MIT MANAGEMENT SLOAN SCHOOL

Improving Anatomic Pathology Operations at MGH

Host: MASSACHUSETTS GENERAL HOSPITAL

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Project Overview

Anatomic Pathology Process

Pathologists makes diagnoses based on tissue appearance under a microscope

Specimen removed from patient during surgery and accessioned

Specimen is fixed and grossed, then placed into cassettes

Cassettes processed, embedded, cut into slides, stained, baked and checked

Slides delivered to Residents for initial review

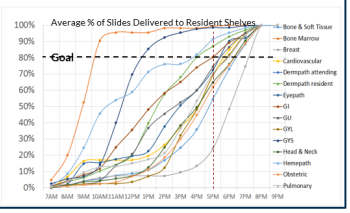
Our focus

Resident and Attending make diagnosis

Goal: Cut down on the time residents must wait for slides

Increase the number of days in which 80% of slides are delivered by 5pm

- **Stated issue:** Late slide delivery due to operational inefficiencies is forcing residents to stay later than they should to review cases
- **Goal:** Identify areas to improve operations in the slide creation process to enable 80%+ of slides to be delivered by 5pm for services with residents on them



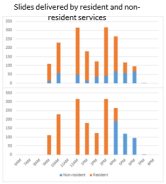
Recommendations

1. Prioritize resident services

Use cassette color to denote non-resident services and inform histologists to process last

Finding:

Slides delivered by resident and non-resident services



Current **90% delivered by 5PM**

Resident Services Prioritized **100% delivered by 5PM!**

Recommendation:

1. Confirm de-prioritization with non-resident services
2. Implement new color coding for non-resident
3. Use all-hands meeting and paper print-outs to communicate to PAs, grossing residents, and histologists
4. Communicate to attendings and to senior residents that preview will occur in the morning for non-resident services

Non-resident services include:
Breast 2, Head & Neck 1, GI1, GU2, Eyepath

2. Assign specimen to service, not resident in accessioning

Assigning specimen to both resident and service creates errors at accessioning, QA and delivery

Finding:

3+ hours lost PA grossing time every week

- Supervising PAs receive >30 emails per week correcting resident-service assignment errors. Emails take ~3 minutes to resolve

Delays in slide delivery due to errors

- During on-site observations, noticed accessioning errors. Mistakes are inevitable due to rotating resident schedule / PTO

Recommendation:

1. Choose one service to pilot
2. Select appropriate metrics to track progress
   a. Errors reported
   b. Intra-spot transit time
   c. Average TAT
3. Experiment with how to handle incoming calls
   a. Front office admin
   b. Phone tree with updated weekly rotation of residents/attendings

4. Create incentive program to reward excellence

Absences cause unexpected bottlenecks, reduce process capacity and cause delays

Finding:

Lack of incentives. Hard to manage performance without excellence incentives, employees allowed 5 absense days before any action taken

Lab not fully staffed on almost half of days

<24 hours notice absences in October

M	Tu	W	Th	F
2	3	4	5	6
9	10	11	12	13
16	17	18	19	20
23	24	25	26	27
30	31			

More than 1 Tech
More Than 2 Techs

Recommendation:

1. Pilot a QUARTERLY **recognition & monetary incentive** program to encourage employee excellence. Consider individual and team-based performance incentives.

2. Establish formal **absence reporting guidelines**, starting with written warnings after 2 unexcused absences (must be coupled with excellence incentives)

3. Pilot streamlined error reporting system and incentivize use

Current reporting process is onerous, time-intensive, and not incentivized

Finding:

1. Error reporting is difficult:

"Any issue requires you to fill out a form, photocopy it, track down signatures, then submit it. This process takes hours and happens all day long."

2. Not all errors reported, sometimes shame and blame culture:

"There is a cultural fear of reporting mistakes and subsequently being punished."

Errors are used to put down employees and be critical, vs. using them as learning opportunities

Recommendation:

Track and analyze errors to understand common and recurring events that slow down work processes and decrease output quality

1. Pilot easy-to-use error reporting system

2. Create a "learning mindset culture" and emphasize non-punitive improvement
   a. Start with reporting near misses, which can facilitate a blame-free approach (a hallmark of a culture of safety)*
   b. Pilot anonymous reporting of errors

5. Implement continuous improvement

Allow workers across the organizational hierarchy to suggest changes to processes

Pilot "innovation task-force competition" to identify inefficiencies and easy-wins, and give all stakeholders voice & recognition

- Task-force should represent the entire operational chain of Anatomic Pathology (Accessioners, PAs, Histologists, Residents, Attendings)
- Self-volunteered task-forces work best but team formation to be managed by leaders
- Measure recommended improvements (perhaps pilot across comparable service lines?) and reward successes

Other recommendations

Consider small wins in process operations; dive deeper into out of scope observations

Small wins to improve TAT

1. Ensure residents check bone & soft tissue is fully processed in formalin (bend)

2. Consolidate blue/peach cassettes into two processing spot trays
   a. 1 for 4 hour process time, 1 for 8 hour process time

3. Eliminate printed working draft from slide delivery and use online report functionality

4. Increase tray space at Checkout (quality) station to reduce block overflow from fast histotechs

5. Develop standardized, comprehensive training for accessioners

Out of Scope:

1. Flexible and better informed autopsy grossing by Residents schedule

2. Match 1st and 2nd year residents in frozen grossing

3. Simplify software; consider Beaker

4. Assign administrative assistant to collect rush cassettes