

# The Disconnect of Twin Pillars: The Growing Rift in Educational Goals and Methods between Medical Schools and the Academic Teaching Hospitals



COMMENTARY

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## ABSTRACT

*Academic teaching hospitals (ATH) and medical schools are the two main components of the Academic Health Sciences Centre (AHSC) organization. They have traditionally worked in a symbiotic, if relatively unstructured and somewhat fluid, relationship. Now changes in the medical school approach are creating stress on this traditional partnership.*

*First, medical schools are being driven by external pressures to better respond to societal needs. Medical schools are increasingly decentralizing their educational process to help produce physicians with the values and skills needed to meet the diverse needs of Canadian society. Second, internally, the changing nature of medical knowledge and skill sets has led to differences in the educational process with more formal standards and educational goals. Within this second change is a difference in the trainees moving through the educational system – today's future doctors represent a different value set and demographic profile than their predecessors.*

*These changes pose both a challenge and an opportunity for ATHs. ATHs are well positioned to be leaders and facilitators of these changes. Doing so would help strengthen the system, and would ultimately help ATHs fulfil their complex and often competing mandates. Unfortunately, there are also incentives for ATHs to fight these trends. The response of ATHs to their evolving relationship with medical schools and universities will have a large influence on the future shape and function of the AHSC.*

LOZON AND FOX'S comment that "...the training of post-graduate trainees may actually generate income" reminded me of my recent days in residency. On "post-call" mornings, I would hand over a stack of "stickies" to a well-rested and freshly showered staff person. The "stickies" were standard adhesive labels, stamped with a patient's name, address and OHIP number along with my handwritten addition of the date and discharge diagnosis – all the information my staff would need to bill OHIP.<sup>1</sup>

Having handed over the "stickies," a structured recounting of the nights' clinical adventures could begin in the form of a morning report. This tradition in the presence of staff, fellows, residents and students helped ensure continuity of clinical care, a time for learning and a chance to discuss and apply the best available medical research. This one-hour process nicely entwined many of the core issues around Academic Health Sciences Centres (AHSCs) discussed by Lozon and Fox: patient care, education, research and money.

Lozon and Fox's lead paper "Academic Health Sciences Centres Laid Bare"

outlines many of the stresses placed on these complex institutions. This response will pursue some of the issues and recommendations presented and raise new ones. In particular, this commentary will focus on a rift developing between two main components of the AHSC complex: the university/faculty of medicine and the academic teaching hospital (ATH).

Driving this split is a shift by the medical schools to change both the goal of medical education as well as the process.<sup>2</sup> Changes in the goals of training are being driven by a realization that medical schools have a duty to produce physicians better prepared to meet societal needs. The motivation to change the process of training reflects a recognition that as medicine evolves in breadth and depth, the educational process requires a more structured and defined approach with appropriate curriculum, learning objectives and evaluation.

With medical schools moving in these two directions, the role of their partner academic teaching hospitals needs revision. While Lozon and Fox are undoubtedly correct that AHSCs "are here to stay," how ATHs respond to these trends

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<sup>1</sup> There was always a rumour among residents that the staff person was actually supposed to have seen the patient being billed for, but it was really a moot point from a resident's perspective – just something to grumble about at 3 a.m.

<sup>2</sup> For the purpose of this article, the term medical school will refer to the component of the AHSC unit represented by the university and its medical school/faculty of medicine; furthermore, the term medical school will be considered to represent both the graduate and post-graduate levels of training unless otherwise clarified. Similarly, the terms physician learners or trainees will include both medical students and medical residents unless specifically differentiated.

is going to be critical in determining their place and functioning in this new landscape of medical training. ATHs have the potential to be leaders and facilitators of these changes by capitalizing upon and disseminating their knowledge and experience gained over decades of being the centre of clinical teaching. Such a move would have positive implications not only for medical schools and their missions, but for the ATHs themselves.

Unfortunately, there are also incentives for ATHs to fight these trends in order to retain access to financial or human resources or simply maintain the role of primary clinical educator.

