

Canadian Association of University Surgeons' Annual Symposium: W(h)ither generalism(?)

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Chris de Gara, MB*
John Birkmeyer, MD†
John Bohnen, MD‡
William G. Fitzgerald, MD§
William Pollett, MD§

From the *Department of Surgical Oncology, Cross Cancer Institute, University of Alberta, Edmonton, Alta., the †Division of Minimally Invasive Surgery and Michigan Surgical Collaborative for Outcomes Research and Evaluation, University of Michigan, Ann Arbor, Mich., the ‡Division of General Surgery, University of Toronto, Toronto, Ont., and the §Discipline of Surgery, Memorial University of Newfoundland, St. John's, NL

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Correspondence to:

Dr. C. de Gara
Continuous Professional Learning
University of Alberta
2-126 Health Research Innovation Facility
East
Edmonton AB T6G 2E1
fax 780 248-5845
cdegara@ualberta.ca

This 2008 Symposium of the Canadian Association of University Surgeons (CAUS) brought together surgeons from a number of jurisdictions to discuss generalism in general surgery and its future. Dr. John Birkmeyer, the 2008 Charles Tator lecturer, started the symposium by framing the problem: the need to improve surgical outcomes, selective referral, centres of excellence, process compliance and performance feedback. Dr. John Bohnen, chair of the Royal College of Physicians and Surgeons of Canada's (RCPSC) General Surgical Specialty Committee, underscored the mismatch between the provision of care and regional Canadian patient needs. By measuring structure and process and maintaining a national dialogue, solutions to potential care inequities will be found. Dr. Bill Fitzgerald, president of the RCPSC and past president of the Canadian Association of General Surgeons (CAGS), defined the enormous breadth in the scope of practice that is available to general surgeons across Canada. He highlighted the importance of the community surgeon not only in his or her specialty but also as a vital trainer of students, residents and international medical graduates. He identified the importance of general surgery in the country's military mission. He called for a thorough re-examination of the compensation model to ensure equity and recognition of diversity. Dr. Bill Pollett, president of CAUS, identified the alternative types of practice encountered in communities of 50 000 or less. Surveys of members and trainees of the CAGS showed how much postfellowship training is done, and that whereas the perception is one of diminished quality of life and less remuneration, the nature of community general surgery makes it a highly desirable career choice. He called for focused community general surgical training to recognize the unique demands compared with urban and large city practices.

Le Symposium 2008 de l'Association canadienne des chirurgiens des milieux universitaires (Canadian Association of University Surgeons — CAUS) a réuni des chirurgiens de diverses régions pour discuter du « généralisme » en chirurgie générale et de son avenir. Le Dr John Birkmeyer, qui a prononcé la conférence Charles-Tator 2008, a ouvert le symposium en situant la problématique : nécessité d'améliorer le résultat des chirurgies, demandes de consultation sélectives, centres d'excellence, conformité aux procédés et évaluation du rendement. Le Dr John Bohnen, président du Comité de spécialité en chirurgie générale du Collège royal des médecins et chirurgiens du Canada (CRMCC), a souligné l'écart qui sépare l'offre de soins et les besoins des patients canadiens selon les régions. L'analyse des structures et des procédés et le maintien d'un dialogue national permettront de corriger la perception d'une possible inégalité dans l'accès aux soins. Le Dr Bill Fitzgerald, président sortant du CRMCC, a décrit la très vaste portée de la pratique qui s'offre aux chirurgiens généraux partout au Canada. Il a rappelé l'importance du chirurgien communautaire, non seulement pour sa spécialité, mais également à titre de formateur indispensable pour les résidents et les diplômés de facultés de médecine étrangères. Il a rappelé le rôle crucial de la chirurgie générale dans les missions militaires du pays et il a suggéré une revue en profondeur du modèle de rémunération afin d'assurer un traitement équitable et la reconnaissance de la diversité des tâches. Le Dr Bill Pollett, président de la CAUS, a expliqué les divers autres types de pratiques que l'on rencontre dans les collectivités de 50 000 habitants ou moins. Des sondages auprès des membres et futurs membres de l'Association canadienne des chirurgiens généraux ont révélé que les chirurgiens font énormément de formation postdoctorale, et que même si l'on croit parfois que la chirurgie générale dans les communautés plus petites est associée à une qualité de vie moindre et à une rémunération moins élevée, en réalité, elle offre de par sa nature même un choix de carrière très intéressant. Le Dr Pollett s'est dit d'avis qu'il faut une formation en chirurgie générale adaptée aux demandes particulières des petites communautés, car ces demandes diffèrent de celles des villes et des métropoles.

