



The mentor match: A new approach to implementing formal mentorship in general surgery residency



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ABSTRACT

Mentorship is a vital component within general surgery residency that fosters success extending into future practices. Recognizing the need for formalized mentorship within our general surgery residency, a survey based match process was developed. The “Mentor Match” was developed by creating resident and faculty surveys using the six ACGME core competencies of patient care, medical knowledge, communication skills, practice based learning, system based practice and professionalism. Surveys focused on resident areas of weakness correlating to areas in which faculty expressed subjective strength. Survey results were used to match faculty mentors with resident mentees. One year after implementation, residents were surveyed to evaluate the perceived success of the match process and mentorship program. Resident participation was 100% with a survey response of 78%. Ninety-two percent of residents were satisfied with the program, 83% saw improvement in their areas of weakness and 75% felt the match process was effective in pairing mentors with mentees. In conclusion, the “Mentor Match” was an effective tool in developing a formalized mentorship program with positive results after one year of implementation.

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Mentorship during surgical training has multiple benefits such as improved career satisfaction, academic success, networking, and better work-family balance.¹ Surprisingly, only 50% of general surgery residency programs within the United States have established mentorship programs, most being informal and unstructured.² Barriers have been identified that effect surgical mentorship, including time constraints and lack of female mentors.³ However, by what means a surgical trainee successfully chooses their “mentor” is not clear.

Prior to 2016, mentor-mentee interactions within our surgical residency were informal and resident initiated, resulting in significant time constraints for the mentors, as only a select few attendings were chosen. While there appeared to be a professional relationship, the mentor’s strengths did not necessarily align with the mentee’s areas of needed improvement. Therefore, a mentor to mentee match process was developed based on commonalities and areas of interests, with strong consideration for the desired professional relationship.

In 1999, the Accreditation Council for Graduate Medical Education (ACGME) implemented six core competencies along with specialty specific milestones in order to provide structure for surgical education with quantifiable, competency-based outcomes and to promote individualized learning.⁴ These included practice based learning and improvement, patient care and procedural skills, systems-based practice, medical knowledge, interpersonal communication skills, and professionalism. To develop a match process, areas of interest were elucidated by residents and interested attendings using components of all six ACGME core competencies. We hypothesized that dual surveys evaluating areas of interest and identified areas of weakness within the core competencies would allow for a successful match between mentors and mentees with resultant resident and faculty satisfaction.

Surveys were administered to Post-graduate year (PGY) 1–4 residents and surgical faculty in December of 2016. Both groups were asked to review eight areas based on the ACGME core competencies. The areas and associated core competency included: operative skills (patient care), American Board of Surgery In-Training Exam (ABSITE) preparation (medical knowledge), leadership and work/life balance (communication skills), research and

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learning style (practice-based learning), career guidance (systems-based practice), interpersonal relationships (professionalism). To evaluate perceived weaknesses, residents were asked to rank each area in ascending order from area of the most to least need of guidance (Fig. 1). Field of interest, ABSITE scores, clinical rotation evaluations, established mentor relationships, desired frequency of meetings, and mentor preference were also evaluated to better help structure the program.

All faculty who interact with the surgical residency were solicited for participation via email. If interested in becoming a mentor, a comparable survey as that administered to the residents was completed. The faculty were similarly asked to rank each area in ascending order from the area in which they could provide the most guidance to the least (Fig. 2).

Each resident was assigned a mentor by the residency program and associate program directors. Survey results were compared amongst each resident and interested faculty. Best match results were obtained by matching the resident's top three perceived areas needed for improvement with the top three strengths of the interested faculty. If all three perceived

areas of improvement were not possible, the top two interests were used with the mentors ranking those at least within the upper half of their strengths. If multiple faculty matched, requested mentors as well as areas of interest were considered to narrow down mentor choices. Mentees were then emailed their matched faculty to determine if the mentee was comfortable with the professional relationship and to choose if multiple matches were found. If a mentee had concerns regarding the professional relationship, available mentors with at least two top interest matches were offered. Mentors did not receive more than two mentees.

