

Expansion of postgraduate medical education

Expanded residency programs at sites throughout BC are now supporting the expanded and distributed MD undergraduate program and improving the prospects for physician recruitment and retention in all regions.

ABSTRACT: The expansion of residency programs at UBC has been well underway for 5 years. The expanded programs have provided critical support for the expansion of the MD undergraduate program and will continue to help move BC toward net self-sufficiency in production of physicians for the years ahead. Challenges have been encountered as programs have gone from training 472 residents at UBC in 2001 to training 850 residents province-wide in July 2007, but accreditation bodies have determined that overall the expansion is going well.

While attention in recent years has focused on the expansion of the MD undergraduate program at the University of British Columbia, similar expansion of postgraduate (residency) programs has been taking place. The less obvious postgraduate expansion has been closely coordinated with the undergraduate expansion, although the approach and schedule have been different.

The expansion of the MD undergraduate program, which first increased admissions dramatically in 2004, necessitated a coordinated response at the postgraduate level for two main reasons. First, with the medical school graduating class increasing from 128 to 200 students per year, at least 200 first-year residency positions would be needed in 2008 to match the size of the graduating class. Second, with the expansion and distribution of the undergraduate program, more residents would be needed in the major specialty programs at the distributed sites to support clerkship education. The Liaison Committee for Medical Education (LCME), which accredits medical schools in Canada and the United States, stipulates that “Medical students should learn in clinical environments where graduate and

continuing medical education programs are present” (IS-12A).¹ This is not only an accreditation requirement but a practical necessity for optimal education of medical students and residents. The students in the first expanded medical class were scheduled to begin their clerkship in September 2006, so postgraduate programs needed increased resident numbers in 2004 to be ready for these students.

History

The history of postgraduate program expansion at UBC begins in 2001, when there were 128 graduates from the UBC medical school and 118 first-year resident positions. For many years there were fewer first-year residency positions at UBC than there were graduates from the medical school. British Columbia was thus a

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net exporter of medical graduates to provinces whose first-year positions exceeded their graduating pools. Furthermore, in 2001 BC was training half as many resident physicians per capita as other provinces.

To support the increased number of residents needed for an expanded and distributed undergraduate program, the Ministry of Health agreed to provide funds for educating residents, including funding for clinical teachers, program directors, and administrative support, payment for resident travel and accommodation at distributed teaching sites throughout the province, and payment for resident activities such as courses and meetings. In addition, the Postgraduate Planning Task Force was created to deal with the challenges of building larger, distributed residency programs. The task force, which is chaired by the dean of the Faculty of Medicine and includes representatives from the faculty, the Ministry of Health, and the six health authorities, has proven to be a valuable forum to discuss health human resource planning in general and residency programs in particular.

The expansion of the postgraduate program has been organized at both macro (faculty-wide) and micro (program-specific) levels. Unlike the undergraduate expansion, which involved adding 72 new positions at once to the first-year class in 2004, the postgraduate expansion has added first-year resident-level positions incrementally over a 3-year period, with 31 new positions in 2004, 23 new positions in 2005, and 20 new positions in 2006. The overall effect has been to increase the number of residents funded by the Ministry of Health from 470 in 2001 to between 800 and 850 in 2008 (see **Figure**).

Two general principles were used to guide the allocation of new positions: first, the positions would be split

between family practice and Royal College specialties at a ratio of 40% to 60% (as agreed to nationally by all of the Canadian medical schools) and second, the initial increases would go to the major specialty programs to ensure the distribution of residents at the new sites to provide educational support for the students in the third and fourth years of the MD undergraduate program.

A Resident Allocation Committee of individuals with a range of experience in residency education was formed to oversee the distribution of the new residency positions among the many specialties and subspecialties. A multiyear template was created to guide the allocation of residents to all programs, and to allow residency programs to plan and adapt for expansion and readjust as expansion occurs.

At the time the postgraduate expansion process started, faculty members in most residency programs believed the programs were smaller than required to provide enough physicians for the needs of the province. Following several years of expansion,

faculty in many residency programs at UBC feel their programs are at or near capacity.

