

Interventional Radiology Deserves Formal Recognition as a Distinct Medical Subspecialty: A Statement from the Canadian Interventional Radiology Association

Mark Otto Baerlocher, MD, Richard Owen, MD, Alan Poole, MD, and Marie-France Giroux, MD

J Vasc Interv Radiol 2008; 19:9–12

IN 2003, the Canadian Interventional Radiology Association (CIRA), the national body that represents interventional radiology (IR) in Canada, applied to the Royal College of Physicians and Surgeons of Canada (RCPSC) for subspecialty recognition under the broader specialty of diagnostic radiology. The application was widely supported by stakeholder specialty societies and involved a two-step process. Step 1 was approved on March 22, 2004. Step 2 was rejected by the Committee of Specialties on May 4, 2006, on the grounds that IR did not meet the criteria of a subspecialty. The RCPSC also stated that the entry routes into IR were too restrictive, the extra training beyond that of diagnostic radiology did not meet the expectations for a subspecialty, and the advancement of an area focused on 'additional technical competence' did

not justify the formal designation of a subspecialty. This decision was appealed by the CIRA, and the case was reheard by the same Committee of Specialties that had initially refused the application. Ultimately, the final decision was announced by letter on May 23, 2007—rejection again on the basis of their conclusion that IR did not fulfill the criteria of a subspecialty. According to the RCPSC, the CIRA may not re-apply for subspecialty recognition for another 3 years from the date of the May 23 letter. More in-depth details of the process and events that occurred may be found in the article by Woolfson et al (1).

The CIRA believe that rejection of the application represents a backward step for current and future Canadian patients and a disservice to a medical system that prides itself in being world-class. In this brief commentary, we make the case that the field of IR deserves formal recognition as a subspecialty or specialty in each medical jurisdiction world-wide to provide excellence of medical care. We hope that this commentary will help others avoid the same outcome as Canada (although the CIRA is certainly gearing up for its re-application).

A RAPIDLY ADVANCING FIELD

IR has undergone profound changes since its inception in its early years after Dotter gave his initial IR speeches and described the first trans-

luminal angioplasty in 1964 (2). The interventional radiologist of today may treat a wide variety of diseases and abnormalities involving any organ system by using a combination of clinical and image-based diagnostic skills and image-guided therapy. Interventional radiologists may run patient clinics alone or in conjunction with members of other medical specialties (seeing patients in consultation before and after procedures), admit patients to hospitals, and refer patients to other specialists. Initially procedurally based, the specialty has changed to a clinically based specialty with interventional radiologists increasingly representing true 'clinicians' in every sense. A modern IR practice is very similar to other subspecialty practices, in particular tertiary center surgical subspecialists. This has been the firmly expressed goal of the field of IR (3–5). Many international and high-quality IR medical journals, national and local meetings and conferences, and dedicated textbooks demonstrate the specificity of this field. Recent further developments are leading to subspecialties within IR (eg, interventional oncology). All of these procedural and clinical skills involving disease-based knowledge in multiple organ systems and imaging modalities require specific training and knowledge. The number and range of procedures within the domain of IR continues to grow rapidly, as does the number of diseases that may be treated, and, as a result, the training of

From the University of Toronto Radiology Residency Training Program, Toronto, Ontario, Canada (M.O.B.); the Department of Radiology, Walter Mackenzie Health Sciences Centre, Edmonton, Alberta, Canada (R.O.); the Department of Radiology, Red Deer Regional Hospital, Red Deer, Alberta, Canada (A.P.); and the Department of Radiology, Centre Hospitalier de l'Université, Montreal, Quebec, Canada (M.F.G.). Received September 10, 2007; final revision received September 11, 2007; accepted September 17, 2007. Address correspondence to M.O.B.; E-mail: Mark.baerlocher@utoronto.ca

None of the authors have identified a conflict of interest.

© SIR, 2008

DOI: 10.1016/j.jvir.2007.09.028

an interventional radiologist has become very intensive. This unique body of knowledge explains why IR training requires a dedicated fellowship.

That IR is growing and expanding rapidly is to be expected. Within the framework of evidence-based medicine, new treatments must prove in some way superior to be adopted; for example, they may be associated with lower morbidity or mortality or higher success rates. Such new treatments, however, are often more expensive than the traditional alternatives. In the case of IR treatments, however, they are often both superior in terms of success and complication rates and cheaper. For example, uterine fibroid embolization (Can \$1,007.44) has been found to be significantly cheaper than total abdominal hysterectomy (Can \$1,933.37), abdominal myomectomy (Can \$1,781.73), and vaginal hysterectomy (Can \$1,515.39) in the treatment of uterine fibroids and is associated with a shorter hospital stay (6).

