Automating Trauma Call Scheduling for Short and Long-Term Gains

What is Acute Care Surgery at UH?
Provides care for:
- critically ill and injured patients due to trauma and burn
- patients who need emergent medical attention

What is their scheduling challenge?
Objective: 5 units to be always covered by 15 attendings.
The schedule must consider:
- Off time requests
- Equity
- Spacing balance
- Outside schedules
- Individual rules

How can we help?
Our CHEPS team is working to create a tool that can automate and optimize the scheduling process! We are...
- Building a digital tool to generate high quality schedules within seconds
- Using a mathematical model to enforce scheduling rules and identify the best possible schedule based on chosen criteria
- Reducing the time and work involved with revising the schedule

What is their current approach?
The Division Chief creates the schedule by hand.

What are the short-term goals?
- Building many schedules in a short amount of time
- Obtaining rapid feedback and getting a better understanding of trade-offs within schedules.
- Increasing usability of the tool
- Reducing amount of manual work time
- Increasing clarity on schedule preferences

How does the tool work?
1. Inputs – Gather inputs such as attending’s time off requests and target number of assignments in each unit
2. Tool generates schedule – Users just need to hit “run”!
3. Attendings provide feedback
4. Inputs revised based on feedback

What are the long-term goals?
- Removing the perception of bias in scheduling, ensuring equity
- Equity spanning years with holiday assignments

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