

Improving Radiologic Communication and Follow-up Tracking Using an Epic-Based Tool

UNC Institute for Healthcare Quality Improvement
Improvement Scholars Symposium



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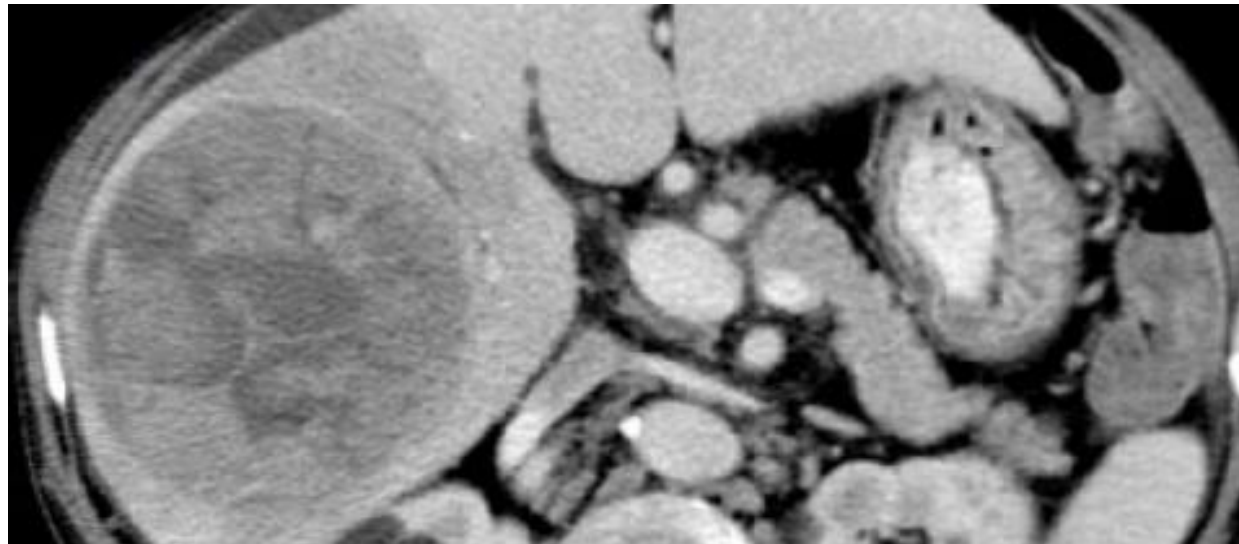
Patient Story

- 54-year-old male has a CT in the ED showing a liver mass
 - **MRI or biopsy is needed**
- Admitted, stabilized, and discharged
- No further diagnostics scheduled
- **Lost to follow-up**



Patient Story – 1 Year Later

- Returns to ED ~1 year later; repeat CT shows **multiple large liver masses**
 - Biopsy: **HCC**
 - No longer curable



Importance

- **Incidental radiologic findings are seen daily**
 - Most are benign... but some are cancer
 - Follow-up (e.g., with imaging) may be required to differentiate
- **There are barriers to communication and follow-through:**
 - “Incidentalomas” are not routinely communicated
 - Communication disrupts workflows and takes time
 - Patients change locations and providers
 - Tracking follow-up is difficult
- “Misses” lead to bad patient outcomes and large monetary losses
 - ~\$1M per incident?



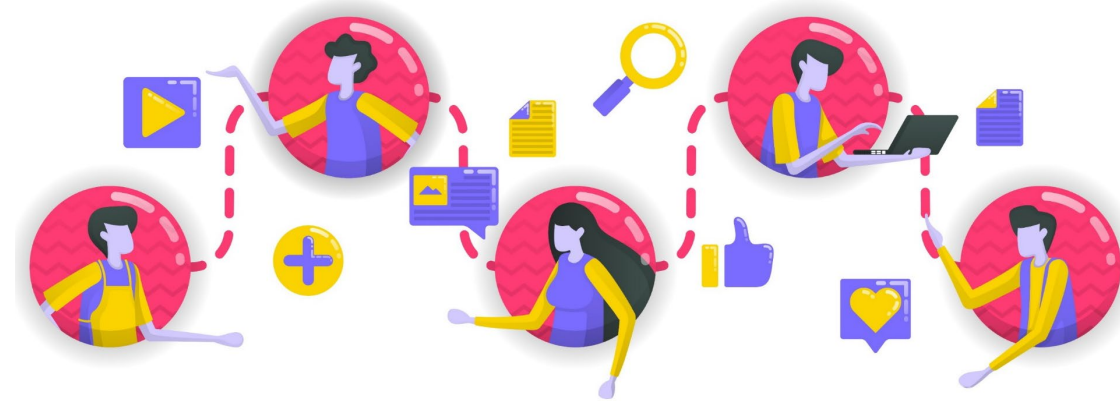
Potential Impact

- **Simultaneously altruistic, pragmatic, and financial:**
 - Reduce morbidity/mortality by improving the standard of care at UNC
 - Save time for radiologists
 - Provide a tracking service for ordering providers
 - Decrease risk for all parties
 - Earn revenue from follow-up studies



