

The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Dr Nguyen is a consultant for Edwards LifeSciences, Abbott, and LivaNova. Dr Nissen reported no conflicts of interest.

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**REPLY FROM  
AUTHORS: RAISING  
THE BAR FOR QUALITY  
AND ACCESS TO  
CARDIOTHORACIC**



**SURGICAL TRAINING INTERNATIONALLY**

**Reply to the Editor:**

We appreciate the insightful and ambitious letter by Vervoort and Velazco-Davila in response to our *Journal* submission on the topic of global cardiothoracic training paradigms.<sup>1,2</sup> Vervoort and Velazco-Davila astutely point out and expand on both the global inequities of access to high-quality cardiothoracic surgical care and means to address this within low- and lower-middle income countries (LLMICs). The primary avenue recommended involves using unfilled training positions internationally and regional training agreements to train aspiring cardiothoracic surgeons, thus yielding an increased number of well-trained surgeons ready to practice in host nations where access to care remains limited.

Although many LLMICs may accept graduates of programs in the United States, Canada, and European countries, the eventual goal of establishing quality cardiothoracic surgical training globally is also important. Rather than sending interested applicants great distances for training, the Nordic countries offer an example by which regionalization of training among neighboring nations, each of whom share similar health care policies and training timelines, can also prove effective.<sup>3</sup> For each country to accept the other's training methodology, similar goals, operative experiences, and methods for board certification are also shared among the Nordic countries. An unstated consequence of this regionalized neighbor–nation training is a sort of positive peer pressure whereby each nation, to reap the benefits of access to the region's effective training programs, must also put forth a training paradigm that meets

the standards of the region. Our original *Journal* manuscript highlights the vast heterogeneity in training duration, minimum case requirements, and rigor for board certification required globally.<sup>2</sup> If regional training agreements are used as an entrée into solving a cardiothoracic workforce shortage, we speculate that this could have positive secondary consequences by raising the bar for the quality of training within many regions.

A final consequence of regional training agreements may be improved transparency in the duration of training, particularly in nations where no such timeline exists (eg, Germany, Italy, Japan, China). While the lack of a strict timeline may allow trainees to pursue additional degrees or case experience with less pressure to graduate, this also has anecdotally facilitated a culture within which junior surgeons remain in an apprentice role for an undetermined amount of time, funneling cases to more senior surgeons until deemed competent enough to operate independently, based on ill-defined institution- or mentor-specific metrics. Improving the transparency of such a process and ensuring trainees are ready to operate in a timely fashion should facilitate increased throughput for training programs in these nations, to further increase access to training.

Alexander P. Nissen, MD<sup>a</sup>

Tom C. Nguyen, MD<sup>b</sup>

<sup>a</sup>Department of Surgery

San Antonio Military Medical Center

Fort Sam Houston, Tex

<sup>b</sup>Department of Cardiothoracic and Vascular Surgery

University of Texas Health Science Center Houston

McGovern Medical School

Houston, Tex

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