Paper for the 12th IMWC

Medical School Expansion And The Social Mission: Reflections On The Canadian Experience

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Issue:

"Are medical schools glorified trade schools providing training to individuals from an ever increasingly wealthy segment of society? Are they research factories cranking out products whose primary measure is their commercial value? Or are they a continuation of a centuries long tradition of scholarly endeavour to foster people and ideas dedicated to the betterment of the society that has supported them, focused on the search for health (and indeed meaning) on the part of its citizens, no matter what their status? In a world in which disparities of health and diffusion of purpose seem to be intractable problems these are profound questions."

-- Association of Canadian Medical Colleges[30]

How do we produce more of the right kind of doctors for the 21st century? In a period of almost universal growth in medical school size, what, if any, are the links between the expansion (in numbers and distribution) of medical schools and their social mission(s)? In answering this second question it may be useful to approach the issue from two related perspectives. Is the expansion driven by an established social mission agreed to by the schools and their supporters? Does the expansion provide an opportunity to refurbish and express a social mission that has lain unfulfilled?

Context:

Within the past decade an international consensus has evolved that the world faces an overall shortage of trained health care workers, and physicians in particular. This, in turn, has led to broad expansion of medical student numbers and, in North America, the first new medical schools in three decades. This conference has adopted a theme based on a Macy Foundation project's conclusion that "*This period of expansion offers unparalleled opportunity not only to examine existing medical school curricula but also to explore bold, innovative ways to improve the education of a new generation of physicians*."[26] In exploring the manner in which this opportunity has been embraced and/or reflected in Canada, we must first define the issues and nomenclature.

The term *social mission* is widely used across a bewildering spectrum of organizations from the most commercial of enterprises seeking to soften their public image to the most altruistic of charitable organizations seeking to fulfill their moral purpose. Even in the realm of medical schools, international explorations of the concept[1,2,3] show a variety of approaches and commitments. A common thread appears to be the fidelity with which a medical school seeks to address the health status of the citizens they serve. Captured by the international initiative on the *social accountability of medical schools* this might be succinctly expressed as:

> *…the obligation [of medical schools] to direct their education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have the mandate to serve. The priority health concerns are to be identified*

jointly by governments, healthcare organizations, health professionals, and the public.[4]

This provides a useful definition of the term *social mission* as it applies in the Canadian context. Within this definition it is apparent that any examination of accomplishments must attend to "*…the difference between the social accountability of the institutions themselves and the social accountability of the graduates they produce."*[5, 23] To a significant extent, the concept has been further refined through the development and elaboration of the idea *professionalism*[22] as a goal for the nature of the graduates of medical schools. In the Canada, this has been enhanced by the elaboration of the various roles that society and the profession *expect* of physicians. This articulation was developed during an extensive research and consultation process involving the profession, the public and other stakeholders.[6] There is now a well developed and evolving national consensus about what a physician *should* be. This is encapsulated in the CanMEDS roles (http://rcpsc.medical.org/canmeds/index.php) which form an embedded part of defining and evaluating both undergraduate and resident trainees in Canada. Over the last decade, the Association of Faculties of Medicine of Canada (AFMC) adopted this definition in a national initiative among the 17 medical schools in Canada (http://www.afmc.ca/social-initiatives-database-e.php).

These significant efforts notwithstanding, as in most countries, Canadian universities' attendance to their social mission in the past, owed more to rhetoric than action as the initial postwar explosion of broad social participation in higher education was gradually eroded by the commodification of education and a skewing of student admissions towards the higher end of the socio-economic scale.[7,44, 46] With funding shifts towards increasing tuition dependency for educational "services" and industrial funding for research, medical schools have exemplified this trend. What follows is a description of a number of initiatives as the Canadian medical community has sought to address these issues at a number of scales.