At its annual symposium, the Canadian Association of University Surgeons with Dr. de Gara sought to tackle the complex issue of generalism within general surgery. The presenters were asked to address whether generalism is disappearing and, if not, what is its future? The challenges facing general surgeons and surgical trainees in this specialty is finding the appropriate balance between best evidence-based practices and serving the needs of the far-flung population of Canada. The majority of general surgeons in Canada must remain multiskilled, possessing a range of competencies to be able to manage disorders of the head and neck, breast, chest, abdomen and soft tissue, as well as trauma, resuscitation, sepsis and electrolyte abnormalities. At the same time, they must be willing to embrace new techniques such as advanced minimally invasive surgery or provide endoscopic services outside of academic centres. Counterbalancing this is the evidence that patient outcomes are enhanced when certain diseases of, for example, the rectum, breast and upper gastrointestinal tract, are managed by surgeons and their teams where sufficient volumes are seen.

Do general surgeons with their “master surgeon” status (CAGS Position Statement: www.cags-accg.ca/index.php?page=147) status have the translatable skills to ensure that diseases and procedures that may be encountered less frequently in smaller urban centres are managed to an excellent standard? Should the training of future general surgeons continue with its broad focus based mainly in academic health centres or should the Australasian surgical training model be adopted, in which trainees early on declare an interest in urban or rural surgery? These were some of the questions posed to the symposium presenters.

THE ANNUAL CHARLES TATOR LECTURE: STRATEGIES FOR IMPROVING THE QUALITY OF SURGICAL CARE

DR. JOHN BIRKMEYER

By almost any measure, adverse outcomes after surgery can spark a public health scare. In the United States, 50 000 patients die within 30 days of surgical operation each year. Furthermore, there is a wide variation in quality across hospitals and surgeons according to measurable attributes of a system or the surgeon who performs the surgery, including volume and specialty training. Surgical quality goes beyond what can be seen.

Over the last several years in the US, payers, patients, advocacy groups and regulators have turned up the heat on the medical field. A pressing question that must be addressed is how best to improve surgical quality.

There are 2 strategies for improving surgical outcomes: first, use a variety of strategies with the goal of getting as many patients as possible to the best hospitals or the best surgeons; second, let patients stay where they are but try to improve care in the settings where it is delivered.

In terms of directing patients to the best hospitals or

surgeons, one approach being used is “selective referral.” Under this strategy, there are a variety of ways to concentrate care. First, we can report information about surgical outcomes and hope that patients and their families will ultimately “shop” for quality. Second, we can hand the problem off to regulators. Certificate-of-need regulations have the net effect of eliminating the number of centres that offer similar services.

Most of the emphasis in selective referral is from payers. Heart surgery, bariatric surgery and cancer care, for example, are being contracted with hospitals and surgeons that meet a certain set of benchmarks. It becomes financially painful for patients to choose a low-quality hospital or surgeon by increasing the amount of co-pays associated with going to the “wrong” hospital or surgeon for a specific type of service.

The advantages of selective referral include expediency, particularly if the focus is on structural measures. Selective referral is also appealing to patients, and there is good reason to think that this strategy can be implemented very practically. Existing measures are also good at identifying groups of providers with superior outcomes.

There are, however, a number of downsides to the centres of excellence model. It is highly polarizing to identify the “winners” and “losers.” This may be indirectly harmful and may make it difficult to later include those surgeons in other strategies. Although it is easy to identify excellence as a group, it is difficult to know which individual hospitals or surgeons are excellent.

