ORIGINAL RESEARCH

Updated Survey of the Geriatrics Content of Canadian Undergraduate and Postgraduate Medical Curricula

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ABSTRACT

Background and Purpose

A survey in 2005 determined the hours of mandatory geriatrics content in Canadian undergraduate and postgraduate medical curricula. The present survey was undertaken to update these data for 2008–9.

Methods

A survey was sent to a designated geriatrician at each medical school.

Results

The mandatory geriatrics content of the undergraduate curricula ranged between 10 and 299 hours, with a mean of 82. Seven of 16 schools had a mandatory clerkship rotation of a least 1 week. Fourteen family medicine programs had a rotation in geriatric medicine and all psychiatry programs required a rotation in geriatric psychiatry. A geriatric rotation was mandatory for six internal medicine, six neurology, five physiatry, one orthopedic, and one emergency medicine program. In comparison to 2004–5, the mean hours of geriatrics teaching in the undergraduate curricula had increased from 78 to 82. However, two schools saw a decrease in preclerkship teaching and one school lost a 2-week clerkship. Postgraduate requirements had changed little overall, with the exception that, for emergency medicine, geriatrics was now mandatory for only one program, instead of three.

Conclusions

Although the total number of hours of teaching in geriatric medicine in the undergraduate curricula had increased slightly in 2008–9 compared to 2004–5, in some schools teaching hours were reduced. In the postgraduate curricula emergency medicine requirements for geriatrics were reduced. Of greater importance is determining which core competencies are being taught and mastered, and this is an area of ongoing study.

Keywords: Canada, geriatrics education, medical education, postgraduate education, undergraduate education

INTRODUCTION

With changing demographics, today's medical students and residents will care for an increasing number of older patients, and thus they need to acquire the knowledge, skills, and attitudes to provide optimal medical care for these persons. A previous survey conducted for the 2004–5 academic year showed that there were limited hours devoted to geriatric medicine teaching in the undergraduate curricula of Canadian medical schools, and that there was a wide range between schools of 7 to 196 hours.[1] The number of schools with a mandatory clerkship rotation was declining, having been nine in 1998 and eight in 2004. Although geriatric medicine and geriatric psychiatry were requirements for almost all family medicine and psychiatry residency programs, respectively, only the minority of other subspecialty programs required a geriatric medicine rotation. Although elective opportunities were widely available, they were chosen by relatively few medical students or residents.

This present survey was conducted to update this information for the 2008–9 academic year.

METHODS

A survey, almost identical to the one circulated in 2004–5, was developed (Figure 1, Figure 2). Ethics approval was obtained from the Capital Health Research Ethics Board (Halifax, Nova Scotia). For the preclinical years of medical school, geriatrics content was defined as the hours of lectures, tutorials, and laboratory or clinical skills sessions that were developed by internist geriatricians, geriatric psychiatrists, or family physicians with additional care-of-the-elderly training. Clerkship and residency rotations were differentiated between those in geriatric medicine (supervised by internist geriatricians or family physicians with additional training/expertise in care of the elderly) and those in geriatric psychiatry. A rotation was defined as mandatory if it was a requirement for every medical student or resident. "Other teaching" was defined

Survey of Undergraduate Curriculum

1. Preclinical years

A. Mandatory courses developed by geriatricians
- (a) Year of course (1,2) _____
- (b) Hours of teaching _____
- (c) Course teachers _____
- (d) Teaching format/content _____

B. Elective/research opportunity
- (a) Year of course (1,2) _____
- (b) Number of students (proportion of class) _____
- (c) General description _____

2. Clinical (clerkship) years

A. Mandatory rotations
- (a) Year of course (2,3, or 4) _____
- (b) Number of weeks _____
- (c) Clinical setting _____

B. Mandatory didactic teaching sessions
- (a) Year of course (2,3, or 4) _____
- (b) Hours of teaching _____
- (c) Teaching format/content _____

C. Selective/Elective rotation
- (a) Year of course (2,3, or 4) _____
- (b) Selective or elective _____
- (c) Number of students (proportion of class) _____
- (d) Number of weeks _____
- (e) Clinical setting _____

3. If your hours of curriculum time have significantly increased or decreased, to what do you attribute the change? _____

FIGURE 1. Survey sent to medical schools requesting data on undergraduate teaching in geriatrics

as mandatory didactic teaching delivered by a geriatrician, care-of-the-elderly physician, or geriatric psychiatrist outside of a geriatrics rotation, such as an internal medicine half-day.