It is important to recognize that, in Canada, while education and health systems are predominantly publicly funded, both education and health are constitutionally under provincial mandate. The history of federal influence on standards and conduct within these systems is complex and beyond the purview of this paper. Suffice it to say that it has allowed the development of innovative systems of delivery and education within a broad consensus about national standards derived from both governmental and professional national bodies. Indeed, *Medicare*, the nationally defining single payer, universal and publicly administered health care delivery system arose from the leadership of a single province that was then adopted by all the other provinces through Federal legislative, economic and policy influences.

This context is important for understanding the present state of expansion and the social mission of Canada's seventeen medical schools. Federal/Provincial political tensions have historically expressed themselves in both creative and unhelpful ways but in the case of *Medicare* have been generally constructive. In the case of the academic medical system to support that health system, the interactions are somewhat more complex. A recent overview describing the "seven gaps" to be addressed[29] provides a useful cautionary tale about taking too limited and linear an approach to research, policy and development in this realm.

This means that a coherent "Canadian" approach to both the social mission and overall numbers is challenging to describe and/or assess. The task set before us is even more daunting:

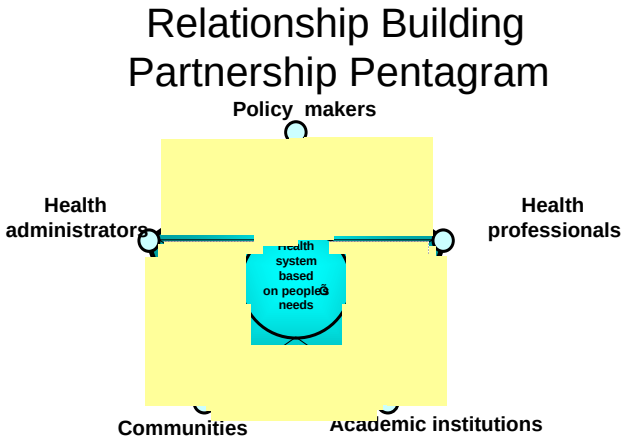
What is the evidence that medical education can help achieve each of these goals? For example, what is the evidence that location or curriculum can influence practice location or specialty choice?

However, our approach might be enhanced if we think of the education and health care systems (and the interaction between them) as complex adaptive systems.[24] From this perspective, a study commissioned during the *Royal Commission on the Future of Health Care in Canada* (http://www.healthcoalition.ca/romanow-report.pdf) provides a useful distinction between *complex* as opposed to *complicated* problems.[25]

Complicated Problems (Glouberman & Zimmerman)	**Complex Problems**
e.g., Sending a Rocket to the Moon:	**e.g., Raising a Child:**
*Formulae are critical and necessary *Sending one rocket increases assurance that the next will be OK *High levels of expertise in a variety of fields are necessary for success *Rockets are similar in critical ways *There is a high degree of certainty of outcome *Optimistic approach to problem possible	*Formulae have a limited application *Raising one child provides experience but no assurance of success with the next *Expertise can contribute but is neither necessary nor sufficient to assure success *Every child is unique and must be understood as an individual *Uncertainty of outcome remains *Optimistic approach to problem possible

This distinction leads us to forgo a simple linear approach to seeking causative influences and seeking an educational "silver bullet" that will produce *the right doctors to practice the right medicine with the right partners at the right time in the right place*. Such rhetorical flourishes can provide a description of good intentions for both the political and academic classes but can be misguided if they lead to misdiagnosis and clumsy interventions in either policy or pedagogy. The essence of solving complex problems rests in attempting an integrated view of a number of interacting factors and initiatives. As we will see, some interventions have significant adverse unintended consequences if looked at too narrowly. A prime current example in British Columbia is a "rural locum relief" initiative designed to provide support for physicians in rural BC so as to maintain them in their communities. As administered, it currently makes more economic sense for a rural practitioner to actually *leave* his/her community, join the locum service and work in places *other than* their home community. While it is easy to deride such an outcome, it is a consequence of attempting to address *complex* problems as if they were *complicated* and seeking to isolate "best practices", economic incentives, "educational interventions", governance structures, etc as if they can be individually manipulated to advantage.

