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Commentary: Maximum exposure

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Cardiovascular disease continues to account for a large proportion of morbidity and mortality across the globe, while the interest to pursue such a field among medical students continues to decline. The American Heart Association estimates that by the year 2025, the demand for cardiothoracic (CT) surgeons may increase by 46% due to population growth and aging, with a projected 21% decrease in the supply of surgeons.¹ In the United States, Coyan and colleagues² found that approximately 30% of first-year medical students expressed interest in cardiothoracic surgery (CTS); however, by their final year that number fell to less than 15%. Axiac and colleagues³ suggest that the overall number of total applicants for CTS in the United Kingdom continues to decline annually. This differs from the United States, where the National Resident Matching Program reports that the total number of applicants and positions among both CTS integrated and fellowship positions continues to increase. It should also be noted that the I-6 pathway continues to remain one of the most highly competitive matches, accounting for less than 1% of total residency positions among all residency programs and specialties.⁴

Although specialty training in the United Kingdom is similar in length to US I-6 training programs, the foundational UK training paradigm differs, with 5 to 6 years of undergraduate study, a 2-year Foundation program, and 2 years of core training. This pathway is considered a lengthy and challenging course as expanded on by Zakkar and colleagues⁵ and appears to be a significant deterrent, with more than 25% of trainees reporting it as a main reason for not pursuing the field. A concern that remains is the initial survey distribution to 17 of total 33 schools



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CENTRAL MESSAGE

Maximizing exposure and engagement of medical students remains the best avenue to identify and develop the next generation of CT surgeons.

in the United Kingdom, with a response rate of only approximately 3% (265/8730).⁶ This low response rate raises the question of response bias; however, one finds similar results in prior surveys such as by Gasparini and colleagues.⁶

Not surprisingly, this study once again highlights the importance of early exposure to the field. This remains one of the largest hurdles for recruitment, as authors found approximately 38% of respondents declaring no interest in the field as they progressed without any exposure through medical school. This complements the fact that most CT trainees have had some early exposure before or during medical school. Engagement remains a major opportunity for surgeons, because most CTS interest events during medical training were reportedly led by students. Leadership by CTS residents, fellows, and attendings may increase the quality of exposure and give students someone to connect to within the field itself. This remains especially important to shed light on important concerns, including “poor work-life balance, hostile environment, and an overall dying field.” Programs such as the American Association for Thoracic Surgery Member for a Day hold great value in broadening interactive and mentoring opportunities for students. Financially, there are numerous organizational awards available to students and trainees, as outlined by Suarez-Pierre and Yang.⁷

Yet, we should proceed with reflection and prudence in these efforts. Maximizing interest indiscriminately should not be the sole goal; rather, we should strive to identify, mentor, and nurture the right candidates for the field. This includes avoidance of sugarcoating the specialty, which requires

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rigor and sacrifice including longer workdays, difficult material, commitment to patients and families, and longer training pathways. It involves being candid about the challenges of the discipline, now and in the future, to avoid attrition and burnout. It requires an investment in individuals who may ultimately decide not to pursue the field. As practitioners of a highly specialized domain, we are the only individuals who can paint a clear and complete picture of the challenges and rewards of this field for the next generation.

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