How can we improve surgical outcomes? There are 2 dominant paradigms in Canada and the US: process compliance and outcomes feedback. Process compliance is when the basic metric focus is on the process of care. It is a very prescriptive strategy whereby hospitals and surgeons are told what they need to do better. Outcomes feedback, on the other hand, focuses on the end results of care and ignores how patients get there. In this scenario, hospitals and surgeons are told how they are doing against their peers, but they are not told how they could be doing better; they must figure that out on their own.

The advantage of process compliance is that it is not as polarizing as selective care. If these strategies are appropriately tailored and applied in the right settings, they can work. For example, a team of investigators identified a checklist of 5 evidence-based things for which there was consensus among participating hospitals in Michigan to lower blood-related infection rates in the intensive care unit. Rates of catheter infections dropped quickly, with a savings of millions of dollars and an avoidance of casualties.

Is there a similar checklist that can be implemented in surgery with similar success? The surgery checklist may not be as obvious, and there is no good science to show that these processes explain apparent variation in primary outcomes across hospitals and surgeons. Proficiency in the operating room must drive the outcomes of many of the

types of procedures performed; unfortunately, there is no way to measure this aspect.

The advantage to outcomes feedback is that it resonates best with surgeons. There also seems to be good evidence to show that the simple act of performance feedback to hospitals improves outcomes even if it is difficult to categorize or inventory what changed. Outcomes feedback, however, is expensive to collect. Also, even with perfect data, small numerators and denominators provide less effective results.

What are the solutions for improving surgical outcomes? Selective referral is best for a small number of esoteric procedures associated with high baseline risk and wide variation of outcomes. Examples include esophagectomy and pancreatectomy. With this strategy, the science behind profiling individuals and hospitals needs to improve.

The strategy of process compliance will help with the “low-hanging fruit” of perioperative care but will likely have a small effect on public health, largely because it does not target the main determinants of performance. There is a need to identify the processes that not only link the major outcomes of surgery but that are also measurable.

The outcomes feedback model is a good start for measuring data, but a better understanding of the clinical mechanisms underlying observed levels of variation in performance is required with this strategy.

TRAINING GENERAL SURGEONS: IS THERE A PROBLEM?

DR. JOHN BOHNEN

When generalism versus specialism is discussed, there is much talk about perception and whether general surgeons just do not like their name. As well, patients who want to see specialists are often confused when they are sent to see a general surgeon. Is there a problem?

This topic is good for debate, but the real issue is what surgeons can do to make their patients healthy. In Canadian health care, the numbers look better all the time; for example, mortality rates have improved. But there are often stories about people not receiving the care they should, and many of these cases have to do with access.

The problem is a mismatch between the provision of care and patient needs regionally in Canada. Although this is a big-picture problem, it is a multiplicity of what is taking place locally that defines the issue. If someone in a community in Canada is not receiving the care that physicians have access to, there is something wrong, even if the number affected is small and will get lost in any measurement.

Leading expert in quality improvement Joseph Juran put out a straightforward model: plan, measure and improve. It is necessary to not only look at the big picture but also at what is taking place at a more micro level. In health care, a number of factors should be measured: safety, effectiveness, patient-centredness, timeliness, economics, equality and reward.

Most experts would argue that we should measure

structure, process and outcomes, but these are only quantitative. It is imperative to measure qualitative outcomes and hear the stories across the country.

The debate about generalism versus specialism should become a conversation held across the country. A number of things are feeding this convergence, especially technology that brings us together in a way that would not have happened 20 years ago. There is a problem, but it is in the process of being fixed, and it is not as bad as it seems.

THE VIEW FROM THE EDGE

DR. BILL FITZGERALD

The scope of one's general surgery practice varies by locale. In larger centres, colleagues have the luxury of limiting their practice, which has given rise to the emergence of colorectal surgery, minimally invasive surgery, head and neck surgery and breast and endocrine surgery. Those who work in community hospitals do not have this luxury and remain the workhorses of these institutions, along with general internists and general physicians. A typical practice might include general abdominal surgery, including aneurysms, orthopedics for trauma, urology, ruptured lumbar discs and spinal stenosis, chest, ear, nose and throat, peripheral vascular disease, head and neck, cesarean deliveries, trauma of all kinds and surgical infection. This list makes the definition of general surgeon somewhat problematic. Some would quip that general surgery is the ever diminishing field of surgery that consists of what remains after all the interesting and expensive bits have been carved off, usually within normal working hours. General surgery varies by locale; this diversity is its greatest challenge but also its greatest strength.

