

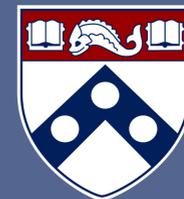
"TAKE OUR CARD": Optimizing Inpatient Radiology Orders, a Resident driven

Quality Initiative

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Lessons Learned

- ✓ Residents desire confidence ordering imaging
- ✓ Reference cards work!

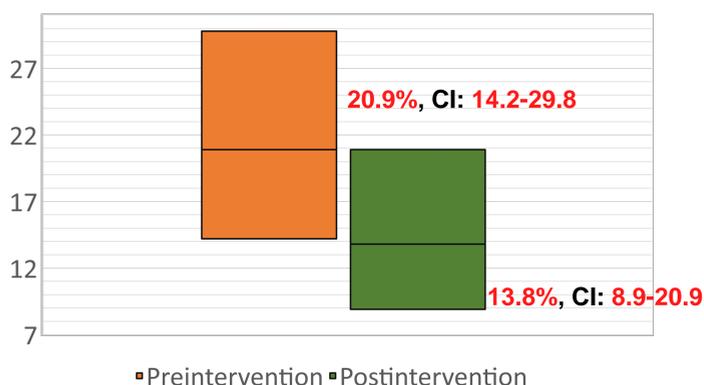
Roadmap

- Card feedback survey
- Increase sampling
- Control chart
- Add modalities



Results

Upon discovering that an impressive percentage of internal medicine residents lack confidence in choosing specific radiological images in different clinical situations, we sought to formulate metrics that highlight this pitfall among the internal medicine residents. Using our hospital's electronic medical record system (PennChart, Epic Systems Corp., Verona, WI), we worked with data analysts to pool data using the following parameters: (1) inpatient CT scans of the chest, abdomen, pelvis; (2) studies ordered by residents within the department of medicine; (3) orders placed between May 1, 2017 through June 30, 2017. A report was generated highlighting 105 orders that met all three parameters. Of these **105** studies, **22** of them (**20.9%**) required modification before the study was carried out. Modifications were defined as adjustments to the initial order whether pertaining to the type of contrast, area of the body, or modality of imaging. We devised a reference card to assist medicine residents when ordering CT scans of the chest, abdomen, pelvis (see right). Post-intervention measurements assessed orders placed between May 1, 2018 through June 30, 2018. **130** CT orders were placed, and **18** (**13.8%**) required modification



Take Our Card!!

Anzai, Yoshimi, et al. "Dissecting costs of CT study: application of TDABC (time-driven activity-based costing) in a tertiary academic center." Academic Radiology 24.2 (2017): 200-208.

Purpose

A hospital-wide, quality improvement initiative led by internal medicine and radiology residents to evaluate the current perceptions regarding interdepartmental communication and its effects on patient care and wasteful image ordering.

Problem

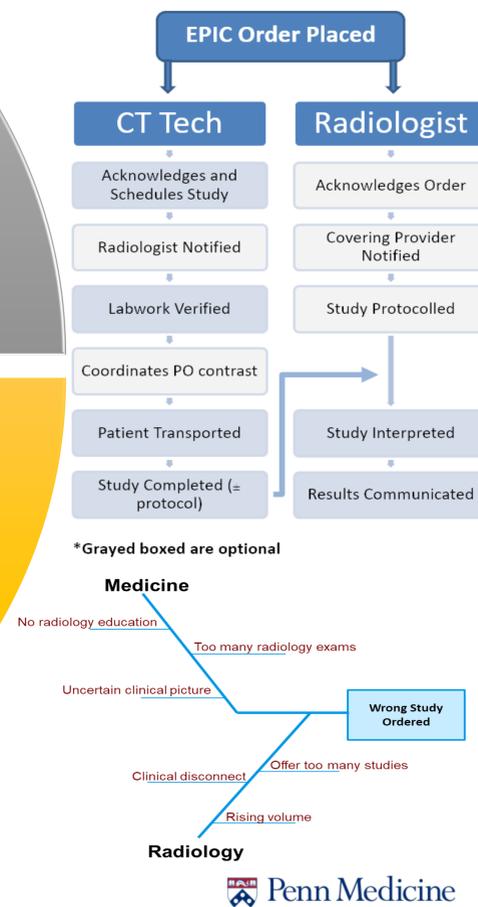
Two surveys, distributed to # internal medicine and 20 radiology house staff, to assess the respective perception of each group regarding communication when ordering inpatient radiology studies were generated.

42.8% of medicine residents surveyed do not feel confident with their choice of study without radiology input (IV/PO, contrast/non, NPO required)

33.3% of medicine residents surveyed feel that there are often delays to patient care (management, discharge) due to misunderstanding about imaging study (i.e. not knowing to keep pt NPO or pre-treatment requirements)

53% of radiology residents feel residents do not call reading room often enough to seek advice regarding appropriate study

64.7% of radiology residents surveyed feel the lack of detail provided in the order often results in studies being performed unnecessarily



CT ORDERING GUIDE

REGION	INDICATION	EPIC ORDER
Chest	Pulmonary embolism	CT Chest w IV Contrast Pulmonary Embolism
	Pneumonia/lung nodule	CT Chest wo IV Contrast
	Infection, malignancy (pleura, mediastinum, hila, chest wall)	CT Chest w IV Contrast
	Aortic injury, blunt trauma	CT Chest Angio w and wo IV Contrast AND CT Abdomen Angio w and wo IV Contrast
	Interstitial lung disease, fibrosis	CT Chest wo IV Contrast Lung Parenchyma
Abd/ Pelvis	Abd pain, mass, abscess, cancer staging	CT Abdomen/Pelvis w IV Contrast (Yes PO)
	Renal stone, retroperitoneal hematoma	CT Abdomen/Pelvis wo IV Contrast (No PO)
	Active GI bleed	CT Abdomen/Pelvis GI Bleeding (No PO)
	AAA, mesenteric ischemia	CT Abdomen/Pelvis Angio w and wo IV Contrast
	Malignancy w/u for hematuria	CT Urogram
	Liver, kidney, pancreas, adrenal mass w/u	CT Abdomen w and wo IV Contrast (No PO)

IMPORTANT PHONE NUMBERS

SECTION	EXTENSION	NOTES
Resident on Call		M-F (5p-8a) + weekends + holidays
Body CT/MRI		Reads CT CAPs, fluoro
Chest		Reads abdominal films
Neuro	---	Reads spine CT/MRI
Musculoskeletal		Reads spine films
Nuclear Med		PAH Iodinated Contrast Guidelines: -GFR >30 and <60: hydrate if stable *if AKI: peer-to-peer -GFR <30: peer-to-peer -ESRD on chronic dialysis: OK if dialyzing -Recent contrast w/in 24h: OK if GFR >45
Ultrasound		
CT tech: U/S tech: MRI tech:		