Automating Daily Patient Assignment through an Excel Macro Script

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Problem

- The hospitalist section covers a variety of inpatient services from general medicine to oncology to transplant.
- Geographic cohorting of patients may be difficult to execute and maintain given varying influx of admissions and discharges, resulting in mismatches in available beds and services.
- Additionally, the task of assigning newly admitted patients to 13 hospitalist teams with different services, capacities, and primary units can be challenging and time consuming.
- Individual variability in this step by the triage MD can lead to inconsistent patient assignments.

Goal

- Over a 3-month pilot period, implement a daily automated patient assignment tool for patients admitted in the past 24 hours, to improve ease of patient assignment, reduce time on the task, and improve geographic concentration of patients to their primary units.

Intervention

- Developed & piloted an excel macro script that sorts newly admitted patients to appropriate rounding teams daily.
- Sorting algorithm: (1) assigned service, (2) assigned unit, (3) team capacity.
- Capacity calculator based on providers & learners on service, weekday-weekend prompts.
- Section of Hospital Medicine: 13 hospitalist teams, 6 services, 11-16 patients per team. Done by triage MDs.
- HIPAA compliant cloud, used same format as prior admit log.
- Outcome measures
  - → Usability and satisfaction for triage and rounding MDs, APPs
  - → Geographic concentration – % patient on primary unit

Using Distribution Tool

1. Complete admit log, do not leave blanks.
2. Select dropdown options to automatically update team caps.
3. Enter ESP and current census for each team.
4. Manually re-distribute/assign patients as needed.

*Prioritize specialty patients/teams
*Check running count for quick reference to capacity/space per specialty.
***DO NOT edit any other cell data below to avoid issues

Fig. 1: Directions on how to use the distribution tool. Provided in the admission log.

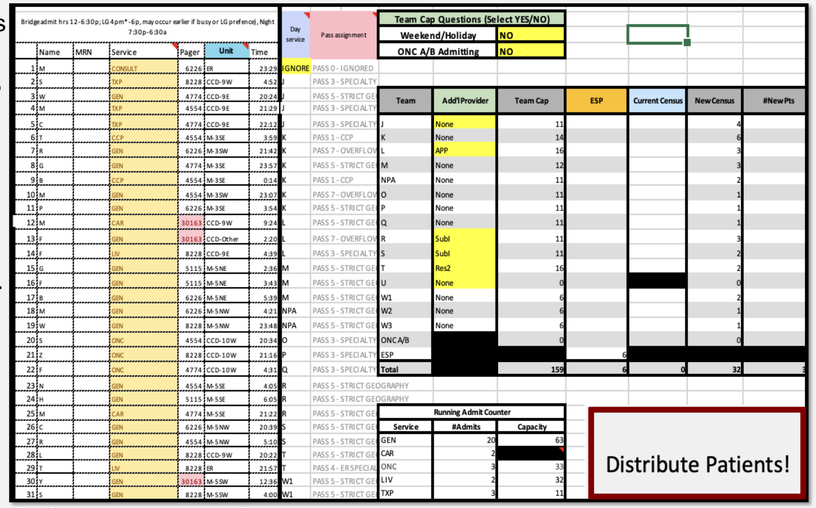

Fig. 2: Admission log with distribution tool.

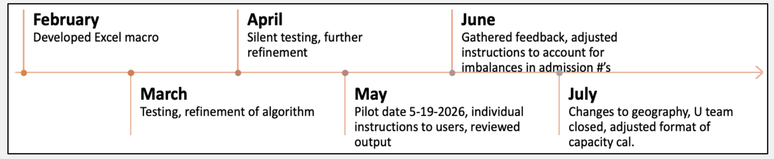

Fig. 3: Timeline of intervention.

Results

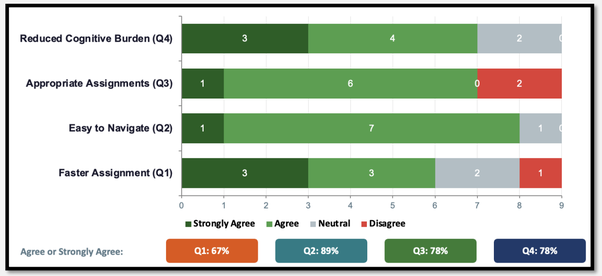

Fig. 4: Triage physician Likert-scale ratings of the Patient Assignment Tool, n = 9

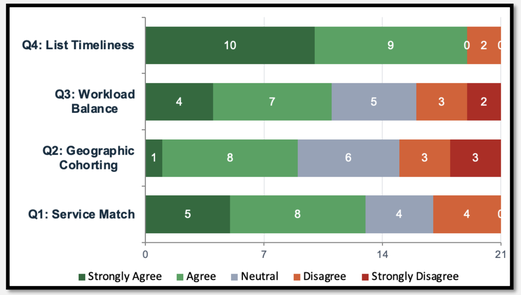

Fig. 5: Rounding physician Likert-scale ratings of the Patient Assignment Tool, n = 21

- Survey of triage & rounding hospitalist experiences.
  - → Worked a triage shift or rounding shift May to July 2026.
- Triage: N = 9 of 13 respondents, 69.2%
- Rounders: N = 21 of 53 respondents, 39.6%
  - → Overall positive feedback from triage MDs using the tool.
  - → 63% of rounding providers felt the quality of patient distribution was the same as prior manual process
  - → Multiple respondents found the new distribution sheet Word format harder to read than the prior ppt table format
- Geographic concentration was confounded by operational changes, including changes in bed allocation and the closure of one team, which led to more patient dispersion.

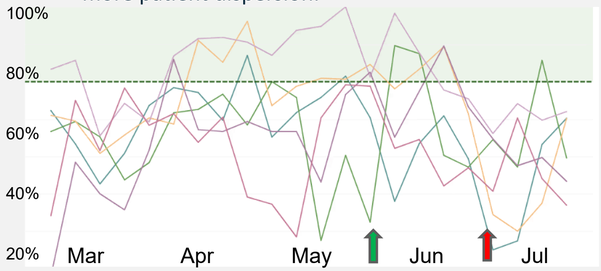

Fig. 6: Graph of percent of hospitalist patients on the primary unit, for 6 teams in Pavilion 1. Green arrow = implementation start (5/19/26). Red arrow = closure of 1 team (7/1/26) and changes to accommodate hospital needs, led to more dispersion of patients.

Lessons Learned and Next Steps

- Tool accomplished goal of improving ease of patient distribution. Overall positive feedback from Triage MDs.
- Quality of patient distribution remained the same for majority of rounders.
- Geographic concentration and rounder experience likely affected by operational changes outside the intervention scope.
- Challenges seen when trying to create more complex rules to adjust for geographic changes or balancing number of assigned patients. May be better for a more simplified algorithm with more user adjustments.
- Next steps: change format of distribution sheet, identify ways to sort patients at end of service handoffs, reassess geographic concentration with all teams open in the fall quarter.

Acknowledgements

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