GPs with enhanced surgical skills: a questionable solution for remote surgical services

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See also the editorial on p. 364, the commentary by Warnock and Miles on p. 367, and the discussion paper by Caron and colleagues on p. 419

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Summary

The Canadian College of Family Physicians recently decided to recognize family physicians with enhanced surgical skills (ESS) and has proposed a 1-year curriculum of surgical training. The purpose of this initiative is to bring or enhance surgical services to remote and underserviced areas. We feel that this proposed curriculum is overly ambitious and unrealistic and that it is unlikely to produce surgeons, or a system, capable of delivering high-quality surgical services. The convergence of a new training curriculum for general surgeons, coupled with the current oversupply of surgeons, provide an alternate pathway to meet the needs of these communities. A long-term solution will also require alternate funding models, a sophisticated and coordinated national locum service and a national review of the population and infrastructure requirements necessary for both sustainable resident surgical services and surgical outreach services.

The Canadian College of Family Physicians recently decided to recognize family physicians with enhanced surgical skills (ESS) as a "Community of Practice" section analogous to Family Practice Anesthesia and Family Practice Emergency Medicine. In response, the National ESS Working Group has proposed a generic 1-year curriculum for the training and evaluation of the ESS skill set.[1] This proposal is problematic on many fronts: the scope of practice is incredibly wide, the educational model is completely out of sync with current trends, and the underlying premise that patients should receive surgical care from family practitioners in order to avoid travel is a questionable solution to the issue of rural health care access.

This initiative lays out an ambitious curricula through which family practitioners will be expected to gain competency for procedural skills in almost every surgical domain during a single additional year of training. From general surgery, the proposed curricula covers laparoscopy and laparotomy; hernia repair; appendectomy; and perianal presentations, including hemorrhoids. Endoscopic skills would include management of both upper and lower gastrointestinal bleeding, as well as screening and surveillance. From obstetrics and gynecology, the skill set is proposed to include operative vaginal delivery, cesarean sections, dilation and curettage, ectopic pregnancy and tubal ligation, as well as ovarian and adnexal disease and hysteroscopy. The curriculum would also cover tonsillectomy and adenoidectomy from the field of otolaryngology; vasectomy, circumcision and management of acute testicular issues from the domain of urology; and small flaps, skin grafting, carpal tunnel release and extensor tendon repair from plastic surgery. In addition, it is proposed that the program will include training in procedural sedation and competency in ultrasonography.

Concerns with the proposed curriculum

Surgeons facile in all the proposed domains have rarely been seen since the 19th century. When one considers that many residents in focused general surgery programs still struggle with difficult appendices and hernias in their

fifth year of residency, it seems naive to suggest that competency in the proposed curricula can be achieved during such a short training program. Moreover, one of the major challenges currently facing general surgical training is to ensure that residents develop competency in both open and laparoscopic domains within the 5-year training program.[2] These issues are likely reflected by the recent 44% increase in American board examination failures as well as the increasing proportion of surgical trainees who complete fellowships after residency to gain additional experience.[2] To suggest that general practitioners can master these same skills in a fraction of the time is not realistic. Some evidence of this can be drawn from the fact that of the "GPs with enhanced surgical skills" currently practising in Western Canada, two-thirds also completed foreign fellowships unrecognized by the Royal College of Physicians and Surgeons of Canada (RCPSC).[3] While these fellowships may not be recognized, many of these GPs likely acquired some surgical training before enrollment in the ESS program. The ability of this program to provide an alternate pathway that circumvents the rigours of the RCPSC certification process is concerning.

Another concern is that the educational model of the proposed curriculum diverges substantially from current trends in medical education. The RCPSC established the CanMEDS roles with the vision of training clinicians who encompass all of the competencies required to fulfill their obligations to patients.[4] These competencies cannot be stripped from one another or developed in isolation. The CanMEDS roles, including the recent revision, continue to ensure that Canadian surgeons represent a broad set of competencies, not just a subset of technical skills. To distill what a surgeon represents to a community to a list of basic technical elective procedures downplays the importance of the competencies beyond the role of medical expert.

Furthermore, the RCPSC is embarking on an ambitious redesign of Canadian medical education with the introduction of the Competence by Design program, which aims to promote skills beyond competency and toward eventual expertise.[5] Competency-based education is founded on the principle that competencies are learned and integrated in a longitudinal manner throughout undergraduate and postgraduate training. As surgical residents progress through the stages of this program (including transition to discipline, foundations of discipline, core of discipline, transition to practice and enhanced expertise), they mature in broad aspects of surgical care that are well beyond the simple technical tasks that they would learn from completion of a procedural module. The concept of "enhanced surgical skills" training, as described in the ESS proposal, is the antithesis of what competency-based training represents, wherein the fundamental principle is not just to master simple, straightforward cases but rather to be able to safely and competently manage complex, unexpected situations. To accept minimal competency in very select procedures is unacceptable to surgeons and the general public who expect and demand more of their physicians.