A geriatrician was identified at each of the 16 faculties of medicine who would be responsible for completing the survey for his or her university. This person was encouraged to contact other individuals at the medical school whom she or he believed could most accurately provide the information requested. Responses were based on the 2008–9 academic year. The completed surveys were returned to the author, who tabulated the information and recontacted each geriatrician to confirm or clarify the data when necessary. The statistical means and medians were calculated using Microsoft Office (2004; Microsoft Corp., Redmond, WA, USA).

Survey of Postgraduate Curriculum

1. Is there mandatory rotation(s) in geriatric medicine (or a related clinical experience)?
- Yes/no _____
- Number of weeks _____
- At what PGY level (1,2,3,4,5) _____
- Type of specialist who supervises rotation _____
- Describe the clinical setting _____

2. Is there any mandatory didactic teaching (i.e., at half-days)?
- Yes/no _____
- Number of hours per year each resident would receive _____
- Format/content _____

3. Is there an elective experience?
- Yes/no _____
- If so, what number (proportion) of residents participate each year? _____
- What is the length of the elective? _____
- At what PGY level (1,2,3,4,5)? _____
- Type of specialist who supervises rotation _____
- Describe the content and clinical setting _____

FIGURE 2. Survey sent to medical schools requesting data on postgraduate teaching in geriatrics. PGY = postgraduate year

RESULTS

The response rate was 100%. All medical schools had geriatrics content in the preclinical years, as shown in Table 1. Hours ranged from 4 to 49 with a mean and median of 21. Seven of the 16 schools had a mandatory clerkship rotation of at least 1 week's duration. Assuming 40 hours per clerkship week, the total mandatory hours of geriatrics teaching ranged between 10 and 299 with a mean of 82 hours and a median of 37. Most survey respondents stated that they could not be certain of the accuracy of the percentage of students completing electives during clerkship, but only four of the schools estimated that more than 20% of their students completed an elective/selective.

For postgraduate training, all psychiatry programs required between 8 and 24 weeks of training in geriatric psychiatry and four programs mandated a rotation in geriatric medicine (Table 2). Fourteen of the 16 family medicine programs required a specific rotation in geriatric medicine. The other two schools had geriatric medicine content integrated throughout the longitudinal family medicine rotation. Six internal medicine programs required a rotation in geriatric

TABLE 1.
Undergraduate curricula

	Preclerkship 2008–9	*Clerkship 2008–9*				*Total mandatory hours*	
	Mandatory geriatric curriculum (hours)	*Mandatory geriatric medicine (weeks)*	*Mandatory geriatric psychiatry (weeks)*	*Students completing elective/selective (%)*	*Other teaching (hours)*	*2004–5*	*2008–9*
Memorial University of Newfoundland	14	0	0	60	3	17	17
Dalhousie University	24	3	0	20	7	131	151
McGill University	4	4	0	1		167	164
Université de Sherbrooke	35	0	0	30		22	35
Université Laval	49	6	0		10	196	299
Université de Montréal	20	4	0	0		180	180
University of Toronto	20	0	0			24	20
University of Western Ontario	13	1	1		2	95	95
McMaster University	14	0	0	20		94	14
Queen's University	28	0	0.1		7	32	39
University of Ottawa	23	0	2		12	115	115
University of Manitoba	22	0	0	4		22	22
University of Saskatchewan	10	0	0	7		7	10
University of Calgary	33	0	0	7		35	33
University of Alberta	5	2	0	7		84	85
University of British Columbia	23	0	0	5-10	3	23	26