### **The Evolving Goal of Medical Training**

There has been increasing discussion of the obligation of medical schools to train physicians to meet societal needs. The World Health Organization (WHO) conducted an international survey of medical schools to assess their current structure and identify issues that affect and reflect their ability to be socially accountable (Boyer and Phil 2001). This research supported the basis for a widely referenced WHO paper by Boelen and Heck (1995) on the issue of social accountability for medical schools. Canada has recently used a multi-stakeholder approach to develop its own social accountability document (Steering Committee on Social Accountability, forthcoming). "A socially responsible medical school perceives the needs of society and reacts accordingly, and a socially accountable school also consults society about priorities and provides

evidence of the impact of its deeds" (Boelen 2001).

This may seem an intuitive mission for AHSCs but it is not one that is inevitably self-fulfilling. In fact, their complex structure, poor transparency, diverse lines of funding and multiple competing roles as outlined by Lozon and Fox create an ideal setting for a disconnect between the needs of the AHSC unit and the needs of the rest of society.

The social accountability literature offers extreme examples of this disconnect, such as a teaching hospital announcing major advances in neurosurgery while an outbreak of cholera sweeps through the wards due to a contaminated well next to the hospital. While the situation may not be as stark in Canada,<sup>3</sup> it is increasingly clear that our traditional AHSCs have failed to produce physicians to meet the needs of many Canadian communities. There has been a growing crisis across northern and rural communities in this country. While 31% of Canada's population lives in rural areas, only 17% of family physicians are represented there (CMA 2000). Demographic studies of physicians' age and practice patterns suggest the situation is getting worse. No longer isolated to northern and remote regions, the shortage of healthcare professionals is affecting larger and more southern populations as well. Even in the largest cities, often within a few blocks of some of Canada's most advanced AHSCs, many groups are failing to get adequate access to appropriate care.

The responsibility for the current litany of challenges facing the healthcare system cannot be laid solely on the shoulders of

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<sup>3</sup> Unfortunately, health indicators for some of this country's First Nations populations or inner-city populations would yield equally disturbing results.

the AHSC. It will take appropriate funding of a comprehensive and integrated set of solutions to remedy the situation. However, the medical education system must better prepare physicians to meet societal needs. The work of Educating Future Physicians for Ontario (EFPO) was a project that outlined the need for medical education to become responsive to societal needs and developed a series of steps to meeting this end (Maudsley et al. 2000; Neufeld et al. 1998). Their work has been integrated into the core objectives for all specialty training programs as defined by the Royal College of Physicians and Surgeons of Canada (Societal Needs Working Group 1996).

Medical schools, with prompting and support from other agencies, have started to respond with major policy and program initiatives (COFM Task Force 1998/99; UBC Task Force 2001). The goal of most of these efforts has been to decentralize education. Most medical schools have incorporated opportunities for community and rural exposure at the undergraduate level and to some degree the post-graduate level. There are also fully dedicated rural and community training streams for family medicine training. To ensure appropriateness and quality, standards and curriculum have been developed by medical schools and the colleges (College of Family Physicians 1999; WONCA 1995). Provincial House Staff organizations representing residents have worked to ensure that their members who participate in rural streams are entitled to the same rights and privileges as members participating in traditional programs. Similar decentralized approaches need to be taken to address the

needs of urban underserved populations.

With medical schools moving in this direction, the role for ATHs is inevitably raised. This trend is an opportunity for the ATHs. As Lozon and Fox point out, ATHs have been trapped in the challenge of trying to provide education to all levels and all disciplines of learners. Decentralization will allow them to better focus their educational efforts in the areas of tertiary and quaternary care. One AHSC concern is that it will be losing service hours as learners train in other settings. Therefore, AHSCs are reluctant to release residents from service obligations to participate in community training, or to help the remaining residents with the increased service burden.<sup>4</sup> In reality, the rural residency streams have been filled through supernumerary post-graduate spots, not the reallocation of existing ones. The drivers behind loss of resident service relate to the reasons outlined in the following section.

ATHs may also feel a more intangible threat from decentralization to their sense of purpose and opportunity for teaching. These issues can be addressed by clarifying the role of the ATH within the model of community education. In terms of financial implications, Lozon and Fox point out that the financial costs and benefits to hospitals of teaching/education are difficult to trace. The reality, however, is that there are limited financial resources, and the past few years have seen millions of dollars flowing into new community sites and programs rather than into the ATH. This shift of resources could understandably lead to potential competitiveness.

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<sup>4</sup> Discussion with community educators responsible for the development of rural electives and core community rotations, as well as discussion with residents interested in pursuing these options.