Aim Statements

- **Global Aim: Reduce patient morbidity and mortality by improving communication and follow-through on recommended imaging**
- SMART Aim: Increase percentage of studies with incidental findings communicated to care team (using the new Epic tool) from 0% to 3% by August 31, 2021



Epic “Results Tracking” System

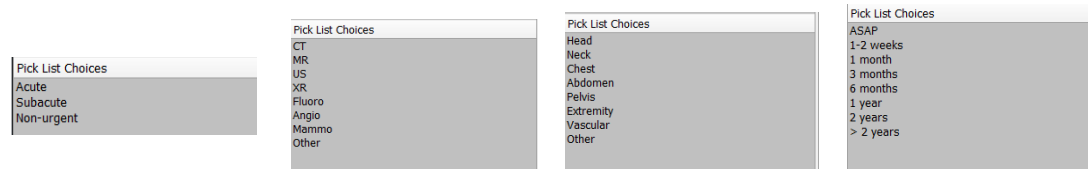
- We activated and configured a dormant tool in Epic, but it was **cumbersome**
- Epic’s tool was interfaced with our dictation system for ease of use:

Now:

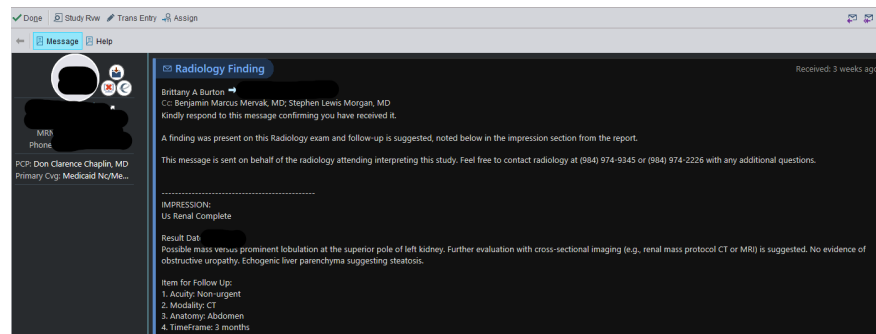
1. A recommendation is dictated by radiologists
 - E.g, [CT] of the [Abdomen] in [1 month]
2. An Epic worklist is populated, and a closed-loop communication initiated
3. The communication is automatically documented in Epic

Closed-Loop Communication

Radiologist chooses:



Radiology Coordinator sends Epic Inbox message to the Ordering MD and PCP (Radiologist cc'ed):



Documented automatically:

Outcome	Recipient	Sender	Date/Time
Completed			
Contacted	Carolina Mendoza, MD	Angela H Beale, CNA	01/25/2021 08:58 AM
Comment: IB message confirmed			
Contacted	Joy Hallmark, MD	Angela H Beale, CNA	01/25/2021 08:42 AM
Comment: IB message sent			
Marked for Follow-up		Interface, Rad Results In	01/25/2021 08:17 AM