Subspecialists and generalists are equally important partners in the specialty of general surgery. In recent years, specialty interests have displaced generalists from major teaching centres. Yet generalists can best relate to enthusiastic students or residents in their formative years and are best able to collaborate with colleagues in community hospitals in the realms of clinical care teaching and research, thereby promoting the concept of a university truly without walls.

It is helpful for surgeons to consider their role within the framework of the CanMEDS competencies, firmly rooted in ongoing discourse on ethics. The public has a right to expect clinical competence and technical proficiency of surgeons. These attributes are the focus of many long years of training. It is likely that a gradual shift will occur from a focus on the numbers — how many gallbladder surgeries will have to be performed — to a competency-based paradigm. This will not only free residents to concentrate on other challenges but will also have an effect on the service component of the residency experience. Young surgeons must be familiar with modern techniques and have opportunities to upgrade their skills and acquire new ones. Competency-based training may seem

to fly in the face of the volume–outcome dogma, but competency and outcome are not only the product of surgical technique, they are also influenced by many other factors.

As scholars, surgeons must anticipate societal needs and train to meet them. Surgeons must also ensure that their work is done at an acceptable standard, which implies introspection and self-audit. This also implies an ability to adopt evidence-based change. Graduates must be skilled in clinical assessment of the literature and must be able to separate fact from fad.

Surgeons must be advocates for their patients as well as for sound health policy. The cornerstone of health policy is that Canada be self-sufficient with health care professionals of all kinds. Canada should be an exporter of health-care professionals instead of being independent of international medical graduates. When international medical graduates immigrate to Canada, there should be a fair and equitable system to integrate them into practice.

Surgeons must also be advocates for disadvantaged communities, at home and abroad. For example, almost every measure states that our First Nations people are a demographic in various forms of trouble. Our medical students and residents must become attuned to native cultural issues, and affirmative action should be expanded in medical schools and training programs to affirm the worth of native students and do whatever it takes to help them succeed.

General surgeons should help set up training programs that provide enhanced surgical skills for family physicians and continue to provide ongoing consultation, back-up and advice. Once a rural facility loses its ability to perform cesarean deliveries and other minor surgical procedures, there are important ramifications in terms of community self-sufficiency and the ability to retain and attract other health care professionals.

General surgeons must also become better communicators. Patients tend to appreciate general surgeons, but the public, government and hospital administration do not know what general surgeons do. Nor do they realize that one cannot have any other specialty surgery in a hospital — cardiac, neurosurgery, gynecology — if it is not backed up by general surgery.

Professional organizations have their work cut out for them, but individuals also have a role in educating the public. If general surgery withers away, it will be because of inaction on the part of general surgeons, both in recruiting and promoting the specialty. Given the current fiscal constraints, the role of surgeons as effective managers is paramount.

Canada will likely be called on increasingly to fulfill peacekeeping and peacemaking roles and to respond to natural disasters that may occur because of climate change. Both of these initiatives are best served by broadly trained general surgeons, who are in short supply, and it behooves the medical profession to address this shortfall.

There are large and unacceptable discrepancies in the

remuneration of surgeons across Canada, between provinces and within specialties. As managers, surgeons should promote remuneration methods that are fair and equitable, reward initiative and hard work, and compensate for long hours and onerous on-call commitments. There should be built-in escalation factors for length of service, for providing continuity of care and for complexity of care. Teaching responsibilities should also be considered.

The competent, versatile general surgeon has never been more needed than in the complex interdependent world of today.

W(H)ITHER GENERALISM: MORE OR LESS(?)

DR. WILLIAM POLLETT

Everybody agrees that generalism is in decline in surgery. There is definitely a place for generalism in surgery; the problem is defining the precise role and how to get there.