The implementation of such procedures on a national scale may have profound health care implications; in Canada, for example, it has been estimated that 402 lives and approximately Can \$180 million could be saved annually if some surgical treatments were converted to IR treatments when appropriate (7). The increasing role of IR within medicine has also meant a concomitant increase in the size of the medical device industry. Interventional radiologists are in the best position to study the efficacy and safety of these devices and provide the direction for industry in the development of new devices. Without recognized medical experts, the industry will be left to marketing directly to a variety of specialties without sufficient peer-reviewed literature to support the use of these devices. The recent issues with drug-eluting stents for coronary artery disease speak to the need for medical review of these new technologies.

THE CASE FOR FORMAL RECOGNITION OF IR

In this section, we will briefly outline some of the motivations and justifications behind the application for subspecialty recognition of IR in Canada and why it is imperative that this application be approved.

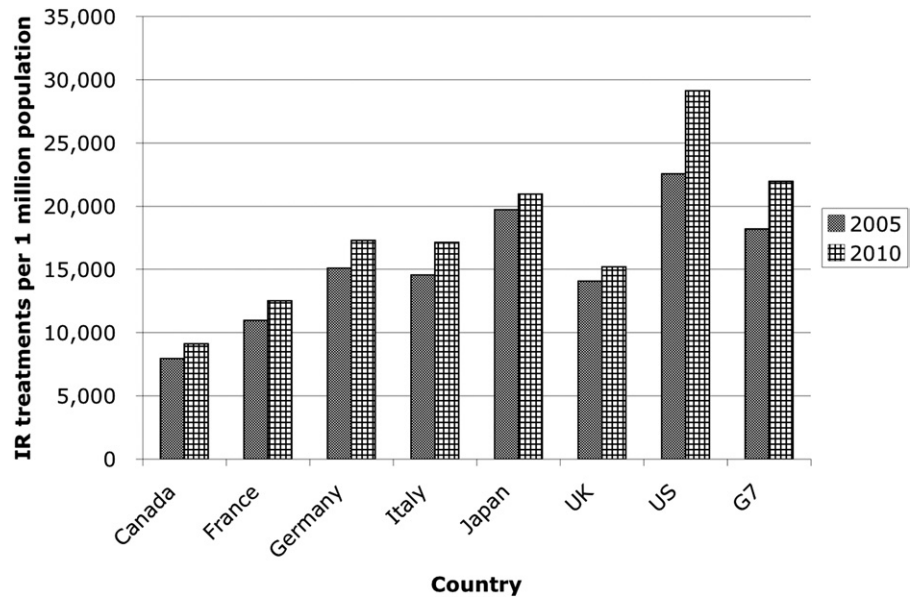


Figure. Graph shows IR treatments per capita for each of the G7 nations for 2005 and those predicted for 2010. Adapted from Baerlocher (7).

Improved Patient Access to 21st Century Medical Care

A recent report found that Canada performed the least number of IR procedures per capita population among the G7 nations (Canada, France, United Kingdom, Italy, Germany, Japan, and United States, from lowest to highest users; **Figure**). This lack of use of more cost-effective medical therapies was estimated to lead to an additional Can \$180.3 million in direct health care costs, 98,010 patient bed-days lost, and 402 lives lost annually (7). IR has the potential to greatly improve health care in many countries in terms of both morbidity and mortality and decreased health care and societal costs. To realize its potential advantages, however, there is a need for strong advocacy and support. Recognition by those who are charged with ensuring high-quality patient care would increase the influence and voice of IR to advocate for such change and help open the door for increased support.

Standardization of Training

Formal recognition increases the commitment of both the relevant regulatory medical body and the relevant IR society in formalizing and standardizing adequate IR training pro-

grams. In Canada, for example, where there is no formal subspecialty recognition of IR, there is therefore no formal IR fellowship examination. Consequently, IR training fellowships may vary widely in quality and competencies. This is compared to the United States, where IR is formally recognized and there are, therefore, core training competencies and a formal final IR examination with resultant certificate. In Europe, CIRSE and the British Society of Interventional Radiology (BSIR) are also seeking recognition of the specialty via the Union of European Medical Specialists (UEMS). In the UK, there are well-developed proposals to recognize accreditation in Vascular and Oncological Intervention.