Separate from the educational issue is the fact that surgery differs drastically from general practice; surgery is almost always delivered as part of a complex team that includes anesthesiologists, operating room nurses as well as inpatient nursing and ancillary services. Surgical suites have complex infrastructure and equipment and teams that look after them. Hospital laboratory facilities and blood banks play a vital role, especially when surgeons encounter unexpected findings or complications. Radiology, particularly cross-sectional imaging and percutaneous approaches, also plays an ever increasing role in the delivery of modern, high-quality surgical care. All parts of the surgical team have to be functioning well to achieve consistent, high-quality outcomes. Moreover, whereas surgical teams gain skill through completion of a large volume of procedures, this is not likely to be true within general practice.[3] Volume–outcome associations have been studied since the 1970s, and their effect at both the surgeon level and at the hospital level are well established.[6,7] These effects are not confined to high-risk or complex surgery, but have also been shown to impact outcomes of simple procedures, such as endoscopy[8] and inguinal hernia repair.[9] Even within obstetrics, it has been demonstrated that complications are significantly greater in hospitals with low delivery volumes[10] and that rural mothers in Canada have a 40% higher chance of major morbidity than urban mothers.[11] Although studies comparing outcomes between different specialties performing the same procedure are rare, a large Canadian study reported that rates of complications and missed colon cancers are significantly higher when colonoscopy is performed by family doctors than by gastroenterologists or general surgeons.[12]

The background information in the ESS curriculum describes the obligation to travel for care as a significant barrier to equitable access for rural Canadians. The Canada Health Act mandates that Canadians should have "reasonable access" to insured services,[13] a phrase that provides some latitude in interpretation.[14] Perhaps more importantly, the Act also mandates that health care be delivered on uniform terms and conditions, a phrase that has much less latitude. For surgical care, equity in outcomes and quality should clearly take precedence over equity in travel times. Surgical outcomes last a lifetime, whereas travel times are measured in hours or minutes. Patient ideologies that place more importance on the location of the procedure than on the outcome are exceedingly rare outside of obstetrics and, even within obstetrical care, only a minority of patients willingly choose to have deliveries without backup services.

The threshold population size required to allow a viable and sustainable surgical service within a rural area is a debatable number and likely a moving target. If the population is too small, either the call becomes onerous or the practice volume becomes low enough that maintenance of competence and acquisition of experience become an

issue.[3] Previous generations of surgeons were willing to tackle solo practice and onerous burdens of call, which facilitated surgical services in smaller centres, but such positions are unattractive to current surgical graduates. Australia, a country with similar population density to Canada, has detailed recommendations of population requirements to maintain viable specialist practices.[15] For example, for Australian orthopedic surgeons, it is recommended that resident rural surgical services not be provided unless the service includes at least 3 surgeons and the population catchment is approximately 30 000. It is recommended that smaller communities be served by outreach programs rather than by a resident program. Canadian communities would be well served if similar recommendations were developed, as this would provide community members and politicians with realistic expectations regarding viable rural surgical services.

Addressing access to surgery in remote areas

While we object to the ESS proposal, it does highlight the fact that issues regarding access to surgery in remote areas have not been adequately addressed within this country. Reasons for this are multifactorial, with the dominant historical explanations being a lack of available manpower and supporting infrastructure, in addition to unattractive remuneration models.[3] While Canadian-trained surgeons have historically been able to find "more appealing positions," this situation is likely to change drastically within the next few years. Given that the number of trainees has been substantially above replacement levels for several surgical specialties, an oversupply of new graduates will ultimately result in shifts in the job market. The ESS policy will only worsen this issue, as small communities trying to attract surgeons will find increasing difficulty if valuable resources are consumed by family practitioners doing easy elective procedures or endoscopy.

The other historical impediment has been a training model that did not prepare general surgeons for isolated remote practice. The RCPSC's new competency-based training program may offer a solution to this issue by providing trainees with the opportunity to acquire skills within the community setting. During the transition to practice phase of the program, surgical residents will be able to train in communities similar to those they intend to serve rather than continuing training in tertiary care teaching centres. Underserviced communities will be better served by competent surgeons who can deal with the simple and complex, the elective and emergent, and who have the nonprocedural-based expertise of a dedicated surgeon rather than a family practitioner with limited surgical skills.

While we cannot support ESS as an appropriate solution for rural Canadians, we do feel that the impending manpower surplus creates considerable opportunities to address these issues. The national strategy should frame the debate with a detailed analysis of what a rural community can realistically expect for both resident and outreach surgical services and then focus on mechanisms that make community practice in underserviced areas attractive to new graduates in surgical disciplines. Strategies such as changes in remuneration practices, a nationally coordinated long-term locum system and enhanced training in community practice during surgical training will provide rural Canadians with truly competent surgeons.

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