TABLE 2.
Postgraduate curricula: psychiatry

	Mandatory geriatrics rotation (weeks)	*Residents completing elective/selective (%)*	*Mandatory geriatric psychiatry (weeks)*
Memorial University of Newfoundland	0	0	13
Dalhousie University	0	80	12
McGill University	0	0	8
Université de Sherbrooke	0	0	12
Université Laval	4	0	12
Université de Montréal	0	23	12
University of Toronto	0	0	24
University of Western Ontario	0	0	24
McMaster University	0	0	24
Queen's University	8	0	12
University of Ottawa	4	0	12
University of Manitoba	0	5	12
University of Saskatchewan	4	10	24
University of Calgary	0	10	24
University of Alberta	0		12
University of British Columbia	0	0	12

medicine, and in the other 10 programs, between 5% and 95% of residents completed an elective (Table 3). Six of the neurology programs required a rotation in geriatric medicine, although in one university it was only 1 week in duration, and five schools estimated that over 50% of the neurology residents did an elective/selective in geriatric medicine. Five of 12 physiatry programs required geriatrics (Table 4). Geriatrics was a requirement for only one orthopedic and one emergency medicine program (Table 5).

DISCUSSION

Compared with 2004–5, the mean hours of preclerkship teaching increased from 18 to 21. In eight of 16 schools the curriculum hours increased, but in two there was a reduction in teaching hours. The number of schools with a mandatory clerkship rotation of at least 1 week's duration had declined from nine in 1998, to eight in 2004, to seven in 2008. Three of the clerkship rotations were only 2 weeks in duration. The total number of hours of undergraduate curricula continued to range widely between schools, being 7 to 169 hours with a mean of 78 in 2004–5, and 10 to 299 hours with a mean of 82 in the current study.

There are many obstacles to increasing and even maintaining the geriatrics content in the curricula. There is a growing demand from various fields to add new content to an already overloaded schedule, and many schools are pushed to reduce the total number of curriculum hours. Recognition of geriatric medicine as an area of specific knowledge and skills is still lacking, and there is a common misconception that as students encounter many older patients in clinical practice, they will acquire these skills during other rotations.

The Liaison Committee on Medical Education (LCME) accredits Canadian medical schools. Educational objective ED-13 states that clinical instruction must "include the important aspects of preventative, acute, chronic, continuing, rehabilitative and end of life care". ED-17 states that "educational opportunities must be available in…multidisciplinary content areas (e.g., emergency medicine and geriatrics)". However, these objectives do not mandate teaching in geriatric medicine. In fact, ED-15 states that the curriculum "will be guided by the contemporary content from and the clinical experiences associated with…family medicine, internal medicine, obstetrics and gynaecology, pediatrics, psychiatry, and surgery", and does not mention geriatrics. ED-22 states that "the objectives for instruction…should include medical student understanding of demographic influences on healthcare quality and effectiveness (e.g., racial discrimination and ethnic disparities in the diagnosis of treatment and diseases)", but does not mention the demographic influences of an aging population.[2]

Another barrier is limited resources. As class sizes increase out of proportion to the number of practicing geriatricians, there are, in some circumstances, inadequate resources to provide clinical rotations to all the undergraduate and postgraduate students. In fact, at one particular medical school there was agreement to have a 2-week mandatory clerkship

TABLE 3.
Postgraduate curricula: internal and family medicine

	Internal medicine		*Family medicine*	
	Mandatory geriatrics rotation (weeks)	*Residents completing elective/selective (%)*	*Mandatory geriatrics rotation (weeks)*	*Residents completing elective (%)*
Memorial University of Newfoundland	0	33	4	1
Dalhousie University	4	20	4	0
McGill University	4	0	4	1
Université de Sherbrooke	4	0	4	1
Université Laval	8	0	4	0
Université de Montréal	4	2	4	0
University of Toronto	4	10	4	10
University of Western Ontario	0	95	4	0
McMaster University	0	90	4	5
Queen's University	0	5	0	40
University of Ottawa	0	20	4	0
University of Manitoba	0	60	0	10
University of Saskatchewan	0	15	2	9
University of Calgary	0	90	4	10
University of Alberta	0	90	4	2
University of British Columbia	0	45	4	0

