Implementation of Systematic Imaging Over Reads for Transfer Patients at Harborview Medical Center
Authors and Disclosures

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Problem

> Patients transferred for higher levels of care often arrive with medical imaging from the outside facility and have a high incidence of positive findings

> There is no community standard or dominant practice to handle outside imaging. National survey result:
  – 17% no over read services
  – 31% informal interpretations
  – 22% mix formal, informal
  – 29% formal interpretations

Ref: Robinson et al, Emergency Radiology, 2012
Dealing with outside imaging on transfer patients involves a different workflow than in-house exams

Scanned outside reports are not available in the EMR

Exams without on-site dictations are not reviewed by faculty
Intervention: Overall Approach

> Form a multi-disciplinary team to identify stakeholders and gather input

> Develop and implement a unified workflow for handling of transfer and in-house imaging
Intervention: Gathering Input

1. Formed a core development team comprised of radiology faculty, radiology IT, and hospital administrators representatives

2. Identified key stakeholders

3. Systematically gathered input from stakeholders, starting with radiology faculty and lastly from the residency program
Intervention: Unifying the Workflow

Routine ED Workflow

- Imaging order
- Scheduling
- Protocol
- Exam done
- Available on worklist
- Radiologist interpretation
- Faculty finalization

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Intervention: Unifying the Workflow

Old Transfer Workflow

1. Imaging order → Scheduling
2. Protocol → Exam done
3. Available on worklist → Radiologist interpretation
4. Faculty finalization

Images arrive → Find in PACS

- Radiologist review
- Overread required?
  - Yes: 10%
  - No: 90%

Reports arrive → Radiologist review

Images arrive

Reports printed, handed to resident → Separate reports into exams

Images arrive

Returns report for scanning into PACS → Ask clinician to order overread

Imaging order → Scheduling

Available on worklist

Faculty finalization

Radiologist interpretation

Not available in EMR

No faculty oversight

Separate reports into exams

Return report for scanning into PACS

Clinician

Radiology Staff

Radiologist (resident)

Radiologist (faculty)

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Intervention: Unifying the Workflow

New Transfer Workflow

Images arrive

Reports arrive

Imaging order

Scheduling

Protocol

Exam done

Available on worklist

Radiologist interpretation

Faculty finalization

Clinical

Radiology Staff

Radiologist (resident)

Radiologist (faculty)
Discussion

Benefits of a unified workflow

> Improved efficiency: elimination of parallel workflow

> Provides timely EHR accessible dictated summary of transferred studies

> Transfer reports are reviewed by attending radiologists

> Reports provide accountability for faculty time and effort
Future Directions

> Retrospective review to assess value

> Include additional stakeholders: Feedback mechanism to referring radiologists regarding discordant findings
Conclusion

> A unified workflow improves resident efficiency, faculty oversight, and communication with referring clinicians, ultimately improving patient care

> Policy change required several years of support from a multi-disciplinary team including information technology services, hospital administrators, and medical providers