Dr Mokadam is a consultant and investigator for Abbott, Medtronic, and SynCardia, and a consultant for Carmat. Dr Ganapathi has nothing to disclose regarding commercial support.

REPLY: DON'T LET THEM BE THE ONE THAT GOT AWAY

Reply to the Editor:

In response to a recent article concerning medical student interest in cardiothoracic surgery,¹ Ms Taylor provides the unique perspective of a current medical student and her experience with factors associated with an interest in cardiothoracic surgery.² Notably, she highlights 3 important factors that are especially important to consider: (1) medical student rotations, (2) training paradigms, and (3) work-life balance.

Although medical students have core rotations of surgery and medicine, in most curricula, cardiothoracic surgery is not included. Although it is understandable that a highly specialized field would not be part of core rotations, it is notable that cardiothoracic surgery is unique in that it encompasses core physiology and pathophysiology that almost every physician uses on a daily basis. The skills a student solidifies or gains from even a short rotation include reading electrocardiograms, management of chest pain and dysrhythmias, and interpreting chest x-rays among others. As cardiothoracic surgeons we must be involved in the general student clinical curriculum and advocate for students to rotate with us, to provide an exposure that might not otherwise occur.

Regarding training in the United States, there are currently 3 paradigms: integrated pathways, “4+3” pathways, or traditional “5+2/3” pathways. The integrated and “4+3” pathways are more recent and require students to choose a career in cardiothoracic surgery while they are in medical school or early in residency, arguing for earlier faculty involvement and mentorship. However, there are others who pursue a career in cardiothoracic surgery after exposure in their general surgery training, or decide later than medical school to commit. In these instances, it is essential that we as cardiothoracic surgeons make an effort to identify these individuals early and often. Vaporciyan and colleagues previously showed that general surgery residents lost interest in cardiothoracic surgery as they progressed through training primarily because of concerns about job availability/security and work schedule, and that mentorship remained important for choosing cardiothoracic surgery.³ Although the job prospects have changed dramatically in the past several years, the importance of mentorship remains essential.

Finally, the effect of work-life balance continues to affect students and trainees with regard to their choice of a career in cardiothoracic surgery. Thus, it remains imperative that we dictate the narrative of what our lifestyle is, as opposed to letting others create false impressions. Although the life of any surgeon will have unpredictability secondary to call requirements and surgical emergencies, it is important for undecided trainees to understand that there is a spectrum of practice opportunities. We should also impress upon them that we as practicing cardiothoracic surgeons have lives outside the hospital by revealing our vulnerabilities: by describing our significant others, our children, and our nonmedical activities that bring us joy.⁴

We have an incredibly talented and diverse group of individuals rising worldwide through our medical education system. It is our opportunity to recruit, and ultimately our loss, if we let them get away from what is undoubtedly the best specialty.

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REPLY FROM THE AUTHORS: COMMONALITIES IN PERSPECTIVES IN CARDIOTHORACIC SURGERY ACROSS THE POND

Reply to the Editor:

We appreciate the letter from Ms Taylor confirming that her experience with cardiothoracic (CT) surgery in the United Kingdom echoes those identified by her US counterparts in our recent study published in *The Journal of Thoracic and Cardiovascular Surgery*.^{1,2} As the author points out, one-third of medical students have an interest

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in CT surgery at some point in medical school; the question remains on how best to identify and maintain this interest over time. The European and Canadian CT surgery boards have used the integrated training approach for a significant amount of time with success. In comparison, integrated training paradigms in the United States have been mainstream only within the past decade.

The author brings up an important point about not only initial exposure, but longitudinally maintaining exposure and interest in CT surgery among medical students. The need for longitudinal exposure was in fact identified in our medical student survey, and we have thus responded at our institution by implementing a medical student mini elective on the basis of simulation experiences for our preclinical medical students.³ This elective allows for early exposure to CT surgery procedures, attending surgeons, residents, and dedicated mentors to nurture interest and develop knowledge and interest in the field. We found that students had increased interest in CT surgery, improved knowledge of the field, and improved interaction with faculty and residents in CT surgery after the mini elective. In addition, more students have enrolled in the CT surgery interest group sponsored by our department. Most programs in the United Kingdom and United States have some version of such programs and they would likely all benefit from using such strategies to foster exposure and interest in the field for medical students before formal clinical rotations, when many students are already making up their minds regarding career path.

As Ms Taylor suggests, involvement of our surgical societies is paramount in improving access and exposure to CT surgery. For example, the Society of Thoracic Surgeons offers the Looking to the Future Scholarship and The American Association for Thoracic Surgery offers the Member for a Day Program. Both society-sponsored programs subsidize medical student travel to one of our national meetings and have mechanisms for exposing

students to mentorship opportunities and ongoing organized support to beginning a career in CT surgery. Additionally, both of our major US societies have started targeting educational and recruitment material toward medical students interested in pursuing CT surgery either after medical school or general surgery residency training. The Thoracic Surgery Residents Association also allows medical students to become members and participate in educational and social activities to encourage entry into the field. The level of society-level commitment to targeting medical student interest is steadily increasing, and that can only be a good thing for medical students interested in CT surgery.

The shift to recruiting medical students into CT surgery at an early stage appears to be well under way around the world. We agree with Ms Taylor that “sugar coating” the intensity of CT surgery training is not an appropriate solution. This is likely to lead to higher attrition rates during residency. Eliminating perceived barriers to entry and exposing medical students to the satisfying work we do should be the primary focus for CT surgeons looking to make an impact on our field worldwide.

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