TABLE 4.
Postgraduate curricula: neurology and physiatry

	Neurology		*Physiatry*	
	Mandatory geriatrics rotation (weeks)	*Residents completing elective/selective (%)*	*Mandatory geriatrics rotation (weeks)*	*Residents completing elective/selective (%)*
Memorial University of Newfoundland	0	75	N/A	
Dalhousie University	4		0	100
McGill University	4		N/A	
Université de Sherbrooke	4		N/A	
Université Laval	0		4	0
Université de Montréal	4	0	4	
University of Toronto	0	10	0	"Few"
University of Western Ontario	0	80	4	
McMaster University	0	100	0	
Queen's University	1	50	N/A	
University of Ottawa	4		4	
University of Manitoba	0	0	4	
University of Saskatchewan	0	0	0	14
University of Calgary	0	75	0	90
University of Alberta	0	0	0	0
University of British Columbia	0	25	0	20-30

rotation in geriatrics, but this could not be achieved, as the capacity did not exist.

For postgraduate education, the Royal College of Physicians and Surgeons of Canada (RCPSC) requires that all psychiatry residents complete a rotation in geriatric psychiatry, and in fact, the mandatory number of weeks has been increased to 24 starting in the 2010–11 academic year. In contrast, a rotation in geriatric medicine is not an RCPSC requirement for internal medicine, and the number of schools requiring a mandatory rotation in geriatric medicine had not changed since the previous survey was conducted 4 years earlier. Although seniors make up a large percentage of emergency room encounters, two of the three programs that required a rotation in geriatric medicine in 2004 had dropped this requirement.

Limitations of the Study

The number of hours of curricular content was defined as the number of hours of curriculum created by geriatricians, care-of-the-elderly physicians, and geriatric psychiatrists. This is a difficult number for even a geriatrician working at a specific medical school to be certain about. There may also be material relevant to geriatric medicine that is taught in parts of the curriculum developed and delivered by other specialists, but his information is even more difficult to find. Curriculum mapping is a challenge faced by many medical schools. Information on the exact number of students and residents completing electives was also difficult to obtain in many programs.

CONCLUSIONS

Comparing 2008–9 with 2004–5, there had been a small increase in total curriculum hours. However, the range of geriatric medicine teaching in medical schools in Canada is large, and although the geriatrics content had increased in some medical schools since the last survey, in others the amount of geriatric medicine taught had decreased. In residency training programs the requirement for mandatory geriatrics rotations had decreased in the area of emergency medicine. In other specialty areas, some schools had added a mandatory rotation in geriatrics but others had dropped the requirement. This is in spite of the well-documented demographic changes that will result in a growing number of older patients presenting for medical care.

The most important objective of geriatrics teaching is to ensure that all practicing physicians will have the skills necessary to deliver optimal medical care to seniors. The number of hours of geriatric medicine in the curriculum provides limited information about whether these skills have been mastered. The Canadian Geriatrics Society has recently published a consensus document outlining 20 core competencies in the care of older persons for Canadian medical students.[3] A survey

TABLE 5.
Postgraduate curricula: orthopedics and emergency medicine

	Orthopedics	*Emergency Medicine*
	Mandatory geriatrics rotation (weeks)	*Mandatory geriatrics rotation (weeks)*
Memorial University of Newfoundland	0	N/A
Dalhousie University	4	0
McGill University	0	0
Université de Sherbrooke	0	N/A
Université Laval	0	0
Université de Montréal	0	4
University of Toronto	0	0
University of Western Ontario	0	0
McMaster University	0	0
Queen's University	0	0
University of Ottawa	0	0
University of Manitoba	0	0
University of Saskatchewan	0	N/A
University of Calgary	0	0
University of Alberta	0	0
University of British Columbia	0	0

N/A = not available.

is underway by the Canadian Geriatrics Society Education Committee to document which of these 20 areas are being covered in the curricular content in each medical school. The more difficult question of which of these competencies have been achieved will require further study.

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CONFLICT OF INTEREST DISCLOSURES

The authors declare that no conflicts of interest exist.

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