Current picture

Family practice

The Department of Family Practice has a long history of geographically distributed sites for resident education. The intake of residents has gone from 45 per year in 2003 to 81 per year

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in 2007. Currently there are nine site-based programs within the Department of Family Practice residency program. There are three programs in urban areas: Vancouver, St. Paul's, and Victoria. There are three programs in smaller communities: Prince George, Chilliwack, and Nanaimo. There are two rural programs in which the first year is based in a larger community (Kelowna or Prince George) and the second year is spent in several rural communities. And there is one program based in Victoria that focuses on family practice needs in the Aboriginal community. With further expansion of the residency program, we anticipate that new sites for training in

Table. Resident numbers in major Royal College programs.

	Postgraduate Year 1, 2001	Postgraduate Year 2, 2007	Total, 2007
Anesthesiology	7	11	55
General surgery	4	9	45
Internal medicine	12	37	120
Obs/Gyn	5	7	38
Orthopaedics	4	7	35
Pediatrics	6	12	60
Psychiatry	7	15	75
Radiology	4	7	29
Pathology	2	6	24
Ophthalmology	2	3	12
Dermatology	2	3	7
ER	2	3	14

family practice will be created in the northwest and northeast regions of the province and possibly other locations.

Royal College specialty residents

Currently UBC offers 60 Royal College-recognized programs, of which 29 are primary specialties (i.e., entered following graduation from medical school) and 31 are subspecialties (i.e., entered following completion of a primary specialty). Out of necessity, most of the subspecialty training is done in Vancouver, although some of the subspecialty residents participate in outreach clinics around the province. Many of the primary specialty residents, particularly in the larger programs, spend several months in communities in all health regions in the province. The large specialty programs have all undergone significant expansion since 2001 as outlined in the **Table**.

International medical graduates

In 2007, international medical graduates (IMGs) were granted access to the first round of the Canadian Resident Matching Service (CaRMS) process. In order to be eligible for the first round of the CaRMS match in BC, IMGs must write a screening examination and complete a clinical assessment conducted by a UBC program, which includes 12 weeks at St. Paul's Hospital in Vancouver and in physicians' offices. Each year 60 applicants are selected for this clinical assessment based on their screening examination scores. When 18 positions at UBC (12 family practice and 6 Royal College specialties) were designated in 2006 specifically for IMGs who had completed the St. Paul's assessment program, this was the first time that specialty positions were included.

In addition, for more than 25 years UBC has provided residency educa-

tion to foreign-sponsored residents who return to their countries of origin on completion of their medical training. The program directors and faculty members in each specialty or subspecialty residency program decide if they have the resources and capacity to train these residents in addition to their cohort of Canadian residents. Residents from Kuwait, Libya, Oman, Qatar, Saudi Arabia, Thailand, and the United Arab Emirates are engaged in residency education through this program. With the increased number of Canadian residents at UBC the number of foreign-sponsored residents has declined during the past 5 years. There are currently a total of 73 foreign-sponsored residents at UBC (47 in primary specialties and 26 in subspecialties).

Challenges and achievements

The MD undergraduate program at UBC has now expanded to 256 students per year using the existing sites of Vancouver (Vancouver Fraser Medical Program), Victoria (Island Medical Program), and Prince George (Northern Medical Program). With further expansion the program will see an increase in the number of students educated in the Fraser Health region and the development of a new teaching site or sites in the Interior Health region. This expansion will require a coordinated response by the residency programs, which are expected to reach a plateau of about 1000 residents in the next several years.

Having gone from 472 residents at UBC in 2001 to 850 residents province-wide in July 2007, it is not surprising that postgraduate programs have encountered challenges. At the start of the expansion process almost all residency programs felt they had both the need and capacity to educate more residents. As expansion has

occurred, a number of programs have reached capacity. In the procedural specialties, such as anesthesiology, surgery, and radiology, some of the most important clinical experience is obtained at the senior resident level. In these specialties there is often an abundance of primary and secondary cases, but a fairly limited number of tertiary and subspecialty cases, which are often consolidated on one or two clinical services. Conversely, in some more general specialties, such as obstetrics and pediatrics, there is increasing competition for patients among several groups of learners, including family practice residents, first-year Royal College residents, and senior medical students requiring basic clinical experience.

