

Special Needs Education in Canadian Dental School Curriculum: Is There Enough?

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Persons with intellectual disabilities have an increased prevalence of caries, periodontal disease and poor oral hygiene compared to the general population.^{1,2} They are also one of the most underserved groups of dental patients in both Canada and the United States.^{3,4}

Although some individuals with severe disabilities may require special patient clinics or services, most disabled persons can be treated by a general dentist who has some instruction and experience in the care of patients with special needs.^{2,5} Pediatric dentists receive extensive training in the area of special care dentistry, but because of their limited number and the size of the special needs population, the majority of patients with special needs most likely obtains care from general dentists.⁶ As such, “undergraduate programs are providing the most training in this area of special care dentistry.”⁶ It is crucial that general dentists and their staff be well versed in treating persons with special needs. Currently, fewer than 10% of general dentists see children with cerebral palsy, mental retardation or who are medically compromised, which underscores the lack of dental care for the special needs population.^{7,8}

Much of the research on intellectual disability and access to health care points to several significant barriers to access.^{2,9-11} Persons with special needs cite cost, dental fear and anxiety, and lack of perceived need for dental care,^{9,11} whereas dentists cite concerns related to loss of time, patients’ potential behaviour, availability of funds and level of training.^{6,7} Of these barriers, the one that may be most practically addressed is the shortage of practitioners with appropriate training.^{3,12} Studies cite a direct correlation between training experience and a willingness to treat persons with special needs.^{4,7,13,14} Practising dentists identify lack of training in behaviour management, communication and treatment planning as their greatest areas of concern in treating patients with special needs.¹⁵

The Commission on Dental Accreditation of Canada (CDAC) issues accreditation require-

ments for all educational dental programs, i.e., dental assisting, dental hygiene and dental undergraduate, postgraduate and graduate training. The terminology used by CDAC identifies whether a requirement is mandatory (“*must*,” “*shall*”) or highly desirable but not obligatory (“*should*”). In its accreditation requirements for dental undergraduate programs, CDAC suggests that “experiences in the management of medically-compromised patients and patients with disabilities... *should* also be provided.”¹⁶ The expectations for graduate training programs vary from providing information in didactic course material (e.g., periodontics) to requiring clinical proficiency in treating patients with special needs (e.g., pediatric dentistry). Overall, clinical experience in the management of medically compromised patients, including those with intellectual disabilities, is not a requirement of most Canadian dental programs. (For a discussion of the nuances in terminology in dental school accreditation standards, see Dr. Waldman’s debate article.¹⁷)

Over the past 26 years, researchers have examined the dental curriculum of American and Canadian undergraduate dental schools with regards to the quantity of didactic and clinical experience provided to students in the area of special needs education.^{4,18,19} More recently, Caribbean and Latin American dental schools have been surveyed on this same topic.²⁰ These studies have reached similar conclusions: dental curriculum varies significantly with respect to special needs education among dental programs, and greater emphasis on special needs education is required for undergraduate dentists.

The purpose of our study was to develop and implement a survey for Canadian dental schools in order to assess the didactic and clinical education that students enrolled in these programs receive in the area of special needs education, and to evaluate the role of CDAC guidelines and requirements in curriculum related to persons with special needs.

Box 1 Survey details

- The survey was reviewed by dental faculty at Dalhousie University and ethics approval was obtained through the Ethics Board of the Research Development Committee at Dalhousie's faculty of dentistry.
- A survey package was sent to all dental assisting (27), dental hygiene (50), dental undergraduate (10) and graduate training programs (23) in Canada.
- Returned and completed surveys were obtained from 4 (15%) dental assisting schools, 14 (28%) dental hygiene schools, 10 (100%) dental undergraduate programs and 6 (26%) graduate training programs.
- Follow-up phone contact was made where response clarification was required.
- Each survey was numbered for tracking purposes. The information was treated as confidential and data input reviewed on the basis of total surveys received.
- Data were gathered and recorded into Microsoft Excel 2003. Quantitative data were analyzed using basic descriptive statistics.

The Survey Tool

The survey was developed for Canadian schools of dental assisting, dental hygiene, dental undergraduate and graduate programs (Box 1).

For the purposes of our study, patients with special needs were defined as persons with an intellectual disability or mental retardation. The definition of mental retardation followed that provided by the *Diagnostic and Statistics Manual*.²¹ Examples of persons with special needs included patients with Down syndrome, cerebral palsy with mental retardation, autism, and other congenital or acquired intellectual disabilities. This definition did *not* include geriatric persons based solely on age, those who are strictly physically disabled, people with chronic illness such as heart disease or asthma, and people with phobias.

The survey included questions related to didactic instruction, clinical training, department(s) involved in teaching topics related to patients with special needs, aspects of special needs care, mandatory versus elective education, observation

versus treatment, evaluation of students' skills, perceived competency of students and CDAC curriculum guidelines.

Key Survey Results by the Numbers

We report here the results of the survey sent to the dental undergraduate programs, as the 100% response rate from these programs yielded the best descriptive statistical information.

In 70% of dental undergraduate programs, curriculum related to patients with special needs is taught by faculty within the department or division of pediatric dentistry, with or without assistance from another division or department (pediatric dentistry, 30%; pediatric dentistry and another department, 40%; a variety of other departments, 20%; no departments, 10%). The number of didactic hours devoted to special needs dentistry within the curriculum ranged from 0 to 18 (Table 1). For the programs that reported teaching special needs education, topics included psychosocial aspects of patients with special needs, etiology and general management of patients with special needs, dental management, behaviour management and preventive dentistry.

The number of hours that students spent observing patients on mandatory rotation was, on average, 13.6, and ranged from 0 to 75 hours (Table 1). The number of hours spent treating patients on mandatory rotation also ranged from 0 to 75, with an average of 13.3 hours (Table 1).

