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Commentary: Nurturing medical students interested in cardiothoracic surgery: Lessons from the inaugural Thoracic Surgery Medical Students Association survey

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In this inaugural survey by the recently formed Thoracic Surgery Medical Students Association (TSMA), Aranda-Michel and colleagues¹ assessed interest and needs of US medical students considering a career in cardiothoracic surgery (CTS). The results highlight areas in which efforts can be concentrated to increase interest and opportunities for aspirants of CTS—already a very competitive field with an acceptance rate of 48%, as alluded to by the authors.

While interest among respondents was high overall (86%; interquartile range, 70%-100%), fourth-year medical students as well as dual-degree/research students expressed the greatest interest in the field. Networking and mentorship were highlighted as the most important unmet needs of medical students. Most students (72%) reported lack of a CTS interest group.¹ In total, 57% of respondents also reported lack of a thoracic surgery training program at their institutions.

Since exposure breeds interest (Figure 1), early involvement in the field through research, organizational work, shadowing, etc, increases the chances of getting into CTS

CENTRAL MESSAGE

Creating avenues to nurture medical students for cardiothoracic surgery will benefit the field in the long term.

training.² Hence, the field of CTS could miss out on potentially suitable applicants due to lack of adequate guidance early on in medical school. The first and third years of medical school have been particularly identified as targets for increasing exposure since these are the initial perception-forming preclinical and clinical years.³

Impressions and mentors made during clinical rotations go a long way in shaping the attitudes of students toward CTS.⁴ It is therefore imperative that cardiothoracic surgeons and residents actively and openly engage with medical students during their rotations to foster their interests. For those students with no CTS program at their home institution, TSMA could work with respective medical schools and organizations such as Society of Thoracic Surgeons or American Association for Thoracic Surgery in arranging away rotations at institutions with CTS programs. Unfortunately, a large majority of students fall under this category, as highlighted by the authors.

The biggest deterrent for medical students from pursuing CTS is a perceived lack of work-life balance.³ Although efforts are being made to tackle this, leaders in CTS need to prioritize addressing this perception, which may otherwise increase attrition rates as similar effects are being seen across the entire US job market.

The greater number of female respondents (57%) is a welcome shift in trend that indicates increased interest in a traditionally male-dominated field. This is in line with

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FIGURE 1. How early exposure to CTS benefits the field. CTS, Cardiothoracic surgery.

increasing representation of female residents and faculty in CTS.⁵

An interesting extension of the present analysis would be to see how applicants who do not match into an integrated (I-6) program fare. These individuals may have unique challenges and unmet needs. As referenced by the authors,

14% of general surgery residents end up in CTS fellowships.¹ Such low interest could be due to factors such as lack of appropriate mentoring, length and intensity of training needed, etc.⁶ Addressing this early on in residency may attract more suitable applicants to CTS fellowships.

TSMA should be lauded for its efforts to make the field of CTS accessible to medical students and it will also prove instrumental in fulfilling the unmet needs highlighted in their study.

References

1. Aranda-Michel EF, Gerhard E, Trager L, et al. AATS 2021: The Thoracic Surgery Medical Student Association: understanding the needs of medical students pursuing cardiothoracic surgery in the United States. *J Thorac Cardiovasc Surg.* XXX, 2021 [Epub ahead of print].
2. Haggerty KA, Beaty CA, George TJ, Arnaoutakis GJ, Baumgartner WA. Increased exposure improves recruitment: early results of a program designed to attract medical students into surgical careers. *Ann Thorac Surg.* 2014;97:2111-4. <https://doi.org/10.1016/j.athoracsur.2014.02.029>
3. Cohan GN, Kilic A, Gleason TG, Schuchert MJ, Luketich JD, Okusanya O, et al. Medical student perceptions of a career in cardiothoracic surgery: results of an institutional survey. *J Thorac Cardiovasc Surg.* 2020;159:1906-12. <https://doi.org/10.1016/j.jtcvs.2019.07.022>
4. Marshall DC, Saliccioli JD, Walton SJ, Pitkin J, Shalhoub J, Malietzis G. Medical student experience in surgery influences their career choices: a systematic review of the literature. *J Surg Educ.* 2015;72:438-45. <https://doi.org/10.1016/j.jsurg.2014.10.018>
5. Stephens EH, Robich MP, Walters DM, DeNino WF, Aftab M, Tchantchaleishvili V, et al. Gender and cardiothoracic surgery training: specialty interests, satisfaction, and career pathways. *Ann Thorac Surg.* 2016;102:200-6. <https://doi.org/10.1016/j.athoracsur.2016.03.043>
6. Tchantchaleishvili V, Nguyen T. What got you here won't keep you there: differences between cardiac- and thoracic-oriented applicants. *Ann Thorac Surg.* 2019; 108:959-60. <https://doi.org/10.1016/j.athoracsur.2018.12.014>