Cardiothoracic surgical training in Canada and the United States: Divergent paths, converging goals

Corey A. Kalbaugh, PhD, MS, and John S. Ikonomidis, MD, PhD

From the Division of Cardiothoracic Surgery, University of North Carolina at Chapel Hill, Chapel Hill, NC.

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Address for reprints: John S. Ikonomidis, MD, PhD, Division of Cardiothoracic Surgery, University of North Carolina at Chapel Hill, 3034 Burnett-Womack Building, 160 Dental Circle, Chapel Hill, NC 27599-7065 (E-mail: john_ikonomidis@med.unc.edu).

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In this issue of the *Journal*, Noly and colleagues¹ describe the current state of cardiac surgery training in Canada and speculate on some future challenges. Most notable from this article is the description of the expected adoption of the “Competence by Design” program, which will allow trainees to transition into independent practice after demonstration of completion of 7 key milestones—medical expert, communicator, collaborator, leader, health advocate, scholar, and professional—rather than a primarily case volume-based competency assessment.

As outlined in this article, The Royal College of Physicians and Surgeons of Canada (RCPSC) recognized the specialty of thoracic surgery in 1946 and the specialty of cardiovascular surgery in 1962. The first training program dedicated to cardiovascular surgery in Canada was created in 1958 by Dr Wilfred Bigelow at the University of Toronto. Notice that the training program was in cardiovascular surgery, as residents would train toward Royal College certification in cardiac, thoracic, and vascular surgery. The vascular surgery component was removed in 1986, and for the next 8 years, the structure and content of Canadian cardiothoracic surgical training programs would be virtually identical to the American training paradigm: 5 years of general surgery (with mandatory completion of Board examinations in general surgery) followed by 2 or 3 years of cardiothoracic surgical training. During this time, there was considerable reciprocity between the 2 countries, as the credentialing bodies for both countries recognized their training paradigms as equally valid for certification. American surgery residents sought training in Canadian programs (most notably the University of Toronto program), with the converse also holding true for Canadian surgery residents.

In 1994, the reciprocity among Canadian and United States training programs changed, as the American Board of Thoracic Surgery introduced new guidelines, limiting eligibility for certification only to training programs within the United States. At approximately the same time, the

John S. Ikonomidis, MD, PhD

Central Message

Both the United States and Canada are adopting competency-based assessment strategies to increase the effectiveness of cardiac surgery residency training.

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RCPSC radically changed its training requirements, creating a 6-year training structure that began immediately after completion of medical school and that separated training into distinct cardiac and thoracic tracks. The 6-year cardiac track program is still running, but the thoracic track program was abandoned after a few years in favor of the “traditional” paradigm of general surgery residency followed by 2 years of general thoracic surgical training. With these changes, reciprocity with the United States regarding eligibility for Board certification was lost and remains so to this day.

One consistency in the cardiothoracic surgical training paradigm in Canada or the United States is that eligibility for American Board of Thoracic Surgery or RCPSC certification is largely predicated on completion of a certain amount of time spent in training and performance of a minimum number of index cases as operating surgeon. The primary reliance on these 2 requirements has its flaws, which are cumulatively reflected in resident survey results on both sides of the border. The results of these resident surveys show that many residents graduating from integrated 6-year programs who have met their case requirements do not feel competent to assume independent practice.^{2,3}

The competency milestone concept seems to be a better strategy to offset heterogeneities in the training speeds of individual residents and may contribute to the increased consistency of preparation for the Board or Royal College certification process and, more important, independent cardiothoracic surgical practice. Currently, surgical training programs in the United States have adopted a competency-based “milestone” assessment platform. As discussed in the article by Noly and colleagues,¹ several cardiac surgical training programs in Canada will adopt a primarily competency-based training paradigm as early as 2018.

Over the years, cardiothoracic surgery training in the United States and Canada sadly diverged in terms of its

time-based training requirements. However, the mutual realization that demonstration of true competency is more important than the punching of a residency time clock may ultimately result in a convergent set of certification eligibility requirements once again recognized in both countries.

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