- Identify specific tasks the radiology assistant can help manage
- Evaluate the impact of the radiology assistant through surveys of attending and resident physicians before and after integration of the assistant
- Consider future goals for incorporating multiple assistants to further optimize workflow



Methods

We identified areas of workflow that could be handled by a radiology assistant:

1. Communication of important, non-emergent imaging findings to providers:



Methods

2. Scheduling add-on studies:

- Previously, the task of scheduling same-day add-on ultrasound studies was handled by the resident or attending radiologist via a phone call from the provider's office to the reading room.
- This responsibility was shifted to the assistant, who was given authority to automatically approve studies in which the presenting symptoms matched a list of pre-approved indications provided by the radiologists, such as "acute right upper quadrant pain."
- Studies that were requested in which the symptoms did not match one of the approved indications would require direct communication between the provider and the radiologist.



Methods

3. Protocol changes for CT and MR:

- Prior to implementation of the assistant, for CT and MR studies that were ordered incorrectly, the resident or attending radiologist was required to contact the provider to request a change of the order, a necessity to ensure appropriate insurance pre-authorization.
- After integration of the assistant, any study requiring a protocol change and communication with the ordering provider was handled by the radiology assistant.
- When a problematic study in the RIS/PACS protocol queue is identified, the radiologist flags the study for the assistant. The assistant then contacts the providers for all flagged studies to initiate the protocol change.



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Results

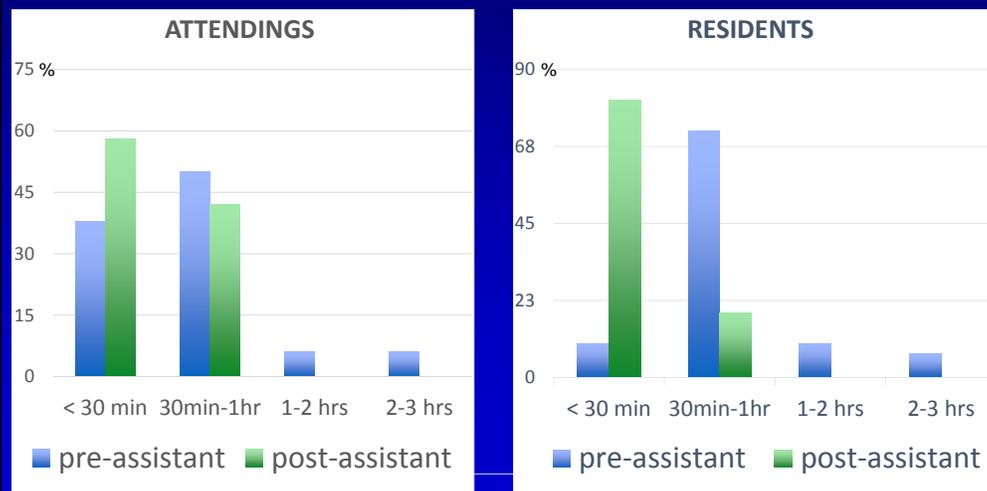
- On average, seven same-day add-on ultrasound studies are requested each day. Previously, all of these were handled by the radiology resident or attending.
- Post-assistant, approximately 86% were shifted to the assistant.
- On average, 130 cases are flagged for communication each month.
- Notably, as radiologists reported increased efficiency, total imaging volume for our radiology department increased 6.2% in the 6 months following integration of the assistant.



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Results

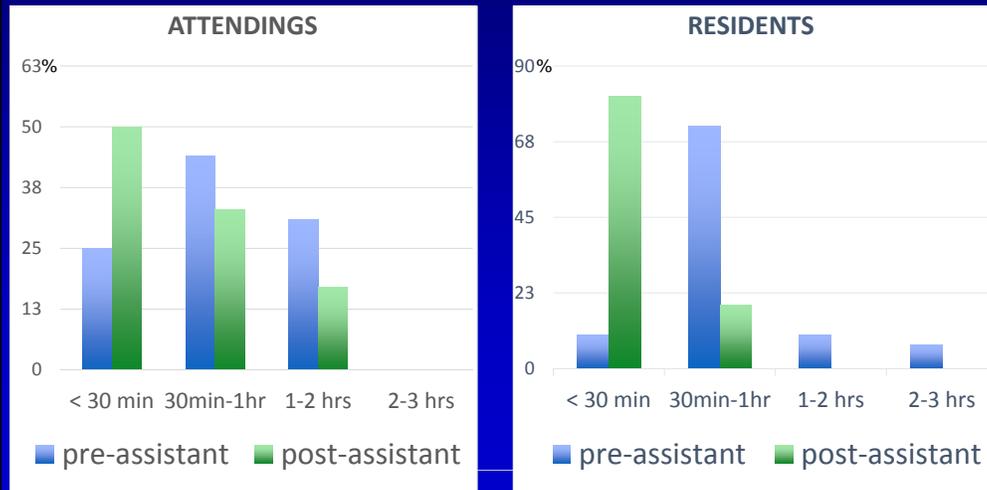
TIME SPENT COMMUNICATING FINDINGS WITH PROVIDERS:



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Results

TIME SPENT DOING CLERICAL TASKS:



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Conclusions

- After incorporating a radiology assistant, residents and attendings report spending significantly less time performing administrative tasks, fostering a better working and learning environment
- Improved workflow efficiency after integration of a radiology assistant has allowed for total imaging volume to increase 6.2%
- Given the significant improvement in workflow efficiency from the incorporation of a single radiology assistant, additional staff would likely further aid the department in maximizing clinical output and encouraging an educational environment for residents.

