JRMC Journal of Regional Medical Campuses

Too many cooks in the kitchen: A process improvement workshop to address learner saturation

Julie R. Whittington, MD; Andrew Moore, MD; and Andrew S. Thagard, MD

DOI: https://doi.org/10.24926/jrmc.v8i2.6655
Journal of Regional Medical Campuses, Vol. *8*, Issue 2 (2025)

Published by University of Minnesota Libraries Publishing

Too many cooks in the kitchen: A process improvement workshop to address learner saturation

Julie R. Whittington, MD; Andrew Moore, MD; and Andrew S. Thagard, MD

Abstract

Introduction: An overabundance of learners can compromise the educational experience of trainees and contribute to preceptor burnout, particularly at regional medical campuses. Our objective is to describe a process improvement to optimize the number of learners in a department that was subsequently developed into an interactive workshop.
Methods: Our strategic learner plan consists of three parts. The first involves taking stock of the current number of trainees and their educational needs by conducting a census. The second assembles a group of key stakeholders to determine the importance of each learner type to the department, align educational objectives to the rotation experience, and reach consensus on the optimal number of learners within each clinical environment. The third consists of implementation, including development of a centralized tracking and approval process. Our workshop curriculum included the development of educational handouts for implementation at other institutions.
Results: We initiated the process within our department in 2020. The learner census identified over 130 individual trainees in seven categories rotating through the department annually. Ten stakeholders participated in the meeting and organized learner groups into low, moderate, and high strategic importance. Following implementation, we observed improved compliance regarding the impact of other learners on resident education in survey data. A majority of workshop participants reported that a strategic learner plan would benefit their department and reduce preceptor burnout.
Conclusion: A strategic learner plan can aid departments in determining the number, type, and location of trainees rotating in their department.

Key Words: learner saturation, preceptor burnout, strategic learner plan, and regional medical campus
Conflict of Interest Statement: The authors have no conflicts of interest to declare but do have the required disclaimer to report.
The views expressed in this manuscript reflect the results of research conducted by the authors and do not necessarily reflect the official policy or position of the Uniformed Services University, Department of the Navy, Department of the Air Force, Department of Defense, or the United States Government.
JRW and AST are military service members. This work was prepared as part of their official duties. Title 17 U.S.C. 105 provides that "Copyright protection under this title is not available for any work of the United States Government." Title 17 U.S.C. 101 defines a United States Government work as a work prepared by a military service member or employee of the United States Government as part of that person's official duties.

Treatment of Human Subjects and Treatment of Animal Subjects when applicable: This manuscript does not involve research with human or animal subjects.

Julie R. Whittington, MD; Division of Maternal-Fetal Medicine, Department of Gynecologic Surgery & Obstetrics, Naval Medical Center Portsmouth, Portsmouth, Virginia, USA. Department of Gynecologic Surgery & Obstetrics, Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA.
Andrew Moore, MD; Department of Obstetrics & Gynecology, Eastern Virginia Medical School, Norfolk, Virginia, USA
Andrew S. Thagard, MD; Division of Maternal-Fetal Medicine, Department of Gynecologic Surgery & Obstetrics, Naval Medical Center Portsmouth, Portsmouth, Virginia, USA. Department of Gynecologic Surgery & Obstetrics, Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA.

Introduction

The volume of trainees in health professions has increased at a rate greater than the number of clinical sites to host them, resulting in capacity issues and learner saturation.[1,2] In our experience, large departments and regional medical campuses that host a variety of trainee types are at increased risk. In many cases, lack of centralized oversight means that new rotations are scheduled without factoring in current obligations or considering their strategic importance. Additionally, lack of communication between different programs results in schedule conflicts where a single clinician may be assigned multiple trainees to precept. Over time, success in the form of positive feedback from learners leads to requests to take on more trainees culminating in what we term a 'learner swarm.'

The implications of an overabundance of learners in a clinical environment can be profound, including decreased opportunities for trainees, a compromised patient and/or resident physician experience, and reduced clinic throughput. The impact of other learners on resident physician education is a consideration in a program's accreditation. In a small clinical space, a 'learner swarm' can even pose a fire hazard! Learner saturation can also contribute to burnout among academic medicine preceptors who are already at increased risk due to baseline pressures to meet research and clinical productivity metrics.[3]

Unfortunately, there is no simple solution to addressing learner saturation. Strategies proposed include peer teaching, creative scheduling including staggered schedules, and reevaluating learner: preceptor ratios.[1,4]

In 2020, our department embarked on a process improvement termed a 'strategic learner plan' to optimize the number of clinical rotations we support. After implementation, we developed a workshop to share our process. Here, we describe the three key components to the plan so that other organizations can apply it to their clinical environments.