As noted above, the Family Practice Residency Program functions at clinically distinct sites with a shared academic program. Given that 40% of the overall increase in new resident numbers has gone to family practice, each year has seen a significant rise in the number of family practice residency positions, with the need to open a new training site every 1 or 2 years. The newest residency training site opened in Nanaimo in July 2007. With further expansion of the MD undergraduate program, more sites to educate family physicians will be needed.

The foundational specialties have experienced both a large increase in the overall number of residents and significant dispersal of these residents to teaching sites outside the Lower Mainland. This has substantially changed the character and culture of these programs. The program directors are cognizant of the need for residents to spend significant amounts of time away from Vancouver. While the residents receive excellent clinical education at the distributed sites, the time away does create pressures on their family and personal lives.

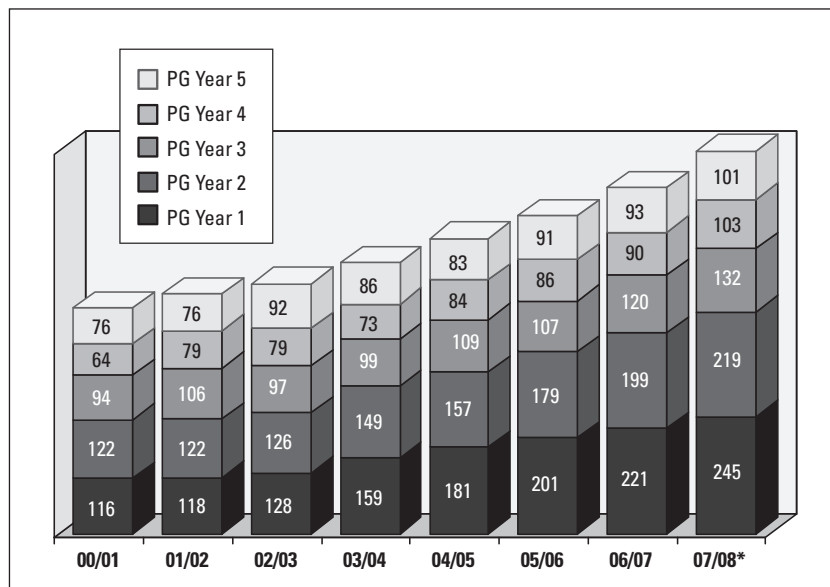


Figure. Number of residency positions by academic year.

PG=postgraduate; *Projected

Expansion has also presented challenges for faculty. Many new faculty members have taken on significant educational responsibilities and many experienced faculty members have taken on increased teaching loads. Adequate resources, time, and support will be needed to make this a sustainable model of postgraduate education.

In February 2007, the College of Family Physicians of Canada and the Royal College of Physicians and Surgeons of Canada paid an accreditation visit to UBC. While both bodies recognized the challenges of such major changes to postgraduate medical education, they found that the expansion was going well overall. Evaluation of the quality of medical education delivered at all sites will continue, as will an evaluation of changes to physician recruitment and retention resulting from expansion.

Summary

Expansion of the residency programs at UBC has been well under way for 5 years, and has been very positive over-

all for both the residents and faculty. Expanded residency programs have provided critical teaching support for the expansion of the MD undergraduate program in addition to providing enough residency positions for the increased number of medical graduates. Postgraduate expansion will help BC move toward net self-sufficiency in production of physicians for the years ahead, and will give residents valuable learning opportunities in a broad range of geographically distributed clinical settings. As these residents complete their training we expect physician recruitment and retention to improve in all regions of BC.

Competing interests

None declared.

Reference

1. Liaison Committee on Medical Education. Functions and structures of a medical school. 2007. www.lcme.org/functionslist.htm (accessed 18 June 2008). **BMJ**