Residents and mentors met formally each quarter (approximately every three months) during which a computerized Medhub evaluation based on the ACGME core competencies were completed by mentors. To improve compliance with meetings and provide the most opportunities for improvement, meetings occurred in person at a chosen location, in the operating room or simulation lab, or via telephone. After one year, residents were provided a paper survey to anonymously evaluate the mentorship program.

- 1) Name
- 2) PGY year
- 3) Who is your current mentor (if you have one)?
- 4) How often have you met with your mentor in the past 6 months?
- 5) Potential specialty interests:
- 6) I feel I need the most help and guidance with: **PLEASE READ CAREFULLY**

Rank each bolded milestone category between 1 and 8, 1 being the category in which you need the **most** help and 8 being the category in which you **need** the least help.

- a) Patient Care
 - a. **Operative/Surgical technique**
 - b) Medical Knowledge
 - a. **ABSITE scores/ Oral board preparation**
 - c) Practice Based Learning and Improvement
 - a. **Research**
 - b. **Learning style/study technique**
 - d) Interpersonal/Communication Skills
 - a. **Leadership development**
 - b. **Work/life balance**
 - e) Professionalism
 - a. **Interpersonal skills**
 - f) System Based Practice
 - a. **Career guidance/direction**
 - g) Other:
- 8) I would be interested in discussing ___ with my mentor (Mark all that apply)
- a) Annual goals: personal, academic, career
 - b) Leadership styles
 - c) Transition to being an attending
 - d) Program improvement
 - e) Other:
- 9) Specific mentor I would be interested in mentoring me:

Fig. 1. Resident mentor interest survey.

- 1) Name:
 - 2) Specialty:
 - 3) Are you interested in becoming a mentor?
 - 4) I feel I can help the most with..
- Rank each milestone category between 1 and 8: 1 being the category that you could help the **most** likely to help, and 8 being the category that you could help the **least**
- a) Patient Care
 - a. **Operative/Surgical technique**
 - b) Medical Knowledge
 - a. **ABSITE /Oral board preparation**
 - c) Practice Based Learning and Improvement
 - a. **Research**
 - b. **Learning style/study techniques**
 - d) Interpersonal/Communication Skills
 - a. **Leadership development**
 - b. **Work/Life balance**
 - e) Professionalism
 - a. **Interpersonal skills**
 - f) System Based Practice
 - a. **Career guidance/direction**
 - g) Other:
- 5) Specific resident(s) I would like to mentor:
 - 6) What would you be interested in incorporating to mentor/mentee discussions
 - a) Annual goals: personal, academic, career
 - b) Leadership styles
 - c) Transition to being an attending
 - d) Program improvement

Fig. 2. Faculty mentor interest survey.