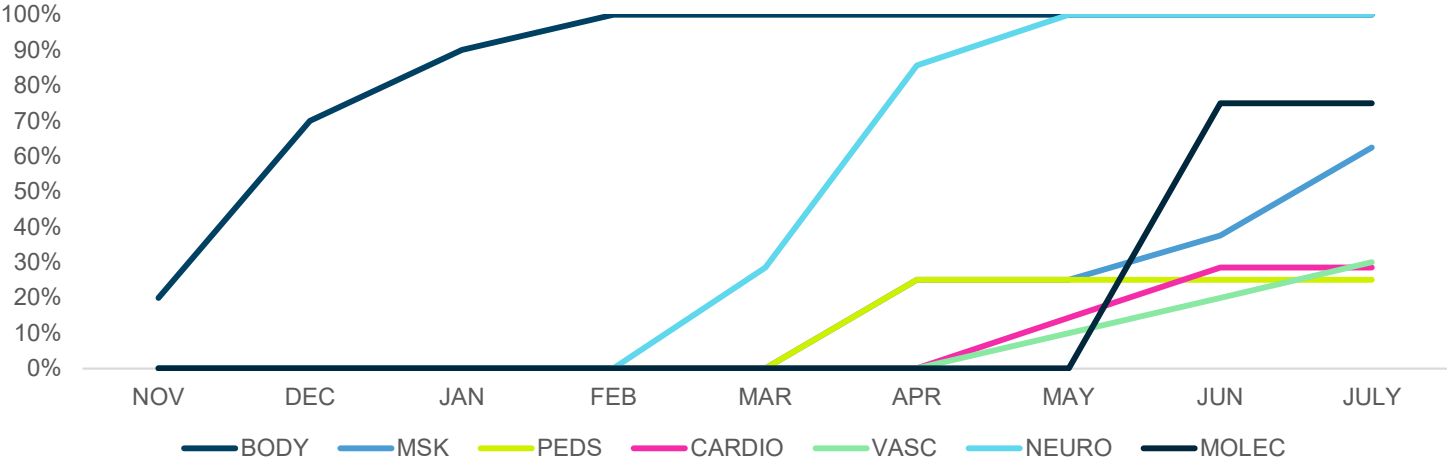
Ordering provider responded by 8:58 on 1/25/21

Communication initiated (by coordinator) at 8:42 on 1/25/21

Report signed (by radiology attending) at 8:17 on 1/25/21 noting a need for follow-up

Radiologist Participation

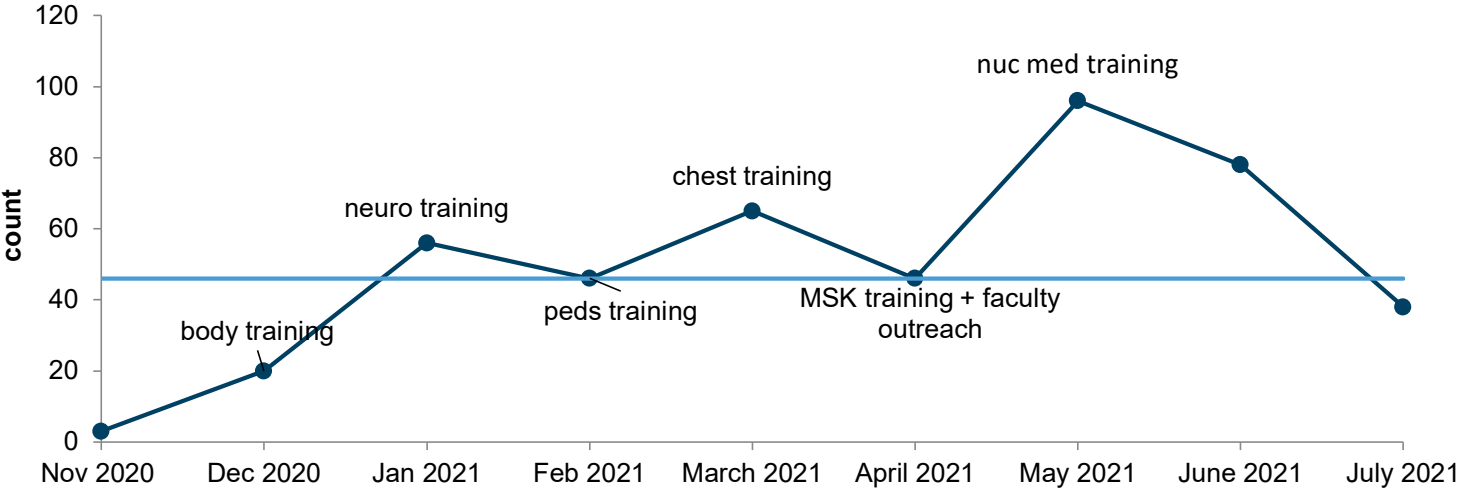
Percent of Radiologists (by division) With 1+ Tracked Finding



