

Too many patients, too few cardiologists to care?

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In 2005, the Canadian Cardiovascular Society established an ad hoc working group that was charged with writing a commentary to bring together many of the issues that have arisen in the past few years surrounding physician human resources in cardiac sciences. These issues cover the supply side of the workforce (eg, physician shortages, excessive workloads and possible changes to the training of medical specialists) and the recently developed projections of the growth in demand for these services. The present commentary also notes factors that contribute to fundamental shifts in the balance between demand and supply, particularly the potential challenges that our specialists will face with the introduction of wait time targets for key services and procedures.

It should come as no surprise to any health care provider that the burden of cardiovascular disease on the Canadian health care system is increasing. Advances in technology, treatment and health care delivery have improved outcomes in patients with cardiovascular illness. As a result, cardiac patients are living longer, often with greater comorbidities. This burden will continue to increase, because approximately 24% of the population will be older than 65 years of age by the year 2030.

The pressure is being felt at every level of the health care delivery platform – from the community cardiologist to the subspecialist in a tertiary care centre. Cardiologists, on average, work 57 h a week, more than the average of 52 h for all specialists. In addition, they have an average of 106 h of on-call responsibilities every month (1). The heavy workload is not new; similar workloads were reported in the specialist physician workforce survey conducted by the Canadian Cardiovascular Society in 2001 (2).

The continued high workload is taking its toll. In 2004, 31% of cardiologists reported that they were somewhat or very dissatisfied with the balance between personal and work commitments. Female cardiologists (44%) and all cardiologists younger than 45 years of age (37%) were even more likely to be dissatisfied with this balance (1).

Despite this work effort, cardiologists cannot keep up with the need for their services. In the same survey, 21% of cardiologists reported that a new patient with a nonurgent condition would wait longer than three months for a first consultation. Urgent patients have more timely access to initial consults (64% of cardiologists reported a wait time of one week or less). In the words of a participant in one of the Canadian Medical Association's focus groups on access to care, "the quality of health care in Canada is good once you get in" (3). However, for the nonurgent patient, 'getting in' is the real challenge, and

the risk is that the nonurgent patient will wait and ultimately enter the system as an urgent referral or through the emergency room.

With the introduction – and, we hope, the eventual adoption – of wait time benchmarks for key cardiovascular services and procedures (3), the demand for timely care will intensify. Recently published wait time benchmarks for cardiovascular care (4) suggest that elective consults should be seen within six weeks and urgent consults within seven days. Longer working hours are not an option; we need more trained health care providers within cardiovascular medicine.

Indications are that the situation is not likely to improve any time soon. Just as the general population is aging, so is the cardiologist workforce. In 2003, 29% of cardiologists were 55 years of age and older, compared with only 22% in 2001 (5).

Even if current training programs could replace the number of retiring cardiologists, the demographic mix and subspecialty choice of medical graduates is causing some concern. In 2004, 53.4% of all medical school graduates were female (6). Female physicians prefer, on average, a shorter work week than their male colleagues. This creates two problems for physician human resource planning. First, if a higher number of female physicians were attracted to cardiology, more physicians would be needed to provide the same service capacity. Second, cardiology has not been very successful in recruiting female medical graduates, likely in part due to the workload conditions. Although one-half of all medical school graduates are female, in 2006, only 30% of cardiologists younger than 35 years of age were female, according to the Canadian Medical Association Masterfile (7). It is possible that the high workload and challenges in balancing work and family life in this profession have been, and will continue to be, real barriers to attracting top candidates into the profession.

Advances in treatment are also contributing to pressures on the existing workforce. Over the past decade, the rapid adoption of new procedures (such as angioplasty) and technological advances (such as drug-eluting stents), which have made these procedures the first choice for the majority of revascularizations, has increased the demand for interventional cardiologists. Similarly, expanding indications for implantable cardioverter defibrillators, which are now indicated for primary prevention of sudden cardiac death in patients with depressed left ventricular function, will increase the demand for electrophysiologists needed for related consultations, procedures (including device implantations) and follow-up. The epidemic of heart failure and proven impact of disease management

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programs on outcomes will result in a greater need for physicians with training in heart failure. This subspecialization of our profession is competing with the need to promote the training of more generalist community cardiologists, who are the most appropriate first point of access to cardiovascular care for the majority of patients.

In addition to all of these factors, the Canadian population is aging, and elderly Canadians are living longer. We expect the number of people who have had an acute myocardial infarction, or heart attack, in 2001, to almost triple by the year 2021 (J Tepper, personal communication). For the same period, it has been projected that the number of people living with chronic heart failure will double (S Schultz, personal communication).

In short, at present we are already understaffed, and the Canadian population is consequently underserved by cardiovascular specialists; with current trends, this will only get worse. We cannot afford to reduce the number of medical graduates who choose to train in cardiology.

However, that is exactly what The Association of Faculties of Medicine of Canada Postgraduate Medical Education (AFMC PGME) Standing Committee proposed in an undated position paper entitled, "The internal medicine R4 match: Time for a change. A position paper of the AFMC PGME Committee". The AFMC PGME proposed to assign a defined portion of the postgraduate year 4 spots to general medicine to increase the number of generalists and decrease the number of subspecialists. Although we are sympathetic with the shortage of general internists, we must not allow this problem to be corrected at the expense of cardiology trainee positions.

Although general practitioners and internal medicine specialists play an important role in the delivery of basic cardiovascular care in some communities, they are not an acceptable substitute for cardiologists. Studies have shown that cardiologists have the greatest propensity to provide cardiovascular disease prevention services (8), higher referral rates for important diagnostic services such as angiography (9) and are more likely to prescribe the Heart Failure Society of America-recommended medications for congestive heart

failure patients on admission and at discharge (10). A recent Canadian study of 38,702 heart failure patients (11) confirmed that cardiologist care was associated with higher adjusted rates of invasive interventions and postdischarge prescriptions of heart failure medications. These services translate into improved outcomes. The study also found a lower one-year risk-adjusted mortality for patients attended by cardiologists compared with those who were attended by general internists, family practitioners or other physicians. This difference in outcomes is not specific to the Canadian context (12,13).

The current shortage of cardiologists, and the resulting workloads and wait times, cannot be solved over the short term. At a minimum, we need to maintain the number of cardiology training positions, and preferably, expand our ranks to meet current and projected demands for cardiology services.

Perhaps it is time to adopt the two-track approach to training in cardiology that the American College of Cardiology is proposing: a combined three-year plus two-year internal medicine and cardiology program for community cardiologists, and a combined two-year plus three-year internal medicine and cardiology program for those planning a career in academic cardiology or cardiology in tertiary centres with cardiology-only call schedules. This approach would double the number of cardiology graduates for the year that the first graduates of the five-year program enter practice in the same year as the last graduates of the current six-year program.

After years of lobbying for more cardiology training positions, we still have not solved the long-term problem of too many patients and too few cardiologists to meet the needs of their services and procedures. What we need now are innovative approaches to recruit and train our next generation of cardiologists and cardiovascular health care providers. This is absolutely essential if we are to ensure that Canadians will always have access to quality and timely cardiovascular care if and when they need it.

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