One of the arguments leading to the RCPSC's refusal of IR recognition was that many nonradiology physicians currently in practice do not view interventional radiologists as clinicians. And yet, a previous CIRA survey found that most interventional radiologists in Canada do believe their field should, and they want to become more clinically based (8). The proposed CIRA training program had a particular emphasis on ensuring this. Therefore, if the RCPSC wishes the field to become more clinically based, as do Canadian interventional radiol-

ogists, formal subspecialty recognition and, therefore, standardized IR fellowship training would have been an excellent opportunity by which to promote this.

Another argument the RCPSC submitted in rejecting CIRA's application was the restrictive entry route. The current IR fellowship training program was exclusive to radiologists because the field is wide, deals with vascular and nonvascular clinical problems, and, therefore, demands a strong radiologic background. In its application, the CIRA had proposed potential specific subtraining in endovascular procedures for vascular surgeons and made it very clear that the society was open to working with other specialties in cross-disciplinary training where appropriate and safe for patients.

Enable Ability of Field to Adapt to Patient and Societal Needs

As the practice of medicine and, hence, the practice of IR becomes increasingly complex, there is a greater requirement for IR to become a full-fledged clinical service. This evolution has been occurring in many centers during the past decade. To facilitate this paradigm shift in thinking and practice, support and leadership from IR societies, medical regulatory bodies, and medical administration is key to providing adequate resources, funding, infrastructure, and other necessary support. Formal recognition of IR would increase the prominence and voice of the field (including representation on additional regional and national medical committees and representative bodies) and the priority level and commitment of stakeholders involved. In Canada, recent national surveys found that although most interventional radiologists desired a more clinically oriented subspecialty, they were faced with numerous resource and support obstacles (8,9).

Increase Trainee Recruitment

Formal recognition of IR would elevate the status and quality of training within the field and, consequently, its appeal to trainees. Countries without a recognized final IR fellowship examination and certificate may lose potential trainees to other countries that do

have such an examination and certificate. In Canada, there is a clear shortage of interventional radiologists and it is projected that there will be an even greater shortage by 2010, despite the fact that Canada performs the fewest IR procedures per capita population among the G7 nations. The evidence suggests that this shortage will result in healthcare deficiencies across Canada. A recent 209-page report by the Millenium Research Group, a market research company (Toronto, Ontario, Canada), estimated that Canada required a 30% IR workforce increase in 2005 and projected a 241% increase (above 2005 levels) to become a G7 leader by 2010 (10). Each year a number of Canadian radiology residents migrate to the United States for IR fellowship training, where they may receive their Certificate of Added Qualification. Some of these physicians never return to Canada to practice.

Research Implications

The improving research excellence within IR requires increased research interest, manpower, funding, and resources. Recognition may increase the prominence and perceived importance of IR research as well as its representation on various research boards and funding agencies. The presence of a formal subspecialty will add to the collaborative role IR has in many research areas.

IR has the Wider Support of Other Medical Specialties

During its application process to the RCPSC, the CIRA was required to obtain letters of support from other medical specialties. Nearly all medical specialties submitted their letter of support, including diagnostic radiology, neuroradiology, pediatric radiology, vascular surgery, cardiology, neurosurgery, urology, medical oncology, nephrology, gastroenterology, obstetrics and gynecology, and critical care medicine. We do not know if this would be the case in other countries; however, we would hope that other medical specialties internationally recognize the important role IR must play in patient care and how this role will continue to increase. However, if there is no formal IR recognition and, therefore, no standardized training, we can-

not be sure that IR in Canada will continue to progress in the proper direction. Furthermore, not being recognized as a distinct, specific subspecialty may impair proper communication, discussion, and cooperation with other specialties and/or subspecialties, particularly those with whom we share some procedures.

THE FUTURE

In terms of the situation of IR in Canada, the plan of the CIRA is to continue to work to improve funding of IR, resource allocation, awareness among referring physicians, patient education, patient access, standardization of training, and quality of practice. Socialized medicine has its advantages and disadvantages, and one of its disadvantages is its slow ability to change (11). The CIRA believes, however, that with continued advocacy, change will slowly be realized. The case of IR appears to be in many ways a 'gift-wrapped legacy' for any politician or medical administrator with the foresight to grab hold of it—funding IR will increase Canadian patients' access to cutting-edge medical technology, increase treatment success rates, decrease complication rates, and, in many cases, decrease total health care costs. This latter point may allow health care providers to continue to provide excellent health care despite the escalating cost of modern medicine.