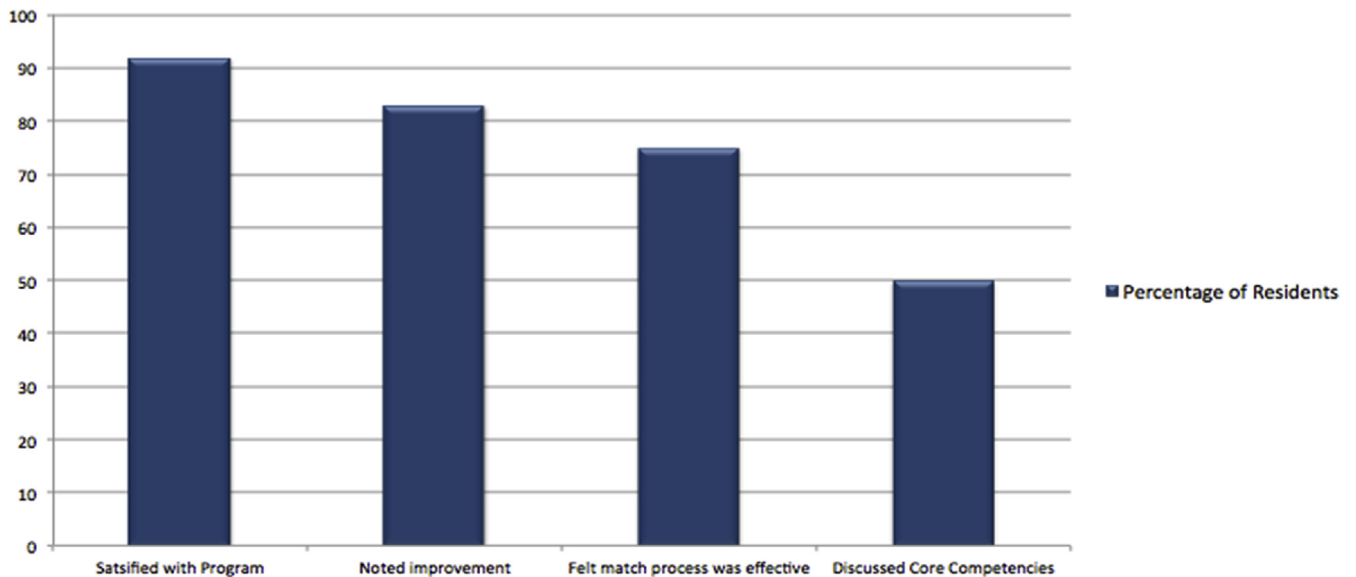


Fig. 3. Mentor match and program satisfaction results.

Resident participation in the program was 100% with a total of 18 residents ranging from levels PGY 1–4, including nine females and nine males. There were interns, five PGY2, five PGY3, and four PGY4. Two out of 18 residents maintained their existing mentor. Sixteen faculty members expressed interest by completing the mentor survey. Specialties included General Surgery, Surgical Oncology, Plastic Surgery, Bariatrics, Trauma/Critical Care, Vascular Surgery, Thoracic Surgery, and Colorectal Surgery. Out of the 16 faculty members that expressed interest, eight were assigned mentees.

Resident response to the satisfaction survey was 78% (Fig. 3) with 92% stating they were satisfied with the mentorship program overall. Eighty-three percent saw improvement in the areas which they ranked as highest need on the initial survey while 75% felt that the match process was an effective method for matching mentors and mentees. Only 50% of residents reported discussing the core competencies at each meeting.

The mentor match process proved to be a successful tool in creating a formal mentorship program at our institution. Residents expressed satisfaction with the program overall as well as perceived improvement in self-identified areas of weakness. Having a formal mentorship program has enhanced faculty–resident support, improved resident goal setting and fulfillment, provided a venue for safe and open discussion, and has improved the overall moral of our residency program.

Areas of improvement identified at this stage of program implementation include compliance in quarterly meetings, faculty

completion of MedHub surveys, and addressing core competencies during each meeting. There are limitations to this study such as a limited number of residents available to participate in the match at a single institution, use of subjective matching rather than objective, and time constraints within a surgical residency for consistent meetings.

In conclusion, mentorship is of utmost importance in training competent and clinically prepared surgeons with ideal initiation of relationships occurring early in residency training. The method described for matching mentors and residents was found to be effective, with positive subjective results after the initial year of implementation. Future analyses will be conducted to evaluate faculty satisfaction and objective individual improvements within the six ACGME core competencies. The “Mentor Match” provides a structure for the development of a formal mentorship program within other surgical residencies.

References

1. Welch JL, Jiminez HL, Walthall J, et al. The women in emergency medicine mentoring program: an innovative approach to mentoring. *J Grad Med Educ.* 2012;4:362–366.
2. Kibbe MR, Pellegrini CA, Townsend CM, Helenowski IB, Patti MG. Characterization of mentorship programs in departments of surgery in the United States. *JAMA Surg.* 2016;151(10):900–906. <https://doi.org/10.1001/jamasurg.2016.1670>.
3. Entezami P, Franzblau LE, Chung KC. Mentorship in surgical training: a systematic review. *Hand.* 2012;7:30–36.
4. Holmboe E, Edgar L, Hamstra S. The milestone handbook. Version 2016. Retrieved from <https://www.acgme.org/Portals/0/MilestonesGuidebook.pdf>.