If we return to the social mission and the above noted model of the social accountability of medical schools, it is worth here reflecting on the "partnership pentagram" that has informed some of the response of Canadian medicine to expansion and distribution of its medical schools. Thus, not only must complex problems be approached with an attempt at integrated analysis but the social response must be developed in an integrated partnership as outlined in the figure below, rather than by a series of bi- and tri-lateral relationships acting in isolation.



The core and common commitment to building a health system based on need rather than economic interest or social advantage can elicit remarkably effective responses to seemingly intractable problems. This is the perspective taken in the descriptions that follow.

Experience:

The medical education "system" in Canada is university based, with both undergraduate and postgraduate programs all being university affiliated since the early 1990s and the phasing out of traditional internships with their absorption into two streams of postgraduate training towards licensure: Family Medicine training and specialty training through standards mandated by the College of Family Physicians of Canada (CFPC) and the Royal College of Physicians and Surgeons of Canada (RCPSC) respectively. Both streams (and the undergraduate programs that feed into them) are funded through taxation so their size and general contours are directly influenced by public policy and budget allocations. Policies and budgets are decided at the provincial level with attempts at coordination by the federal/provincial/territorial ministries of health and education. The expression and coordination are highly influenced by the frameworks of *program accreditation* since only graduates of accredited programs can be licensed as physicians. The accreditation systems are national and, in the case of undergraduate education, international in scope since Canada and the US have common standards through the Committee on the Accreditation of Canadian Medical Schools (CACMS) and the Liaison Committee on Medical Education (LCME).

In this complex environment both the particulars of the social mission and the timing, motives and nature of medical school expansion has been quite diverse across the country. Much of the current expansion in Canada has been driven by political forces to which academic

medicine has responded in ways that will be described below. These political forces have derived from the consensus that the health system is seriously imperiled by a shortage of health human resources. This is felt most acutely in primary care and in the rural areas of our large nation. In many jurisdictions, it appears that concerns about attracting votes from rural areas have had powerful influence in decisions related to expansion. This is in marked contrast to the situation twenty years ago.

In the last decade of the 20th century Canadian medical schools underwent a policy driven *contraction* of medical school size. This was based on a perception that there were too many physicians and so, in an effort to contain costs in the publicly funded Medicare system, provincial governments across the country put systematic pressure on schools to reduce their admissions. While the policy assessment that drove this movement[8] was much more nuanced, the selective and uncritical uptake of an opportunity to save budget allocations by provincial governments seriously aggravated the shortage of physicians (and other health professionals). This has had dramatic consequences expressed variably across the country but most characteristically in mal-distribution of physicians and pressures on rural services in particular. A policy assessment by the end of the decade confirmed this.[9]

So when the policy worm turned, it turned quite dramatically and pressure for both expansion of existing schools and the creation of new regional programs became quite intense.[34] Also, the pressures for expansion have been increasingly linked to pressures for distributed education. While it is difficult to gather direct evidence of the sources of political choices and how they play out (keeping in mind the adage "*The less the people know about how sausages and laws are made, the better they sleep in the night"*) the public history of expansion of medical schools in Canada is primarily one of public and ministerial demands upon a (sometimes reluctant) academy. To be fair, the profession in various forms engaged very constructively in shaping the response to these forces through various collective,[31, 32] organizational,[10] institutional,[27] and local efforts—many of which are referenced in the reports noted. These efforts have been considerable and have had a major influence on the nature of the changes wrought by political forces. However, a claim that the schools' efforts arose from "…*expansion driven by an established social mission agreed to by the schools and their supporters*." could not withstand close scrutiny. Thus, the answer to our first (sub)question is "No."

