

# Growing academic global surgery: opportunities for Canadian trainees

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## SUMMARY

Global surgery has seen exponential growth over the past few years, and Canadian trainees' interest in the field has followed. Global surgery is defined by a commitment to health equity and community partnership. Engagement with its core principles is relevant for all Canadian surgical trainees and offers a perspective into inequities in surgical access and outcomes for patients and communities, both locally and globally. Several opportunities in academic global surgery for trainees have emerged in Canada, but appear to be underutilized. This article highlights existing Canadian global surgery initiatives, including formal postgraduate curricula, research and policy collaborations, trainee networks, advocacy projects, dedicated fellowships, and conferences. We identify areas in which institutions and departments of surgery can better support trainees in exploring each of these categories during training. Canadian trainees' exposure to global surgery can nurture their roles as future health advocates, communicators, and leaders locally and beyond.

**F**ive billion people lack timely access to safe and affordable surgical, obstetric and anesthesia care, resulting in 18 million deaths each year.<sup>1</sup> Growing recognition of the inequity in surgical access and outcomes, and the resulting trainee enthusiasm to address this inequity, has pushed forward institutional responses within Canada and internationally.<sup>2</sup> In Canada, 9 of the 17 departments of surgery maintain an office of global surgery, though only 3 offer formal global surgery curricula, with variable support for global health exposure during residency.<sup>2</sup> There is a clear need to better support Canadian trainees — and trainees from all around the world — who wish to learn about global surgery and to ensure that the educational frameworks, opportunities, practices and values that Canadian institutions promote are well aligned with the field's core tenets. Here, we outline mechanisms by which trainees and postgraduate programs can increase their involvement in global surgery, building on existing academic opportunities in Canada.

Confusion over the definition and scope of global surgery may represent a barrier to engagement.<sup>2</sup> Global surgery is sometimes erroneously viewed as the episodic provision of surgical care by high-income country actors in low- and middle-income countries (LMICs). However, global surgery is defined by its commitment to equity and partnership — not geography — as “an area for study, research, practice and advocacy that places priority on improving health outcomes and achieving health equity for all people worldwide who are affected by surgical conditions or have a need for surgical care...and a synthesis of individual clinical care and population-based approaches.”<sup>3</sup>

Engagement with core components of global surgery is relevant for all surgical trainees. Upon completion of training, Canadian trainees should understand the local, national, and global burden of surgical disease; the inequitable contexts and historical backdrops amidst which patients access surgical care; the unique needs of different communities (e.g., Indigenous, under-represented minority, LGBTQ, refugee, rural, remote); and broader determinants of health. These concepts are highly relevant to the diverse

communities that Canadian surgeons serve and align with the Canadian Truth and Reconciliation Commission recommendation for cultural competency and human rights training for all health workers.

Postgraduate programs, supported by the Royal College of Physicians and Surgeons of Canada, could formalize such learning as a minimum standard. Global surgery principles also emphasize the need for multidisciplinary and intersectoral engagement to improve access and outcomes, including the critical need to work collaboratively with anesthesiologists, nonspecialist clinicians with surgical skills, nurses and allied health professionals to deliver clinical care.

Finally, trainees would benefit from exposure to the broader global surgical ecosystem, including the interplay between the public, Ministries of health, national health systems, international organizations, nongovernmental organizations, industry and the private sector.

## OPPORTUNITIES IN GLOBAL SURGERY

Opportunities for trainees with an interest in global surgery exist in Canada, but may be underused because of limited visibility, program support, mentorship, time, or financial capacity (Table 1). Several programs offer clinical electives in global health for trainees within established partnerships in Canada and internationally, the guiding principles for which are described elsewhere.<sup>4</sup> Any global surgery initiative requires careful consideration of motivations, ethical obligations and effects on partnering communities as well as appropriate supervision and mentorship. Select initiatives within Canada, specifically designed for trainees, are outlined below

and are equally relevant to trainees from LMICs seeking Canadian-based experience. Further opportunities could be developed by building on existing infrastructure and expertise and increasing coordination among institutions.

### *Formal postgraduate curricula*

Several universities have developed postgraduate global surgery curricula, such as the masters programs offered by McGill University and the University of British Columbia. These are rigorous research- and health-systems-oriented programs that equip trainees with theoretical and practical frameworks to engage in global surgery. Trainees should be offered similar support to pursue these paths as for other degrees. The 2-year postgraduate Global Health Education Initiative certificate program at the University of Toronto, which includes modules targeted to surgical, anesthesiology and obstetric trainees, offers an alternative, structured, small-group curriculum model and can be pursued during training. An accompanying Global Surgery Scholars Program pairs trainees with faculty mentors and offers financial support toward a relevant project. This concept could be expanded to other institutions, including those with smaller residency programs, as it caters to all postgraduate disciplines.

### *Participation in high-quality research and policy development*

The GlobalSurg Collaborative connects more than 5000 clinicians worldwide to evaluate surgical outcomes. Trainees contribute significantly to GlobalSurg's cohort