Although the present statement focuses on the need to formally recognize IR in Canada, we believe these same arguments are true for any jurisdiction, region, and country. One universal tool could prove itself beneficial to all IR communities: transcontinental training standardization. The creation of an intersocietal IR training syllabus that defines realistic, achievable, and desirable competencies for IR trainees may help forward reciprocity and recognition of IR training credentials, credibility, and influence among patients, the medical community, and medical regulatory bodies. This could improve the overall quality of training worldwide. The British Society of Interventional Radiology has created such an IR training syllabus (12), approved by the Royal College for the United Kingdom, which hoped will become the basis for IR training in the

UK. This could provide an excellent framework to develop such a common international curriculum.

We recommend that IR societies who hope to achieve formal subspecialty recognition consult with other IR societies in other countries that have been through a similar process. Issues that are encountered during the application and, more generally, within the field are in most cases common to many other countries and geographic areas. We may all learn from each others' experiences, learn valuable information, and gain tremendous insight. By increasing the collaboration between all IR societies and groups in the world, we can help launch all of our countries into 21st century medicine for the benefit of patients.

Finally, within countries such as Canada, where the application for subspecialty recognition has been rejected, we would also recommend continued advocacy, education, and a course wherein the field of IR continues to grow into a clinical specialty. Despite the decision by the RCPSC, the CIRA will begin a process of standardization of IR fellowship training within Canada, continue to develop standards and guidelines, provide advice to government agencies, and develop a process of self-regulation and self-certification.

In conclusion, IR is an established subspecialty in a number of countries

and will continue to grow rapidly, as it has done for the past 3 decades. To provide patients with the most appropriate and highest standards of care, the medical regulating body and/or bodies in each country must partner with their local or national IR society, formally recognize the field of IR, and facilitate awareness, standardization of IR training, and assurance of adequate patient access to IR.

There should be no doubt that interventional radiologists are committed to furthering first-class patient care. However, the wider medical community and, in particular, the medical regulatory bodies as well as the government and health care administration must become active partners, a responsibility with which they are charged and trusted with by society.

References

1. Woolfson JP, Baerlocher MO, Giroux MF, Simons M, Millward SF. Why should the Royal College of Physicians and Surgeons of Canada recognise interventional radiology as a subspecialty within radiology? A summary of the application for subspecialty recognition. *Can Assoc Radiol J* (in press).
2. Rösch J, Keller FS, Kaufman JA. The birth, early years, and future of interventional radiology. *J Vasc Interv Radiol* 2003; 14:841–853.
3. Sacks D, McClenny TE, Cardella JF, Lewis CA. Society of Interventional Radiology clinical practice guidelines. *J Vasc Interv Radiol* 2003; 14:S199–S202.
4. Baerlocher MO, Asch MR. The future interventional radiologist: clinician or hired gun? *J Vasc Interv Radiol* 2004; 15:1385–1390.
5. Murphy TP. American College of Radiology Practice Guideline for interventional radiology practice: a commitment to patient care. *J Vasc Interv Radiol* 2005; 16:157–159.
6. Al-Fozan H, Dufort J, Kaplow M, Valenti D, Tulandi T. Cost analysis of myomectomy, hysterectomy, and uterine artery embolization. *Am J Obstet Gynecol* 2002; 187:1401–1404.
7. Baerlocher MO. Canada's slow adoption of new technologies adds burden to health care system. *CMAJ* 2007; 176:616.
8. Baerlocher MO, Asch MR, Hayeems E, Collingwood P. The clinical interventional radiologist: results of a national survey by the Canadian Interventional Radiology Association. *Can Assoc Radiol J* 2006; 57:218–223.
9. Baerlocher MO, Asch MR, Hayeems E. Current issues of interventional radiology in Canada: a national survey by the Canadian Interventional Radiology Association. *Can Assoc Radiol J* 2005; 56:129–139.
10. Millennium Research Group. Non-invasive image-guided diagnosis and therapy for Canadians. Toronto, Canada: Millennium Research Group, 2006.
11. Detsky AS, Naylor CD. Canada's health care system: reform delayed. *N Engl J Med* 2003; 349:804–810.
12. Kessel D, Gould D, Murphy G, Patel J, Odurny A (BSIR Education Committee). 2006 Syllabus. UK Interventional Radiology; 2006.