Currently, the spectrum of practice varies markedly, largely related to the size of its community. As a group, general surgeons are aging, their numbers are declining and the time and demands are likely to increase. There is doubt that there are enough of the succeeding generation of general surgeons to provide health care to the rising crest of baby boomers.

The patterns of practice are dependent on community size. For example, in a rural or small town of less than 50 000, practices tend to be made up of a single surgeon or a small group of surgeons. This is a group that is aging and is not being replaced by surgeons with the same skills that they once had. Primary certification programs are not adequate preparation for a general surgeon in a rural or small town practice, and some additional training is required.

Intermediate-size communities between 50 000 and 100 000 people tend to have larger groups, calls are more manageable and general surgeons practise the more traditional types of surgery because the other specialties are usually covered. Here, there tends to be more need for subspecialties. Primary programs are more appropriate for this type of practice. Urban centres are highly subspecialized and are the site of the majority of general surgery training as well as undergraduate training. Some subspecialists are uncomfortable with general surgery calls. For example, the colorectal surgeon is not happy taking out the acute gallbladder and hands it over to the hepatobiliary surgeon and vice versa. This trend has given rise to the concept of “acute care surgery” and there should be further discussion about whether this is an appropriate model to be promoted for generalist care.

A survey of the membership of the Canadian Association of General Surgeons looked at the postfellowship training related to community size. About 80% of those practicing in communities over 100 000 received additional training, whereas 30% of those in communities of less than 50 000 received postfellowship education. The same survey found

that the rate of other specialty practice by general surgeons ranged from 16% for orthopedics to 27% for urology. However, these figures vary considerably according to the size of the community. The rate of practice for practicing in a range of specialty areas is low (less than 18%) for surgeons in communities above 50 000. Yet, in communities of less than 50 000, the figure is much higher (50%–60%). In the same surveys, overall, surgeons felt prepared for their practice by their Canadian fellowships, but those in smaller communities were more likely than those in larger communities to feel somewhat or poorly prepared.

Another study by the Canadian Post MD Education Registry (CAPER) surveyed 10 years of residency training programs. Of the 345 surgeons who completed general surgery training, 209 completed general surgery requirements, whereas 136 completed subspecialty training requirements. However, 33 of the 209 surgeons in the general surgery cohort completed 6 or more months of additional subspecialty training that did not lead to certification. That puts the actual rate of subspecialization by general surgeons at 59%. The survey asked what factors make surgeons want to practice as a subspecialist. Encouragement by faculty and having role models to emulate were important reasons that influenced choice as well as career and research opportunities. In a semiquantitative analysis, general surgery was perceived as an interesting and gratifying career, but a number of negative responses were also reported, including diminished quality of life, low remuneration compared to other surgical fields, less prestige and demanding on-call schedules. There was a general feeling that the roles of rural community surgeons are not met and that more mandated training in community centres is desirable.

What is the case for subspecialization? The knowledge and technological explosion over the past decades has been a big push. It is more cost-effective to regionalize and specialize services, especially for highly technical procedures. The majority of the population lives in the cities, so it may make sense to concentrate services there.

However, there is a case to be made for generalism. It promotes a holistic view of patients and their families, whereas too much subspecialization diminishes this view. About 20% of the population lives in rural areas, and these patients deserve certain critical services in their home communities. There is a “social contract” on the part of universities and other stakeholders to provide essential services as close as possible to the population that they serve.

Challenges facing general surgery include the number of people being trained as generalists in the population. Because role-modelling is such a strong factor in training, this issue should be addressed. Universities have a partial responsibility to provide a training forum for general surgeons who do atypical or new procedures to acquire appropriate credentials. It is also imperative to address recruitment, retention and rewards, all while striking the right

balance between generalism and highly subspecialized surgery that does not compromise care in any way.

DISCUSSION

The concept that core surgery and general surgery are the same and should be taught along a similar model in universities has been proposed. However, it can be argued that general surgery is a distinct specialty with distinct needs. Core specialties are sufficiently different, and fundamental skills should be taught in the context of a particular specialty. If core surgery and general surgery are not considered distinct, training will be prolonged and essential principles will be lost.