Responses:

However, in addressing the second question: "*Does the expansion provide an opportunity to refurbish and express a social mission that has lain unfulfilled?*" the Canadian response is much more nuanced, and generally positive. Indeed, in many schools and at the national level this opportunity has been embraced with some enthusiasm. Some schools have simply responded with expanded numbers of students and others have seen this as an opportunity to re-orient their efforts to more explicitly address a social mission under the general rubric of social accountability. Significant focus was given at the national level through the efforts of the AFMC in an initiative begun in 2001 to foster social accountability. Based upon a federal "white paper" coauthored by a number of educational and professional leaders,[11] the AFMC strategy moved forward[12] with some impact in the context of the international efforts on the same theme.[5] More recently the AFMC has undertaken a major initiative[13] by broadly engaging Canadians in articulating "The Future of Medical Education in Canada: a Collective Vision for Medical Education (FMEC)" (http://www.afmc.ca/fmec/pdf/collective_vision.pdf). This has resulted in a

series of recommendations, the first of which is a remarkably clear commitment to a social mission:

Recommendation I: Address Individual and Community Needs
Social responsibility and accountability are core values underpinning the roles of Canadian physicians and Faculties of Medicine. This commitment means that, both individually and collectively, physicians and faculties must respond to the diverse needs of individuals and communities throughout Canada, as well as meet international responsibilities to the global community.

The paper (q.v.) also contains the following outline of how leadership in this area has played out over the last decade:

> "In keeping with its fundamental belief in social accountability, the Association of Faculties of Medicine of Canada (AFMC) and Canada's medical schools have responded collectively over the last five years through such means as:
>
> - developing models of distributed medical education,
> - addressing the health care needs of rural and remote communities,
> - encouraging more Indigenous students to enter medicine,
> - enhancing public health skills for future physicians,
> - creating an end-of-life/palliative care curriculum, and
> - acting as the secretariat for a collaboration of eight pre-licensure education accrediting bodies for six health disciplines. This particular effort resulted in joint principles and resources for the implementation of inter-professional health education accreditation standards.
>
> Canadian Faculties of Medicine have also responded to the national shortage of physicians over the past decade by doubling the number of students admitted to medical school. This included opening a new facility in Northern Ontario and vastly expanding the network of distributed medical education sites." (Page 13)

These efforts were not initially directed towards the issues of expansion but did foster an evolving attention to the social mission as Canada's medical schools entered the 21st Century. It is of more than incidental interest that a significant impetus for this focus on social accountability came from federal officials in Health Canada and by the Director General of the Council of Ministers of Education who had published a seminal paper on the subject.[14] Thus one can again see that, while the academy responded to broader political forces, many of the demands for positive change came from outside the formal academy.

These demands have been handled at the provincial and medical school level with varying levels of alacrity and with frequent benefit to both the public and the academy.

For example, these forces clearly played a role in the development of Canada's first new medical school in three decades—the Northern Ontario School of Medicine (NOSM) (http://www.nosm.ca).[28] This school was founded upon the social mission of "*…responding to the needs of the people and communities of Northern Ontario. This is reflected in the Letters Patent for the NOSM Corporation. More specifically, we focus on rural, remote, Aboriginal, Francophone and northern urban communities.*"[40] NOSM is a unique partnership, forming the Faculty of Medicine of two universities with main campuses 1200 km apart. Founded in a

province with five existing medical schools and having some programs in the north, the interplay of social missions and sharing of communities, programs and preceptors has provided a unique opportunity to view the multiple institutional and organizational ways in which social missions, program development, community engagement and numerical expansion of students can play out.[41,42] While the school is too new to have data on distribution and working of its graduates, there have been clear impacts upon the preceptors and the communities in which the students are receiving their education.[43] Also, studies of the influence of curricular opportunities for rural practice on the intentions of students in another school in Canada,[15] as well as the long-term impact of a distributed school in Newfoundland[16] and elsewhere[17,33] are reassuring, notwithstanding earlier studies[18] that indicated that rural origins rather than rural educational experience were primary factors in choosing a career in rural practice. One interpretation of the accumulating evidence is that a combination of selecting students with a rural background and providing opportunities for rural training supports a synergistic impact on the likelihood of them entering rural practice for at least part of their career. NOSM represents a school where the link between expansion and a defined social mission is both explicit and evident in the planning and the curriculum.