**Table 1. Global surgery offices and postgraduate training programs in Canada**

Institution	Opportunities	Website
Dalhousie University	Global Surgery Office	<a href="https://medicine.dal.ca/departments/department-sites/surgery/about/global-surgery.html">https://medicine.dal.ca/departments/department-sites/surgery/about/global-surgery.html</a>
McGill University	Centre for Global Surgery	<a href="https://www.cglobalsurgery.com/">https://www.cglobalsurgery.com/</a>
	Master of Science in Experimental Surgery: Global Surgery	<a href="https://www.mcgill.ca/experimentalsurgery/applying/programs/master-programs/msc-global-surgery-concentration">https://www.mcgill.ca/experimentalsurgery/applying/programs/master-programs/msc-global-surgery-concentration</a>
University of Toronto	Office of International Surgery	<a href="https://surgery.utoronto.ca/global-surgery">https://surgery.utoronto.ca/global-surgery</a>
	Global Women's Health and Equity	<a href="https://obgyn.utoronto.ca/global-womens-health-and-equity">https://obgyn.utoronto.ca/global-womens-health-and-equity</a>
McMaster University	McMaster University Global Health Office and Departments of Obstetrics & Gynecology, Anesthesia, and Surgery	<a href="https://macglobas.mcmaster.ca/">https://macglobas.mcmaster.ca/</a>
Western University	Global Surgery, Anesthesia and Perioperative Medicine	<a href="https://www.schulich.uwo.ca/anesthesia/about_us/events/2020/02.27.20.global_surgery_anesthesia_perioperative_medicine_journal_club.html">https://www.schulich.uwo.ca/anesthesia/about_us/events/2020/02.27.20.global_surgery_anesthesia_perioperative_medicine_journal_club.html</a>
Queen's University	Global Anesthesia	<a href="https://anesthesiology.queensu.ca/academics/global-anesthesia-0">https://anesthesiology.queensu.ca/academics/global-anesthesia-0</a>
University of Alberta	Office of Global Surgery	<a href="https://www.ualberta.ca/surgery/divisions/office-of-global-surgery/index.html">https://www.ualberta.ca/surgery/divisions/office-of-global-surgery/index.html</a>
	Global Surgery and Acute Care Surgery (GSACS) Fellowship	<a href="https://www.ualberta.ca/surgery/divisions/office-of-global-surgery/index.html">https://www.ualberta.ca/surgery/divisions/office-of-global-surgery/index.html</a>
University of Calgary	Centre for Global Surgery	<a href="https://cumming.ucalgary.ca/departments/surgery/education/global-health">https://cumming.ucalgary.ca/departments/surgery/education/global-health</a>
University of British Columbia	Branch for International Surgical Care	<a href="https://internationalsurgery.med.ubc.ca/">https://internationalsurgery.med.ubc.ca/</a>
	Master of Global Surgical Care	<a href="https://www.grad.ubc.ca/prospective-students/graduate-degree-programs/master-global-surgical-care">https://www.grad.ubc.ca/prospective-students/graduate-degree-programs/master-global-surgical-care</a>
	Graduate Certificate in Global Surgical Care	<a href="https://globalsurgery.med.ubc.ca/graduate-programs/gcgsc/">https://globalsurgery.med.ubc.ca/graduate-programs/gcgsc/</a>

studies and clinical trials, receive technical support from senior investigators, and are published under shared authorship models. Likewise, nearly 200 centres worldwide serve as recognized World Health Organization (WHO) Collaborating Centres, carrying out research and policy activities in support of the WHO's programs. Thirty-two are located in Canada, including the WHO Collaborating Centre for Studying Perioperative Surgical Care located at Western University in London, Ontario.

### *Trainee global health networks*

Participation in global health networks may provide support, exposure and experience that are not readily available within smaller programs. The recently established Canadian Global Surgery Trainees Alliance (CGSTA) is a trainee group affiliated with the International Student Surgical Network (InciSioN). The CGSTA provides educational and advocacy opportunities in global surgery, and connects Canadians with trainees worldwide.

### *High-level advocacy*

Nongovernmental organizations, such as the G4 Alliance, Operation Smile, and LifeBox, offer internship and fellowship opportunities through which trainees can become involved with high-level advocacy to expand access to global surgical care.

### *Global surgery fellowships*

Dedicated fellowship-level training in global surgery and health equity is relatively new in Canada. The Department of Obstetrics and Gynecology at the University of Toronto offers a thoughtful model through their 2-year Global Women's Health & Equity Fellowship, which could be expanded to other surgical disciplines. Fellows provide longitudinal care to underserved communities in Eldoret, Kenya, under the supervision of a local faculty member, in collaboration with the Academic Model Providing Access to Healthcare (AMPATH) Consortium.

### *Canadian global surgery conferences and workshops*

Conferences and workshops can provide brief, intensive and accessible exposure to global surgery, increasing knowledge and networks. The Bethune Round Table on Global Surgery, held annually in Canada, attracts a large number of trainees from Canada and LMICs,<sup>5</sup> and supports trainee podium presentations and skills workshops. Several departments of surgery offer annual symposia in global surgery for faculty and trainees.

## CONCLUSION

Developing a surgical workforce that is aware of the broader contexts in which surgical care is delivered locally and globally and is equipped to act as a thoughtful agent of change falls firmly within the mandate of Canadian surgical training programs. Academic global surgery initiatives can provide Canadian trainees with concrete skills; foster a lifelong professional commitment to addressing inequity; and develop surgeons who are health advocates, communicators and leaders. How can academic institutions and professional bodies involved in surgical training further incorporate the values, principles and practice of global surgery within their missions? We believe an understanding of the drivers of health and surgical inequity should be considered a core competency for Canadian surgeons and included within the Royal College's Entrustable Professional Activities. Canadian residency programs should incorporate surgical equity and global surgery modules within the curricula and objectives of training for their surgical foundation years and support and promote opportunities for deeper engagement for trainees with a dedicated interest in global surgery. Finally, several Canadian academic institutions are engaged in the training of surgeons from LMICs through dedicated clinical training and research partnerships. There is clearly opportunity for Canadian academic institutions to contribute to the training of surgeons from outside of Canada, using a range of partnership, training and funding models, and to develop both a local and global surgical workforce that views health equity as a core value.

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