Assessment of Clinical Learning Environment on a General Inpatient Pediatric Team

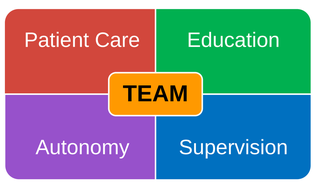
Gal Barak, MD; Shelley Kumar, MS, MSc; Geeta Singhal, MD, MEd
Texas Children's Hospital, Baylor College of Medicine

BACKGROUND

On general inpatient pediatric teams, there are often a variety of learners, and the number of learners can vary greatly across different hospitals. Little is known about the number and composition of learners that best facilitates resident education. However, studies which assess team structure and size with regards to problem solving, often demonstrate negative correlations between team size and efficiency.

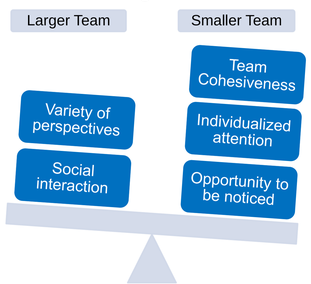
As pediatric hospital medicine (PHM) fellowships have continued to develop, fellows are also playing a larger role in resident education. Multiple studies have demonstrated negative surgical residents' perceptions towards fellows. Studies also demonstrated discrepancies between faculty and resident perception of surgical fellows. Little is known about non-surgical fellowships' impact on residency training.

Key Aspects of Residency Training



Team structure plays a large role in implementing these components of resident training

Balancing Team Size

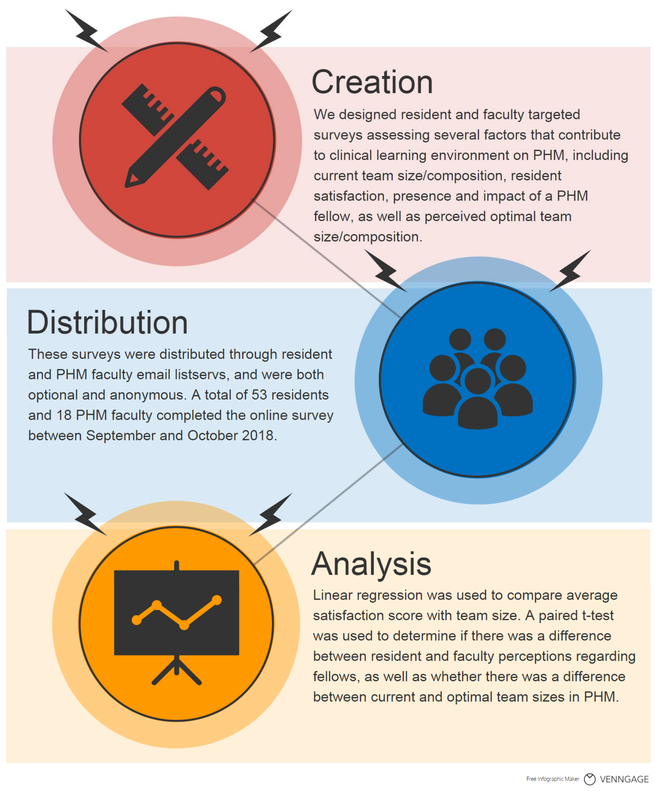


We hypothesize that there are more benefits to having a smaller rather than larger team

OBJECTIVES

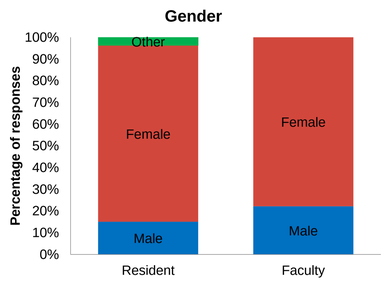
- To identify the optimal number and composition of learners on PHM teams
- To assess resident and faculty perceptions of the impact of a PHM fellow on resident learning

METHODS

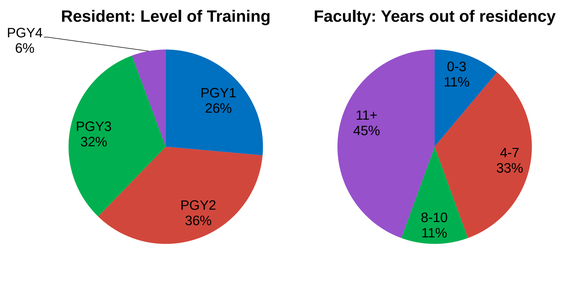


Free Infographic Maker VENNGAGE

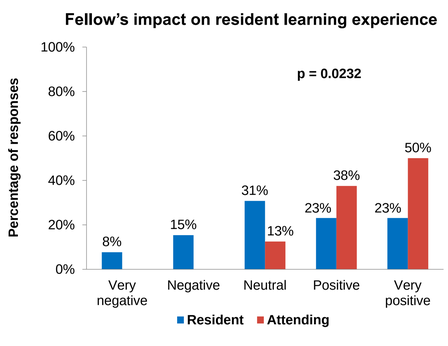
RESULTS



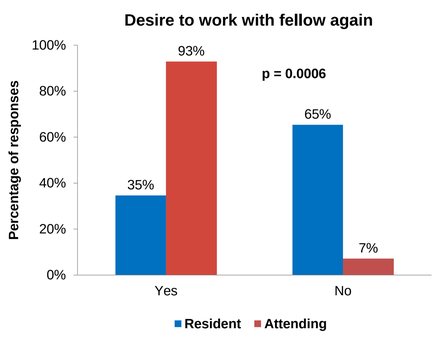
Graph 1: Study participants predominantly identified as female.



Graph 2: Study participants represented a varied distribution of level of training (residents) and years out of residency (attendings).