It may be tempting for ATHs to either fight or ignore this trend – this would be unfortunate. The move to community education will liberate ATHs to better meet their societal obligations by focusing on training physicians in advanced and specialized care. They also have decades of experience in clinical teaching and education and could play an important role as mentors and consultants in helping ensure community education of the highest quality. Decentralization projects in the United States have shown the benefit of involving the faculty of ATHs in community education initiatives (Bacon et al. 2000; Mayer 1990; Maurana et al. 2000). In the United States, this pattern has strong financial incentives, as AHSCs under HMO ownership benefit from vertically integrating all stages of care delivery – particularly the initial primary care settings that control referral patterns. Using the decentralization of education as a catalyst and a starting point, the process of creating better ties between community and large urban centres will only result in improved education, better patient care and more broadly applicable research for all Canadians.

### **Driving towards New Educational Models**

While societal demands have influenced the goals of training, changes within the discipline are demanding new methods of education. Driven by novel technology, landmark research, evidence-based approaches and changing health trainee demographics, the core medical skills, knowledge and values that learners must attain have been revolutionized.

While a few years ago acute myocardial

infarct was being managed with aspirin and bed rest, there are now a host of available medical and surgical interventions. Surgical issues that were rapidly approached by aggressive open procedures may now be managed with a series of investigations and minimally invasive therapies – all of which have differing efficacies as quantified by sensitivity, specificity, pre and post-test probabilities, etc. Finally, the medical profession was primarily single males who achieved a general practice licence in their early twenties as a first step towards entering practice. Today, men and women graduate in roughly equal numbers with a specialty licence that is completed in their late twenties to early thirties (CAPER 2000/01). Training will inevitably evolve in response to these changes.

Medical residents have always filled a uniquely hybrid role in the teaching centres (Report of the Special Task Force on Tuition Fees 2001). They are front-line service providers who as a group provide 24/7 care and are often the first physicians a patient meets in an AHSC. Residents are also learners completing two to seven years of post-graduate training in a defined discipline. They are also involved in a variety of research initiatives. Finally, residents are educators who teach each other, medical students, other healthcare learners and patients. All of these functions are being influenced by the changes discussed above.

The educational colleges and university bodies have responded to the changes in medicine by establishing training programs that have clearer learning objectives, include protected time for educational activities, create standard evaluation methods and are reviewed by routine

accreditation processes. The Royal College of Physicians and Surgeons of Canada, building on the work of EFPO, has adopted the CANMEDS 2000 principles that establish a set of core competencies to be achieved by residents in their programs.<sup>5</sup>

Residents have responded through their representative bodies. Provincial House Staff Organizations negotiate the working conditions and compensation for residents through collective agreements.<sup>6</sup> These contracts are negotiated with the residents' employer, who is typically the teaching hospital or representative agency. Government and universities have varying degrees of direct presence depending on the province and the structure of the negotiating team. The last several years have seen significant advances negotiated in the reduction of on-call duties and facilitation of educational objectives.<sup>7</sup>

These reduced service duties help respond to the changes in several respects. The rapidly growing knowledge base and higher academic standards require greater time for reading and preparation – endless hours of service are not sufficient for complete training. The traditionally abusive working hours resulted in inappropriate levels of fatigue conducive to neither patient care nor learning. With the numerous changes in medical care discussed above, the acuity and patient

volume has rapidly increased with far higher demands when residents are on-call. Finally, with an older trainee cohort there are more spousal and family issues that need to be balanced with medical duties. Many trainees represent a new value system that emphasizes the need to have time for personal development in addition to a career in medicine. While critics may be tempted to deride this value set as a lack of commitment, it is more appropriate to recognize it as a long overdue shift that represents physician professionalism that will ultimately improve patient care.

This combination of increased focus on educational needs and reduced on-call duties has not altered the fundamental role of residents as key service providers in our hospitals – nor should it. However, these trends will force ATHs to re-evaluate how they fulfil their educational and service missions. Because of the changes in contracts, service coverage after hours has become more challenging.<sup>8</sup> In some situations the conditions for residents have actually deteriorated as AHSCs have asked a fewer number of residents to provide the same breadth and depth of service. In other cases, senior residents have been reassigned to junior levels of call duties,<sup>9</sup> or residents on traditionally protected research blocks are put back on-call. These will, it is hoped, be transient

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<sup>5</sup> These roles are: medical expert/clinical decision-maker, communicator, collaborator, manager, health advocate, scholar, and professional.

