ABSTRACT: 2019 ELAM Institutional Action Project

Project Title: Rethinking the Pediatric Emergency Department Provider Schedule: A Mixed Methods Approach

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Collaborators and Mentors: Kimberly Boland, MD

Topic Category: Clinical

Background, Significance of project: Patient volume at an urban pediatric emergency department (ED) at a teaching children's hospital and its satellite suburban ED varies by season and day of the week with some predictability. Despite implementation of seasonal changes in staffing and a volume surge plan, this variation results in costly overstaffing of providers (physicians and nurse practitioners) when volumes are low and can put patient safety at risk when demand is unusually high. Nursing and ancillary staffing models utilize budget and on call systems to flex staff to meet demand yet this is rarely implemented at the provider level.

Purpose/Objectives: To utilize provider input and the literature to develop an alternative and flexible strategy for physician and nurse practitioner staffing in the pediatric ED to more closely meet demand without sacrificing provider satisfaction with the schedule.

Methods/Approach/Evaluation Strategy: We assembled a team of advanced practice providers and pediatric emergency medicine physicians and developed and conducted a mixed-methods survey of all advanced practitioners using the literature as a guide. We solicited current provider satisfaction with the schedule, preferences of providers for potential schedule options, established requirements for schedule changes, chose strategies for further development, and performed a cost analysis of the proposed changes.

Outcomes/Results: Only 50% of clinicians were moderately or very satisfied with the current schedule. 29% expressed dissatisfaction with the type of hours worked (evenings vs days) while dissatisfaction was low for the number of work hours required. Based upon survey results, the team chose to focus on our larger clinical site. Analysis revealed opportunities for improvement in the summer during the mornings and winter evenings. While a budget system was found to be undesirable, there was strong interest (n=5) among current providers in a flex position working most shifts in the fall, winter, and spring with limited summer shifts (0.82 FTE). In addition, two models were initially proposed: a) adjusting schedule hours to better meet historical demands with new shift lengths and b) a call schedule with appropriate compensation in combination with altering schedule hours. Significant concerns about compensation models for a call schedule in the context of current work assignments were raised throughout the process. The current proposal of altered hours would save approximately 300 hours/year in moonlighting costs. Additional refinement and input from all team members is ongoing.

Discussion/Conclusion with Statement of Impact/Potential Impact: A team approach and analysis of predicted pediatric emergency department patient arrival patterns revealed opportunities to adjust the provider schedule to better match predicted demand and identified preferred models for flexible staffing among providers.

Rethinking the Pediatric Emergency Department Provider Schedule

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Background

- Patient volume at an urban pediatric emergency department (ED) at a teaching children's hospital and its satellite suburban ED varies by season and day of the week with some predictability.
- Despite implementation of seasonal changes in staffing and a volume surge plan, this variation results in costly overstaffing of providers (physicians and nurse practitioners) when volumes are low and can put patient safety at risk when demand is unusually high.
- Nursing and ancillary staffing models utilize budget and on call systems to flex staff to meet demand yet this is rarely implemented at the provider level.

Objective

To utilize provider input and the literature to develop an alternative and flexible strategy for physician and nurse practitioner staffing in the pediatric ED to more closely meet demand without sacrificing provider satisfaction with the schedule.