Methods

Strategic Learner Plan

We developed and implemented our plan within a large department that encompasses a variety of clinical environments, including inpatient and outpatient obstetrics and gynecology and the subspecialty services of gynecologic oncology, maternal-fetal medicine, reproductive endocrinology and infertility, and urogynecology. The department supports an accredited residency program and hosts a variety of other learners, including medical, physician assistant, and advanced practice nursing students from two affiliated institutions and resident physicians from other specialties, such as Emergency Medicine.

The first step of the process involved conducting a learner census to understand the number and types of trainees who rotate through the department. A survey was sent to faculty to capture all learners. Data collected included learner type and institution of origin, length of rotation and number of rotations supported annually, the duration of the commitment to host learners, the point of contact, and where specifically the learners rotate through the department. Faculty were also queried regarding their perceptions of the benefits of hosting the learner type and the syllabus with the rotation objectives and requirements were requested.

The second phase of our process consisted of a stakeholder meeting. Key stakeholders invited to our meeting included the faculty point of contact for each learner type, departmental and residency program leadership, and a resident physician representative. The action items for the meeting included reviewing data from the learner census and rotation objectives, prioritizing trainee types based on importance to the department (ranked low, moderate, and high), determining the optimal number of learners in each clinical environment, ensuring the rotation experience aligned with the objectives, and reaching consensus on a uniform process to approve and schedule learners. The results of the meeting were summarized in a report to the department.

The third phase encompassed implementation and follow-up. This stage included assigning a point of contact to review and track rotations and centralizing

the schedule and making it available to the department. We compared program survey results on impact of other learners on resident education pre and post implementation.

Workshop Development

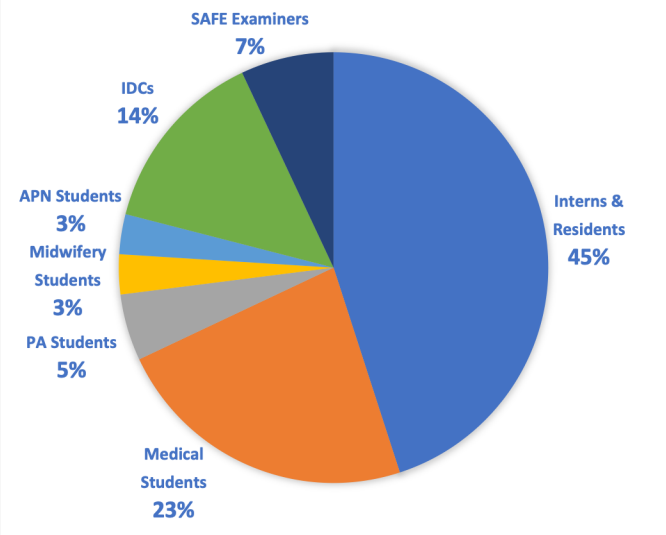
After implementation at our site, we organized the process into an interactive workshop curriculum. Resources for the workshop included presentation slides to describe the process and a series of handouts for participants to conceptualize implementation at their site. Workshop resources are available in the Appendix.

Results

Implementation at our site

We conducted our learner census and stakeholder meeting in the summer of 2020. Results of the learner census identified over 130 trainees within seven training categories who rotate through the department annually, excluding the core residency program. The results of the census are summarized in Figure 1.

Figure 1: Results of learner census conducted in our department



Total n=135. APN=advanced practice nursing, IDC=independent duty corpsman, PA=physician assistant, SAFE=sexual assault forensic examiner.

A total of ten stakeholders participated in the meeting which lasted approximately four hours. Stakeholders included attending physicians (n=4), a resident physician, certified nurse midwives and advanced practice nurse practitioners (n=3), a registered nurse, and the residency program coordinator. Meeting participants expressed surprise at the number and variety of learners who rotate through the department.

Through consensus, they ranked each learner type based on strategic importance to the department and made recommendations on future rotations. Examples of trainees rated as high priority included medical students, residents, and advanced practice nursing students from institutions within our healthcare system. Trainees of moderate strategic importance included medical and physician assistant students from a community partner organization and learners of lower importance encompassed those from a more peripheral community partner organization and rotating medical students from unaffiliated institutions.

Stakeholders debated and reached consensus on recommended caps for number of learners in various clinical environments within the department. Table 1 summarizes their conclusions. The group recommended the residency program coordinator serve as the point of contact to route rotation requests for approval and maintain a centralized schedule. Specifically, new rotation requests were routed to the coordinator for review and possible approval by residency program and department leadership. The coordinator also created a schedule using Microsoft Excel (Redmond, WA, USA) containing all rotating learners which was stored with the staff schedule on a central drive.