There is also often confusion between specialties and subspecialties. Neurology, for instance, is a distinct specialty in the same way that general surgery is a distinct specialty.

There is no convincing argument or evidence that merging core surgery and general surgery would help medicine in Canada at a time when boundaries among disciplines are changing so rapidly. Cardiac surgeons are more aligned with cardiologists and interventional radiologists than they are with general surgeons, so it is wise to abandon the idea that core surgery and general surgery are the same.

Over time, the general surgeon has evolved from a mythical creature into a new role that does not give these individuals enough experience to be adequately trained. Residents do not appear to have the same kind of hands-on experience with major complex cases that general surgeons had years ago.

Yet, the changes that occur in training by residents in general surgery are generated by the residents themselves. These changes may not be based on anything more than the process of their evaluation and their desire to achieve a meaningful career in general surgery. Few residents in general surgery appear confident enough to practice general surgery. With such massive content to learn, they often subselect for a career in, for example, not just surgical oncology but breast oncology.

When residents are asked to work in rural communities, these sites are often not prepared with the resources available to sustain the practice for those individuals. The gap is often filled by fairly well-trained noncertified international medical graduates who spend, by contract with the government, a certain time in these posts. When that period is up, they either move to bigger centres or end their training program to upgrade their skills and to get out of community practice. If residents are to be attracted to these sites, the community resources must be improved dramatically to keep individuals there.

The real crisis is meeting the needs of the population living in rural areas. Surgeons are attracted to metropolitan areas, and it is much more efficient financially. In the US, 57% of general surgeons living in rural areas are 55 years

and older. This branch of general surgery should be treated as a specialty, in terms of its training. A specialty fellowship should be aimed at delivering the skills required in communities that do not have, for example, gynecologists to perform cesarean deliveries or plastic surgeons to perform carpal tunnel surgeries. Yet surgeons are not going to work for half as much money and twice as much on-call time unless there is some motivation to do so. The remuneration must be recalibrated to more fairly compensate people for having odd hours or performing appendectomies in the middle of the night.

Multiple streams are also needed to achieve multiple purposes. There is a role for fast-tracking super-specialization and there is a role for focusing on rural surgery. Maintaining the current trend of trying to educate everyone for everything in a field where fellowships will become mandatory in almost all jurisdictions means it will soon take 10 or 11 years to train someone who is then only partially trained. New models of training need to be developed to address this situation.

New general surgeons who work in small communities may risk losing skills, so good lines of communication must be kept open between these sites and universities. There is also an opportunity to include international medical graduates who are looking for places to practice.

There has been much discussion about dropping the word "general" from the title general surgeons because it sends the wrong message to government, the public and students. However, there is concern that it divides the profession even further when it comes to lobbying with government. It also requires the support of an entirely new administrative infrastructure fighting for a piece of the same pie that all of the specialists are after. Yet, under the

umbrella of general surgery, this specialty has been relatively ineffective in terms of lobbying for parity with the other specialty groups. There is nothing inherently simpler or less arduous about any general surgery practice than other specialties, but it is often treated much differently in terms of prestige and remuneration. For example, a spine surgeon in the United States might make \$900 000 a year whereas a community practice general surgeon who is on call every night might make \$180 000. Subspecialties have been much more effective in safeguarding their particular interests than the much larger group of general surgeons has been.

On the other hand, generalism begets specialism, both in evolution and in the marketplace. Specialists tend to earn more than generalists and that may have little to do with the name. To change the name would have a huge impact, and it might distract from the bigger picture.

There is also a bit of confusion about the roles of a generalist within the specialty of general surgery. It is argued that to be a general surgeon is to have a mind that is open to a range of requirements and, if skills are absent, to acquire the skills that are needed. A general surgeon also operates on multisystems; there is such a wide variation that it is difficult to apply a definition.

The debate over generalism versus specialization within general surgery is ongoing and will likely continue for some time to come. The symposium speakers expertly outlined the problems and posed a variety of important potential solutions.

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