An elective rotation in pediatric dentistry or other discipline where students observe and/or treat patients with special needs was offered at 60% of dental undergraduate schools. Of the schools that offered this elective, the average number of students eligible to participate was 21. The number of hours spent on this elective rotation ranged from 8 to 300 (Table 1).

Based on the definition of mental retardation provided in the survey, respondents were asked to comment on the severity of mental retardation of patients treated by students during their undergraduate clinical training. Fifty percent thought students could come across patients with mild mental retardation and 20% thought students would experience patients with moderate retardation. The response rate for profound and severe mental retardation was 10% for each category. Ten percent felt that students would not encounter such patients.

Ninety percent of respondents felt that didactic and clinical special needs dentistry should be taught at the undergraduate level. This same percentage agreed that the CDAC statement on

Table 1 Special needs care curriculum taught in undergraduate dental programs

	Schools									
	1	2	3	4	5	6	7	8	9	10
Didactic time devoted to special care curriculum (hours)	0	0	0	18	0	6	4	10	12	0
Mandatory rotation to observe treatment of PSN (hours)	0	0	0	8	0	75	15	0	37.5	0
Mandatory rotation to treat PSN (hours)	0	0	0	37.5	20	75	0	0	0	0
Elective rotation available to observe treatment and treat PSN (hours)	0	0	8	37.5	300	15	0	37.5	105	0
Students eligible for elective rotation to observe and treat PSN (%)	0	0	0	75	30	4.7	5.7	10	4.4	0

PSN = persons with special needs.

students’ experiences in managing patients with special needs should remain a “*should*” statement and not be changed to a “*must*” statement.

A Snapshot of Dental Undergraduate Programs

The results of our study were similar to those of previous studies which suggest that clinical and didactic training in dental programs are minimal with respect to hours of curriculum time devoted to education about persons with special needs.^{4,12,18-20}

A majority of Canadian dental undergraduate schools do not have specific courses devoted to the care of persons with special needs; instead this information is incorporated into other areas of the curriculum. One respondent described this as being “vertically and horizontally incorporated,” where the topic of persons with special needs is taught through multiple disciplines (horizontal integration) and basic and applied science or clinical instruction (vertical integration). Research on educational practices suggests that this format for introducing curriculum material to students can result in a steady growth of knowledge in all disciplines rather than introducing each topic individually and compartmentally.²² As such, the apparent lack of didactic and clinical curriculum hours devoted specifically to persons with special needs and the difficulty of some respondents to clearly identify the exact number of hours devoted to this topic may not necessarily imply that this

information is lacking, but rather that it is integrated or blended throughout the curriculum.

Respondents offered several reasons for the limitations faced within the dental curriculum regarding the amount of educational experience that can be provided to students in the area of special care dentistry. For one thing, the curriculum is already very full. As well, the emphasis is on learning basic dental skills; respondents felt that including additional skills pertaining to specific patient populations may be overwhelming and should be learned after more experience and additional training has been obtained.

Despite a wide variety in the amount of direct education and experience students receive within their dental program, educators from each undergraduate institution were willing to affirm that the majority of their students would be competent to treat some persons with special needs. Several respondents mentioned the transfer of knowledge—learning skills in one area (such as pediatrics) and applying those skills to a similar field (such as special needs care)—as the reason for their confidence in their students’ ability to treat patients with special needs.

In keeping with CDAC requirements, the majority of respondents agreed that students *should* be presented with didactic and clinical information regarding persons with special needs. Most also agreed with the CDAC statement that students’ experiences in this area are highly desirable but should not be mandatory. Respondents

specified that mandatory education in this area would “not be possible, given the limited supply of patients with special needs,” and that while “not excluded from the clinic, patients with special needs don’t necessarily seek care from a dental school clinic given the additional time and effort required to be a patient.” As such, an inability to guarantee the patient population may also be a reason curriculum cannot be altered to promise students a specific amount of exposure to this population throughout their dental training. Some schools may attempt to compensate for this by having either a mandatory or an elective rotation through affiliated teaching hospitals where persons with special needs may seek care.

The Need for a More Complete Picture

This study was undertaken to broaden our understanding of the total picture of care required to treat persons with special needs within the dental community. As everyone in the dental team may be involved in the care of patients with special needs, it was deemed appropriate to include each level of dental training in our survey of school curricula.

Because of the poor response rate from the majority of dental programs, little to no information was gleaned from the surveys addressed to dental assisting, dental hygiene and dental graduate training programs. A poor response rate may be indicative of flaws in the study design. It may also be a reflection of the lack of interest of some programs to highlight the amount of special needs education provided within their school.

Additional areas of improvement for future studies include surveying general practice residency or internship programs. These programs may offer a component of advanced training for treating persons with special needs that was not measured in the current survey and that may account for some of the observations made by Loeppky and Sigal regarding access to dentists by persons with special needs.⁶

It would be helpful to explore the area of staff perceptions of students’ skill, student attitudes and other barriers to care, along with obtaining clearer documentation of patient populations treated within a dental school.

Conclusion

The underlying assumption of our study was that training will ultimately lead to an increased willingness by dentists to treat persons with special needs. Some critics feel that providing edu-

cational programs increases awareness, but does not ultimately increase the number of graduating students that will treat intellectually disabled patients.²³ Results of surveys suggest otherwise, as dentists are asking for additional training because they feel they are lacking in special care dentistry skills.^{7,15} Ultimately more research in this area is required. ✦

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Acknowledgement: The authors wish to thank Drs. H. Dymont, J. MacLellan, and T. Boran for their contributions to this investigation.

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The views expressed are those of the authors and do not necessarily reflect the opinions or official policies of the Canadian Dental Association.

This article has been peer reviewed.

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