- All divisions with >25% participation
- Most divisions with >60% participation

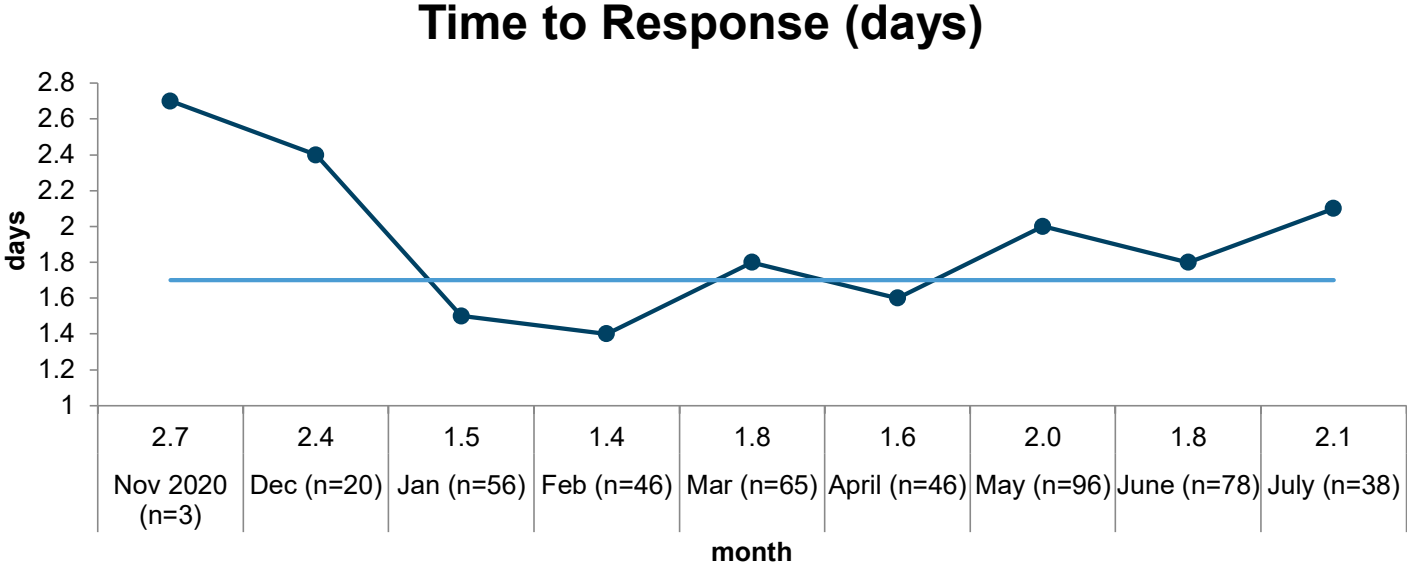
Monthly Tracked Studies

Monthly # Studies Tracked Using Results Tracking Tool



- Median: 46 per month (1 in 700 studies)

Turn-Around Time for Response Receipt



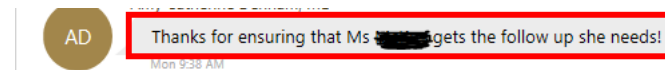
- Median: 1.7 days

Sustainment

- Durable “goods”
 - Permanent macro in dictation system
 - Interface with Epic maintained by Epic/Radiant personnel
- Great involvement by our Reading Room Coordinators
 - Ongoing meetings to address barriers and further refine the tracking tool
- Potential to automate Radiologist’s entries into the tracking system
- Plan for succession in case of departures

Balancing Metric: Ordering Provider Satisfaction

- We directed attention toward limiting extra work and intrusiveness
 - Focus groups helped plan routes of communication
 - Epic inbox messages
 - Epic secure chat
 - **Feedback has nonetheless been mixed:**
 - *“Thanks for ensuring Ms.____ gets the follow up she needs!”*
- VS.
- *“Having an extra message like this doesn’t help me.”*



Hi Ben

I don't remember if this came by text or epic?

I check all my radiology in epic. If I'm on epic I'll look for the report so having an extra message like this doesn't help me. If it's a message on epic, it could be next day before I check all my messages.

Text page helps though if its acute. Almost all of us have beeper texts sent to phone so we are aware of all sorts of messages.

Current Barriers

- We want to **unburden and improve the satisfaction of ordering providers**
- How?
 - One idea: implement a tracking system as an incentive
 - But...

Current Barriers

- **No fully functional tracker in Epic.**
- Still needs **manual oversight and decision making:**
 - Is a noncontrast study sufficient?
 - Does a different modality suffice? (e.g., MRI instead of CT)
 - Does patient not want imaging, etc?
 - Was follow-up performed at another institution?

Next Steps and Spread Plan

- Consider “**Followup Navigator(s)**” – full time employees dedicated to monitoring tracked findings and ensuring follow-up
- Locally, **increased awareness** of this effort and **backing from hospital leadership** will increase receptiveness of ordering providers
- Meet with Radiology groups at other UNC entities to discuss implementation there
 - “Change Package” developed to ease deployment



Thank you!

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