Graph 3: There was a significant difference between resident and attending perspective on fellows' impact.



Graph 4: There was a significant difference between resident and attending desire to work with a fellow again.

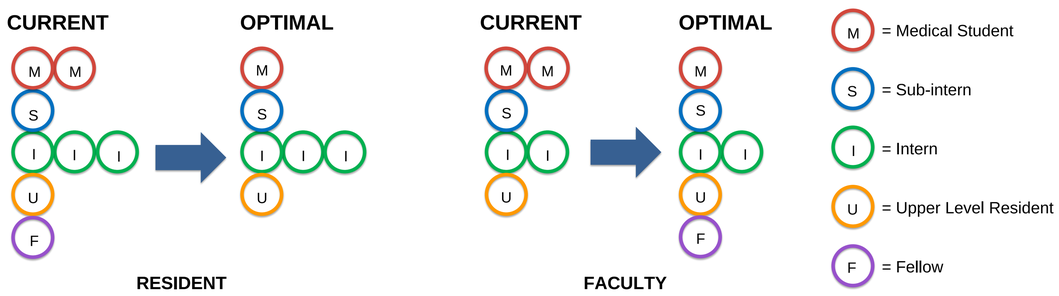
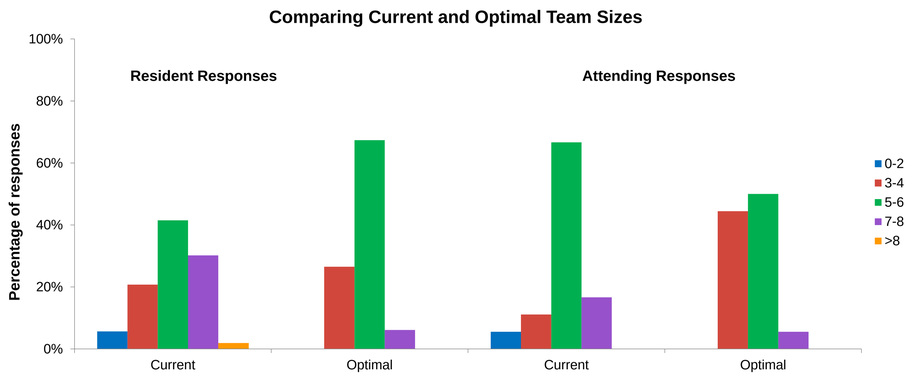
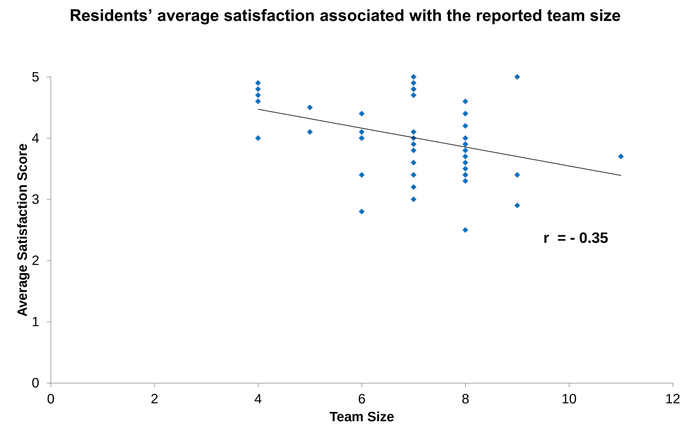


Figure 1: Average team size and composition as reported by residents and faculty, in comparison to the average optimal team size and comparison



Graph 5: For residents as well as attendings, there was a significant difference in scores for current team size ($M_{resident}$=7.0, $M_{attending}$=6.3) and optimal team size ($M_{resident}$=5.2, $M_{attending}$=4.8) ($p_{resident}$<.0001, $p_{attendng}$ =0.003).

RESULTS



Graph 6: Average satisfaction scores were calculated based on Likert scales for satisfaction in the following domains: receiving feedback, amount of time spent on teaching, amount of time spent with attending, level appropriate teaching, ability to ask questions, meeting the learning objectives, personal engagement during rounds, time for personal reflection, efficiency of rounds, and personally managing a sufficient number of patients.

Satisfaction score can be predicted by 5.10 - 0.156 *Team Size.

CONCLUSIONS

PERCEPTION OF FELLOWS

Residents perceive PHM fellows' impact on learning as less positive than faculty (Graph 3), and are less likely to want to work with a fellow again (Graph 4).

Future research is required to evaluate how program structuring can optimize both resident and fellow experiences within PHM.

There was a moderate negative correlation between resident satisfaction and team size (Graph 6). This study suggests a need to reduce the team size at TCH (Figure 1, Graph 5).

OPTIMAL TEAM SIZE

Free Infographic Maker VENNGAGE

LIMITATIONS

- Limited by sample size and reporting bias in an optional survey
- Cannot predict effect of intentionally decreasing team size, and barriers to implementation exist

FUTURE DIRECTIONS

- National distribution to other comparable institutions to compare and contrast resident experiences and perspectives with TCH
- Qualitative data collection to identify factors driving these trends

REFERENCES

- Lim Y, Steinemann S, Berg B. Team Size Impact on Assessment of Teamwork in Simulation-based Trauma Team Training. Hawai'I Journal of Medicine & Public Health, 2014;73(11):358-361.
- Ofei-Dodoo S, Goerl K, Moser S. Exploring the Impact of Group Size on Medical Students' Perceptions of Learning and Professional Development During Clinical Rotations. Kansas J Medicine, 2018;11(3):70-75.
- Plerhoples T, Greco R, Krummel T, Melcher M. Symbiotic or Parasitic? A Review of the Literature on the Impact of Fellowships on Surgical Residents. Annals of Surgery, 2012;256(6):904-908.