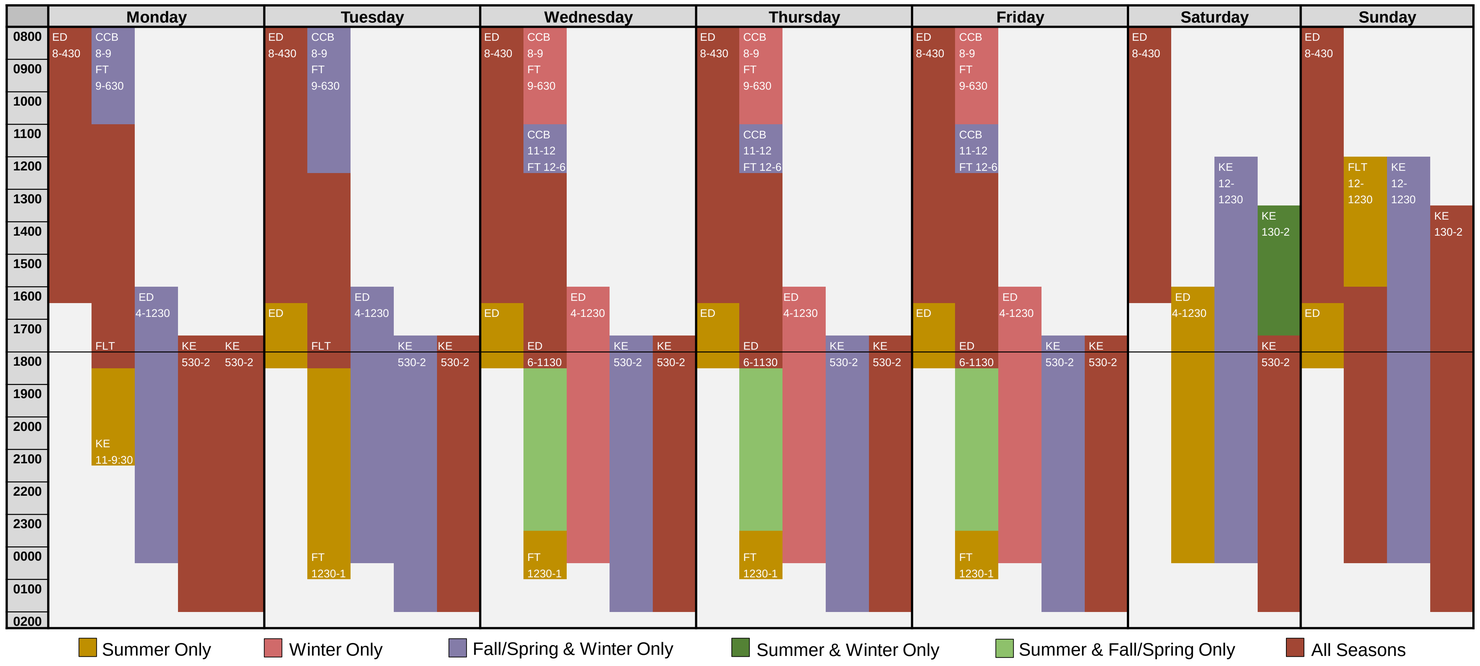
Methods

- We assembled a team of advanced practice providers and pediatric emergency medicine physicians and developed and conducted a mixed-methods survey of all advanced practitioners using the literature as a guide.
- We solicited current provider satisfaction with the schedule, preferences of providers for potential schedule options, established requirements for schedule changes, chose strategies for further development, and performed a cost analysis of the proposed changes.

Results

	n=14		
	VERY OR MODERATELY SATISFIED	NEITHER SATISFIED OR DISSATISFIED	VERY OR MODERATELY DISSATISFIED
Amount of consideration given to your personal needs	50%	36%	14%
Consideration given to your opinion and suggestions for change in the work setting	28%	36%	36%
Flexibility in scheduling work hours	71%	7%	21%
Flexibility in weekends off	50%	36%	14%
Number of days worked in a row	58%	29%	14%
Number of work hours required	78%	14%	7%
Overall satisfaction with the schedule	50%	36%	14%
Type of work hours (day vs evening)	29%	43%	28%
Weekends hours worked per month	58%	29%	14%

	n=14		
	VERY OR MODERATELY DESIRABLE	NEITHER DESIRABLE OR UNDESIRABLE	VERY OR MODERATELY UNDESIRABLE
A "swing" shift from 9:30-1:30p for 1/2 shift credit that did culture/EKG call backs and converted to patient care when volumes were high for moonlighting or future shift credit	54%	15%	31%
A scheduled call system (8 hour shifts) built into the work assignment with appropriate compensation if called in for illness or volume	54%	7%	38%
A day shift that had more flexibility in traveling between sites dependent on needs	38%	15%	46%
A "budget" system where sent home early/called in late (4 hour block) if slow with option for payback as vacation or future hours worked	31%	23%	46%
A "budget" system where sent home early/called in late (2 hour block) if slow with option for payback as vacation or future hours worked	23%	31%	46%
An evening shift that had more flexibility in traveling between sites dependent on needs	17%	25%	58%



Discussion

- Based upon survey results, the team chose to focus on our larger clinical site.
- Analysis revealed opportunities for improvement in the summer during the mornings and winter evenings.
- While a budget system was found to be undesirable, there was strong interest (n=5) among current providers in a flex position working most shifts in the fall, winter, and spring with limited summer shifts (0.82 FTE).
- Two models were initially proposed:
  1. adjusting schedule hours to better meet historical demands with new shift lengths.
  2. a call schedule with appropriate compensation in combination with altering schedule hours.
- Significant concerns about compensation models for a call schedule in the context of current work assignments were raised throughout the process.
- The current proposal of altered hours would save approximately 300 hours/year in moonlighting costs. Additional refinement and input from all team members is ongoing.

Conclusions

A team approach and analysis of predicted pediatric emergency department patient arrival patterns revealed opportunities to adjust the provider schedule to better match predicted demand and identified preferred models for flexible staffing among providers.

Acknowledgments

We acknowledge Dr. Kimberly Boland for her mentorship on this project as well as Bethany Yager Houze, Adrianne Griten, Therese Sirles, Kendra Sikes and the Rethinking the Provider Schedule team.