Development Of A Communication And Tracking System For Incidental Imaging Findings Using Radiology Assistants, Electronic Communication And Clinical Decision Support

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- 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

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- Address the increasing demands of daily workflow in the reading rooms by introducing a radiology assistant

- Evaluate the impact of the radiology assistant through surveys of attending and resident physicians before and after integration of the assistant

- Facilitate the ordering of follow-up studies with best practice advisory alerts associated with automatic communication messages via Epic inbasket

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- We identified areas of workflow that could be handled by a radiology assistant:
  - Communication of important, non-emergent imaging findings to ordering providers
  - Scheduling same day add-on studies
  - Contacting providers regarding appropriate imaging protocols

- Systems utilized included GE Centricity RIC IC (Version 10.8)/PACS (Version 4.0.11), (GE Healthcare, Barrington, Ill) and Epic EMR (Version 2015, Radiant)

- Survey of 16 residents and 12 attendings pre and post assistant

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- Initially, messages were manually sent by assistant to providers via Epic inbasket messaging, with response from provider required to close the communication loop

- Recently updated to electronic communication via flagging studies in PowerScribe 360, with automated messaging to providers via Epic inbasket

- New "best practice advisory" (BPA) alerts sent to providers at time of electronic communication, allowing for acknowledgement and ordering recommended follow-up with clinical decision support

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- New expansion of automated communication and best practice advisory alerts to inpatient and emergency settings, requiring provider acknowledgement to close the communication loop


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- New clinical referral pathways for workup of the 12 most common incidental findings, with recommendations based on society guidelines and input from clinical and imaging specialists at our institution

- New tracking using built-in tracker database within Epic Radiant, with results automatically populated

Name
incidental finding other
incidental finding thoracic aneurysm
incidental finding renal mass
incidental finding liver lesion
incidental finding adrenal mass
incidental finding lung nodule
incidental finding pancreatic mass
incidental finding abdominal aneurysm
incidental finding adnexal mass
incidental finding CNS mass
incidental finding pituitary lesion
incidental finding thyroid nodule
incidental finding intracranial aneurysm

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TIME SPENT COMMUNICATING FINDINGS WITH PROVIDERS
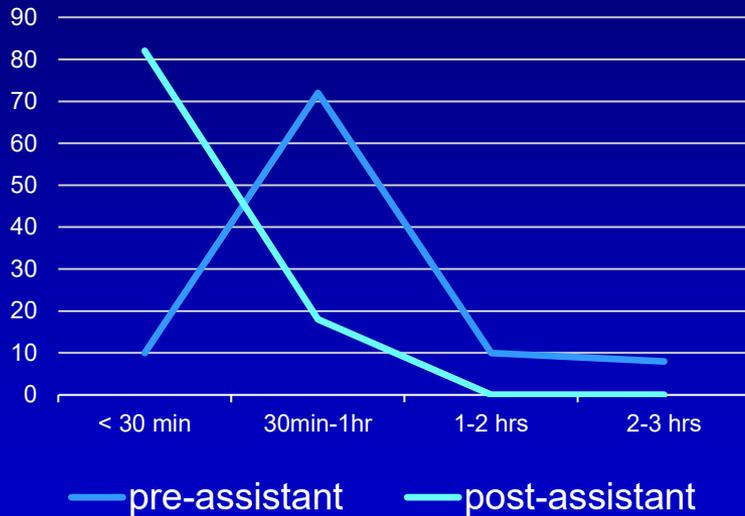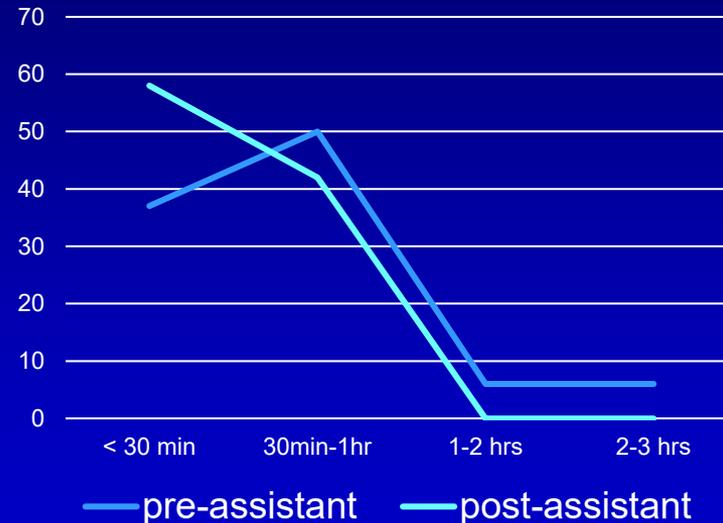
TIME SPENT PERFORMING CLERICAL TASKS

RESIDENTS
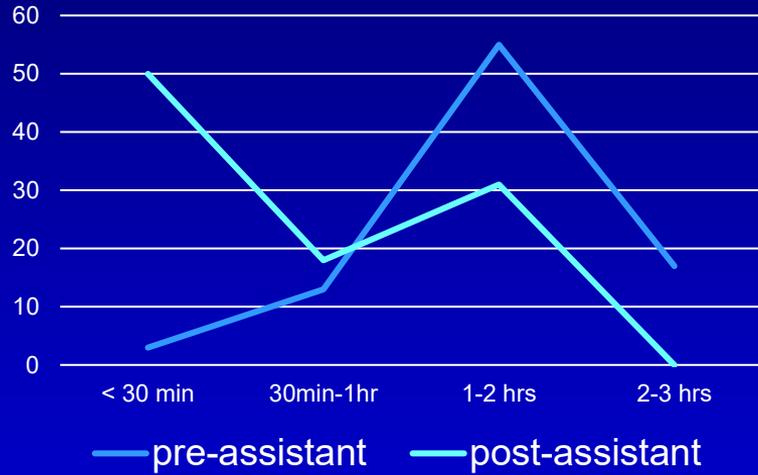
ATTENDINGS
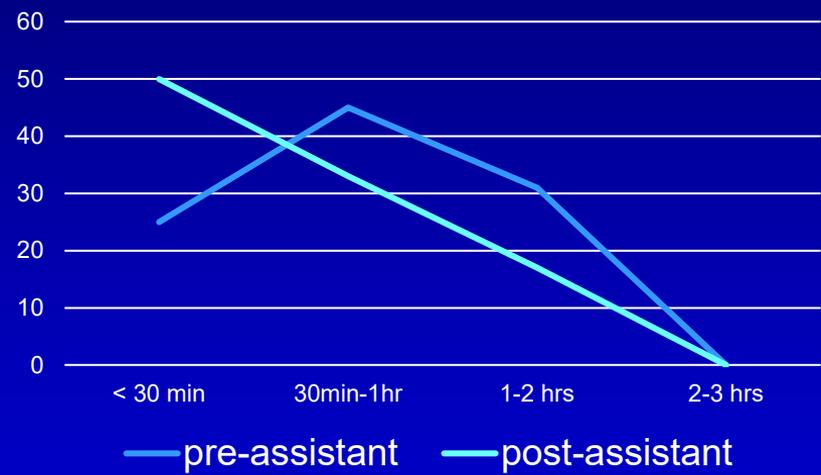
Conclusions

- Incorporating a radiology assistant has made a significant impact on our daily workflow, allowing attendings and residents to spend less time on clerical tasks and communicating non-emergent findings to providers, while allowing total imaging volume in our department to increase

- Recent upgrades including best practice advisory alerts, automated communication and use of Epic tracker database have further refined workup of incidentally detected imaging findings