In the other sixteen schools the linkage is somewhat less explicit and calls forth a need to more carefully consider the concept of "social mission." The range of schools is quite broad; from large, urban focused research-intensive universities to universities with shared campuses across provincial boundaries. As might be expected, there is also a range of defined social missions.[47] Let us consider the range of social missions outlined for this IMWC Conference:

- Addressing geographical mal-distribution, including shortages in rural communities;
- Encouraging a specialty distribution consistent with priority health needs of the community, including an adequate supply of primary care physicians;
- Increasing the diversity of the physician workforce to be more consistent with the diversity of the population;
- Encouraging educational innovations;
- Encouraging inter-professional practice; and
- Supporting economic development of communities.

It is likely that every medical school in Canada would recognize at least some responsibility in each of these areas, even if there were not explicit mention in a succinct mission statement.

However, explicit and integrated study of the relationship between the educational programs and the sought for outcomes is still just beginning to be gathered. This is for two reasons. Firstly, the expansion is so new and the medical programs so long that the real "bulge" of new practitioners is just beginning. Secondly, the methodologies are just beginning to gain robustness. A substantial initiative in Best Evidence Medical Education[35] was begun several years ago with a conclusion that:

> *"Although still early in the game, it has already become clear that the levels of evidence in the existing literature are often not sufficiently high to meet BEME criteria, or the evidence cannot lead to clear or valid differences between approaches."*

Even more recently, an international study focused on the precise issue of education and social accountability[35] observed:

"No systematic international evaluation of socially accountable medical schools was found and current tools to measure the social responsiveness of programs need more rigor."

And concluded:
"There is a clear need for a common rigorous evaluation tool for socially accountable medical education, particularly for schools created to address the shortage of doctors in neglected areas. While it will be difficult to determine the impact of socially accountable medical education on health outcomes, target schools agreed to collaborate and develop a common evaluation framework to strengthen the evidence base on how to train doctors to meet health needs in underserved area."

Far from causing discouragement as educators, policy makers, health managers, professionals and communities work together; this situation calls forth both humility and determination. By maintaining a view of the whole while gathering evidence of the parts of the system that we might influence (a feature of *complex* adaptive systems approaches), we will be in a much better position to address the enduring inequities in health status of the population and access to appropriately trained providers of quality care. Looking for the proverbial "silver bullet" is not only a distraction but can lead to actions with significant unintended (and unobserved) negative consequences. Maintaining a collective search for both evidence and solutions is likely to be far more fruitful.

In Canada, there has been an interesting use of the *accreditation systems and standards* as a tool to both shape the expression of policy and the negotiations about budgets. For example, this has to some extent shaped the expansion into distributed campuses of the existing school in British Columbia within a single school rather than as separate medical schools in three sites. This design occurred in the face of potent political forces for an independent northern school and is an example of how the interplay of political and academic cultures, together with a very potent community voice, helped to shape an ultimately coherent and so-far successful outcome. Early data indicate that some of the hoped for re-distribution in both geographic and career choice (primary care) is occurring. At the other end of the country it has resulted in a very innovative (and social mission driven) out-of-province Francophone campus of the Universite de Sherbrooke[19] in New Brunswick, home of l'Acadie in Canada and our most bi-lingual province. In this case, a program was created that, through effective community engagement and involvement of the pentagram partners, has succeeded in bridging provincial boundaries, ethno-linguistic solitudes and rural/urban divides. At the Universite Lavalle the announcement of needed new expansion facilities (after an initial governmental demand for expansion without new resources) coincided with an accreditation visit. It may thus be fairly said that accreditation has, in several instances, been the fulcrum whereby the forces for expansion and distribution were directed towards the implementation of the social mission through the mechanism of expansion.