<sup>6</sup> A list of all the house staff organizations and contact information can be found at the home page of the Canadian Association of Interns and Residents at [www.cair.ca](http://www.cair.ca). Contracts can be received from each house staff organization.

<sup>7</sup> Unpublished summaries of provincial house staff contracts.

<sup>8</sup> Exacerbating these effects is the overall decline in total number of post-MD trainees, with 2000–01 representing the lowest numbers in several decades ([www.caper.ca/quickfacts](http://www.caper.ca/quickfacts)).

<sup>9</sup> Senior residents typically had less on-call duties as they needed to prepare for their final exams.

solutions as systems adjust to the change. Other solutions have allowed certain residents to voluntarily help with a limited practice licence. There has also been greater use of clinical associates, hospitalists and current staff physicians.

Attempting to juggle education, service and research is also an issue during the day. Residents are fewer in number and increasingly transient as they move between multiple clinical services to gain needed educational experiences – often for periods as short as a few weeks. There is also increasing non-clinical time for formal teaching or administrative duties. This means that smaller services may have the service of residents inconsistently and even larger services will have a fluctuating number and presence of residents – even over the course of a day. When residents are on specific services, ensuring exposure to “learning cases” can be difficult. Residents and medical students at different levels and with different baseline knowledge will have different needs.<sup>10</sup>

Creative solutions to this problem are being discussed. In order to decrease reliance on residents, alternative healthcare workers are being explored. In operating rooms, wards and clinical research initiatives, a variety of advanced skilled nurses are being slowly employed. Ultimately, however, new models of conducting education while maintaining the highest level of patient care are needed.

How residents will function in these new models is unclear. They may be integrally mixed with a variety of other

healthcare professionals or there may be the creation of unique teaching units. Goldsand and this author have previously reported on an initiative at the University of Alberta that discussed the development of a separate teaching unit dedicated to optimizing the educational needs of trainees, while ensuring continuity of patient care (Goldsand and Tepper 2000). Some of the principles of the proposed model include: opportunity for ongoing care for both inpatient and outpatient settings; reflecting the needs of learners at different stages with the opportunity for more senior trainees to teach and supervise junior colleagues; flexibility to meet the learning objectives of residents from different levels and from different disciplines; ensuring a synergy between the education and service components; and a structure that accommodates academic, educational, personal or alternative clinic obligations while maintaining the provision of patient care, education of other learners and fulfilment of other administrative tasks.

Another source for finding models are the new community teaching centres. They have not traditionally had learners to help meet service needs, and even with decentralization they have a limited number of trainees. They have developed models of providing education without reliance on trainees for service. Therefore, just as ATHs can help community centres based on their experiences, in return the communities may be able to offer models that will help ATHs meet their multiple missions.

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<sup>10</sup> While generally the problem is a lack of human resources for the clinical volume, in some cases hospital closures and amalgamations have resulted in a reduction of clinical settings for teaching such that several trainees may find themselves tripping over each other to perform the procedures or conduct the clinical assessments that they need for their learning – incidentally another reason to decentralize education in some settings.



## Conclusion

AHSCs are threatened by a potential split between the academic teaching hospitals and the university/medical schools. This division is being driven both by a refocusing of the goals of medical education and a re-evaluation of how that education should be conducted. These pressures are opportunities.

The existing clinical educational institutes can serve as mentors and teachers by bringing their standards of excellence, experience and strengths to communities who must be involved in training physicians to meet societal needs. They will also be helping themselves in this process by being able to better focus on the unique clinical environments they offer.

In all educational settings we need to re-evaluate how we educate physicians. It is no longer sufficient to assume that demanding enough service hours over enough years will ultimately give new graduates the skills, knowledge and values they need – new models are needed. As the educational process adjusts, the system must also provide continuous, high-quality patient care and maintain research commitments without unduly taxing residents, staff or other healthcare professionals. This process of creating new models of education and service delivery is exciting, and all players, including community centres, should participate in this process. Lozon and Fox are right that AHSCs are here to stay, and if they choose they can be active, innovative leaders in the training of physicians to meet Canada's diverse healthcare needs.

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