DOI: https://doi.org/10.24926/jrmc.v8i2.6655

Table 1: Clinical learning environments and recommended caps

Environment	Recommended Number of Learners
Labor & Delivery day shift - Triage - L&D Proper - Operating room	Two learners (one in triage, second on L&D including operating room)
Labor & Delivery night shift	Two learners (limit to one with a delivery quota, this includes EM residents and midwifery students)
Acute Clinic	Maximum of two learners (including on-service intern/resident)
Walk in contraceptive clinic	Two learners
General and subspeciality gynecology operating rooms	Variable, at discretion of GYN chief resident
Clinics	One learner/preceptor clinic/day

After implementation, the number of separate learner schedules was reduced from four to one centralized schedule. Yearly residency program survey data demonstrated an increase in compliance in regard to the impact of other learners on resident education from 68 percent compliant in 2021 to 78, 86, and 91 percent, respectively, in the three years following implementation.

Feedback from workshops

The workshop was presented at one national (American Association of Medical Colleges Regional Medical Campus Conference, Savannah GA, USA) and one regional medical conference (American College of Obstetricians & Gynecologists Armed Forces District, Tacoma WA, USA) in 2023. Participant response data collected though interactive surveys was available for the regional conference in Tacoma (Poll Everywhere, San Francisco CA, USA).

In discussions, workshop participants described the number of learners at their institutions as "too many," "far more than staff," "overwhelming," and "at times oversaturating." In polling data, 94 percent of participants (n=61) agreed or strongly agreed that learner saturation contributed to preceptor burnout. A majority (53 percent, n=23) disagreed that their department had a good understanding of the number, type, and rotation goals of learners they currently support. Participants described consequences of too many learners to include "incomplete and rushed education," "dilution of experience," "inadequate supervision," "less hands-on experience for learners," "unhappy preceptors," "grumpy residents," and risk of "some learners falling through the cracks."

At the conclusion of the workshop, 86 percent of respondents (n=26) indicated that a strategic learner plan would be a benefit to their department and 68 percent (n=25) agreed or strongly agreed that implementation of one could reduce preceptor burnout.

Discussion

Using a stepwise approach, we created a process improvement to optimize the number of learners rotating through a department that we subsequently developed into a workshop curriculum. A key outcome was to reduce conflicts by centralizing scheduling and the approval process. Our strategic learner plan begins by taking stock of the current learner environment and their needs, then engages with key stakeholders to prioritize trainees and determine the appropriate volume in different clinical environments. Implementation in our department resulted in a centralized schedule to prevent overextending preceptors and was associated with increased compliance with respect to the effect of other learners on resident training.

Strengths of our plan include the use of a process that is methodical but flexible and adaptable to the needs of different departments, improving generalizability. Additionally, engaging key stakeholders ensures greater buy-in and compliance.

DOI: https://doi.org/10.24926/jrmc.v8i2.6655

The main limitations of our process, identified through implementation at our department and during discussion at workshops, include the administrative burden to centrally track trainees and the need for vigilance to maintain the process.

Ongoing development could explore how other departments and organizations have adjusted and implemented the process at their institutions. Additionally, evaluating the impact of the process on learner volume and preceptor burnout through pre and post surveys may yield further insights into its benefits.

Conclusion

In summary, we developed a three-part process improvement to assess learner volume within a clinical department and optimize the number of learners within a clinical space. Following implementation, we observed improved compliance regarding the impact of other learners on resident education in survey data. Following an interactive workshop to learn and implement the plan, a majority of participants rated it beneficial to their department and as a solution to address preceptor burnout.

References

1. Melvin JK, Story Byerley J, Steiner MJ, Steiner B, Dallaghan GLB. Balancing clinical capacity with learner numbers. *Clin Teach.* 2020;17(1):13-21. DOI: 10.1111/tct.13103.
2. Hutchings A, Williamson GR, Humphreys A. Supporting learners in clinical practice: capacity issues. *J Clin Nurs.* 2005;14(8):945-955. DOI: 10.1111/j.1365-2702.2005.01239.x.
3. Banerjee G, Mitchell JD, Brzezinski M, DePorre A, Ballard HA. Burnout in Academic Physicians. *Perm J.* 2023;27(2):142-149. DOI: 10.7812/TPP/23.032.
4. Loewen P, Legal M, Gamble A, Shah K, Tkachuk S, Zed P. Learner : preceptor ratios for practice-based learning across health disciplines: a systematic review. *Med Educ.* 2017;51(2):146-157. DOI: 10.1111/medu.13144.