Reflections:

An AFMC sponsored survey and workshop on distributed education, (where much of the expansion of Canadian medical schools has taken place) resulted in the following summative reflections:

> *"Across the schools, a wide range of successes were* (sic) *reported. Development of rural physicians and retention rates was identified as a positive outcome. The development and effective use of technology, and the development of creative online offerings were also noted. A number of schools cited the successful implementation of programs at distant sites, and the extensive development of the infrastructure at those sites.*
>
> *Important successes were seen in the development of key partnerships, and collaborations with distant sites and communities. Faculty enthusiasm and student satisfaction were also reported. Critically important was the successful development of new, expanded, high-quality educational programs that will better prepare learners and support physicians in practice."*
>
> *"In all, the picture of DME in Canada is one of movement: growth of existing activities, and rapid development of many innovative opportunities. As most energies are focused currently on development**, few respondents identified the evaluation of effectiveness of DME activities as a challenge. Clearly, this is a future challenge for all DME programs at all educational levels**."*[32]

As this demonstrates, the schools took advantage of distributed expansion to address most of the "social missions" that are the topic of this conference. In the Canadian context where foreign trained doctors are disproportionately represented in rural practice, it has even started to address the issues of diversity. There has also been much parallel activity, such as the alluded to initiative on inter-professional accreditation.[20]

It is important to note that the continuing professional development (CPD) research and development community is particularly robust in Canada. One specific example is *Best medical practices in social accountability and continuing professional development: A survey and literature review*,[37] a recent undertaking that states:

> *"To meet the terms of the contract, CPD must be credible, unbiased and respond to social needs. Physicians have a responsibility to maintain quality; CPD is one tool to do that. CPD should be measured against values of relevance, quality, cost effectiveness, and equity…. Most initiatives focused on values of quality and relevance; fewer focused on cost effectiveness. Most often, initiatives addressed medical expertise and interprofessional collaboration, least often health advocacy."*

Thus, the life long continuum of medical education in Canada is explicitly committed to linking its efforts to the social mission of serving the priority health needs of Canadians.

However, it must be admitted that hard data on the impact of this linkage on actually "*…addressing the priority health concerns of the community, region, and/or nation they have the mandate to serve…*"[4] are spotty and hard to come by.

What the Canadian experience appears to be showing is that, while we do not yet have such hard data, we are developing conceptual models and pointing out the directions whereby we

can fruitfully implement innovations while at the same time developing complex, integrated collaborative programs to assess their impacts and adjust accordingly.

Opportunities:

In addition to the previously noted linkages between expansion and the social mission, it is worth observing that other long-standing challenges in medical education may be addressed in a time of expansion. A recent editorial in *Medical Education*[21] reflecting on the above noted expansion in New Brunswick outlined some of them:

> ***1. E****ffective* ***community engagement*** *is a powerful tool for shaping the curriculum and other scholarly work to the needs of the community that is served by the medical school;*
> ***2. D****istributed sites of existing schools may represent an* ***edge phenomenon****, like the edges of oceans, where creativity is more likely to occur;*
> ***3****. Distributed sites at the interface of cultures and languages may represent very ripe venues for the learning of* ***cross-cultural competencies****;*
> ***4****. The framework of* ***the social accountability of medical schools*** *can provide a useful framework for advancing both the nature and distribution of practitioners to better address the priority health needs of society;*
> ***5. C****urrent pressures and trends towards* ***inter-professional education*** (38) *are very challenging to deliver in large institutions and communities but are required as a matter of course in distributed sites because necessity dictated by constrained resources leads to the production of effective role models, and*
> ***6. A****s global pressures for* ***task shifting*** (39) *attempt to adapt health resources to evolving needs, distributed health care training sites are places where delivery, reflection and evaluation capacity are likely to become foci for innovation.*

As noted previously, there has been a concerted and successful effort in many schools to increase the number of students from aboriginal backgrounds to enter medical school. This has been coupled with a national effort to create a curriculum in aboriginal health to impact all students and enhance their skills and commitment to address the shameful status of population health of Canada's aboriginal people. A descriptive outline of opportunities already seized and immanent can be found at http://www.universityaffairs.ca/a-path-to-healing.aspx.[45]

Conclusion:

It therefore appears that the expansion and distribution of medical education in Canada ***does*** present an unprecedented series of opportunities to advance the social mission of Canadian medical schools. Historical trends and co-incident activities are being harnessed and, with an appropriate attention to detail and collective responsibilities, this can indeed result in *"…produc(ing) more of the right kind of doctors for the 21st century."*

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