Original Research: Medical Education

Dental health in primary care; experience, education, and attitudes of primary care physicians in Newfoundland and Labrador

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ABSTRACT

Introduction: Primary care physicians in Canada are often tasked with assessing dental issues despite reporting limited training in this area. Knowledge and attitudes around dental health in primary care in Newfoundland and Labrador (NL) have not previously been documented. Thus, we developed a survey for family physicians in NL with the goal of understanding the dental care education received by family physicians, comfort levels with providing dental care, and to identify potential gaps in training.

Methods: Three semi-structured interviews with family physicians were used to guide the development of the survey, which was disseminated to all family physicians working in NL. Questions included demographic information, education in dental care, frequency, and confidence in providing dental care, and views on dental care within the scope of family medicine. The survey was circulated online through the provincial medical association and family practice networks.

Results: A total of 63 family physicians responded to the survey. Of the respondents, 78% reported receiving less than 2 hours of dental care training throughout medical school, and 84% received less than 2 hours throughout residency. Notably, none of the physicians felt that their dental knowledge was above average when compared to their colleagues. Almost all family physicians felt that basic oral health should be within the scope of practice for family physicians.

Conclusion: Our survey found that family physicians frequently see patients regarding a variety of dental complaints, yet they reported very little formal education in this area of practice throughout all stages of their training. The results of this study can be used to inform undergraduate and postgraduate medical education curriculum in Newfoundland and Labrador.

INTRODUCTION

Dental health has profound effects on multiple elements of patients' lives, including function and activities of daily living, psychological and social function, and the risk of progression to serious systemic disease.[1] When a dentist is not readily accessible, a primary care physician may be tasked with assessing dental issues in a clinic or emergency room setting. As oral health care is not currently subject to the Canada Health Act, it is not a publicly funded and equally accessible health care service. Despite this, all provinces and territories have a publicly funded dental service for pediatric patients; however, coverage and eligibility vary widely between regions. Most programs have coverage for certain high-risk groups, such as Indigenous children, children with disabilities, and children in low-income families.[1,2] In Newfoundland and Labrador, coverage is provided through the Children's Dental Health Program, which is available for all children ages 0-12, and youth ages 13-17 in low-income families or on social assistance.[2,3] Additionally, there is a limited Adult Dental Program, but this does not cover any preventative care treatment.[2,3] As such, patients who are not eligible for publicly funded programs inevitably must seek the advice of their primary care physician to address dental issues.

A Health Canada survey found that 32% of Canadians have no dental insurance, meaning any dental care needed would require the patient to pay out of pocket.[4] As such, the inability to pay for dental care is a documented reason why patients may seek oral health care in their primary care physician's office. Despite the well-understood implications of proper dental care, one Canadian survey found that 89% of family physicians received less than three hours of oral health training in medical school and residency.[5] In the study, 95% of respondents did not receive any training or described their training as "poor to fair." However, the perceived importance and need for learning about oral health were high, as 92% of family physicians reported requiring more information and resources.

Dental health care is important to all populations, but at-risk populations, including young children, Indigenous people, those living in rural communities, and people of low socioeconomic status, are especially vulnerable to

poor oral health.[6] Nationally, it has been established that vulnerable people in the population routinely have the highest level of oral health problems and difficulty accessing oral care.[7] Additionally, dental surgery related to caries is the most common surgical outpatient procedure for preschool children at most hospitals in Canada.[8] Patients who are unable to seek treatment from a dentist or primary care provider ultimately seek care in the emergency department. However, a 5-year study conducted at The Hospital for Sick Children in Toronto, Ontario, showed that the average cost of an emergency department visit for a dental complaint exceeded the cost of an outpatient preventative visit.[9] Other studies in Canada have shown that dental visits account for 1% of emergency department visits and that definitive treatment and management are not given, leading to wasted taxpayer dollars overall.[10] Despite these significant findings, dental health continues to be a negligible portion of current medical education.

Complications of poor oral health have significant impacts on children; dental problems are associated with a marked decrease in school attendance and an increase in missed parental working days.[11] Teeth examination begins at six months, according to the current Rourke baby record, and advice regarding dentition and fluoride between two and six months of age.[12] However, only 44% of family physicians reported counselling patients and families on dental care, largely due to gaps in the physicians' scope of practice and confidence in counselling and identifying common dental presentations such as caries.[5]

Despite national surveys and reports, a comprehensive study of dental knowledge in primary care in Newfoundland and Labrador does not exist. Thus, we developed an anonymous research survey for family physicians in Newfoundland and Labrador with the following objectives:

1. To gain an understanding of the education on basic dental care received by family physicians in Newfoundland and Labrador.
2. To understand family physicians' level of comfort and their attitudes towards providing dental care in Newfoundland and Labrador.
3. To identify possible gaps in primary care training in Newfoundland and Labrador with regards to dental care.

METHODS

Semi-structured interviews with multiple family physicians in Newfoundland and Labrador were conducted to gather background information to guide the development of the research survey and to ensure only questions of relevance were included. Based on these interviews, a standardized online questionnaire was created. The questionnaire was available through Qualtrics, an online survey tool. The sampling frame included all family physicians working in Newfoundland and Labrador. An introduction to the project, including a link to the survey, was circulated to family physicians via the Newfoundland and Labrador Medical Association, the Family Practice Renewal Program, direct contact with community clinics, and word of mouth. The survey was completed exclusively online, and the results were therefore accessed online. Prior to commencing the survey, participants read a privacy statement and agreed to an informed consent form documenting approval by the Newfoundland and Labrador Health Research Ethics Board.

The survey collected non-identifying background information, including the Regional Health Authority and population of the area of practice. It then measured standard background information on physicians training in dental care, including quantifying teaching hours in medical school and residency. It further assessed the frequency with which family physicians deal with dental care and their self-assessed confidence level in providing this care, in addition to their views on including dental care within the scope of family medicine. Survey responses included linear numeric scales, frequency scales, and Likert scales. Survey respondents had the opportunity to submit short answers when applicable. Outcome measures included analyzing quantitative and qualitative survey responses.

RESULTS

There are over 700 family physicians listed as practicing with the College of Physicians and Surgeons of Newfoundland and Labrador, including those practicing part-time, occasional locums, or in specialty areas requiring referrals. All these physicians were provided with survey details through email distribution by the Newfoundland and Labrador Medical Association, for which membership is mandatory. This membership overlaps with the non-mandatory membership of the Family Practice Renewal Networks, through which the survey was also distributed. There were 63 responses received. The number of participants who completed each individual question ranged from 55 to 60.

Physician demographics

Some basic demographic information was obtained through the survey. The majority of respondents, 39 physicians, practice in the Eastern Health region. There were 12 physicians practicing in Central Health, 7 in Western Health, and 7 in Labrador-Grenfell Health. Some physicians reported working in more than one region. There was a diverse range of practice populations among physicians. Of the respondents, 28 reported working in a location with greater than 100,000 people, 2 physicians in a location with 50,000-100,000 people, 16 physicians in a location with 10,000-50,000

people, and 14 physicians in a location with less than 10,000 people.

When considering this data, it is important to note the population served in each region. Eastern Health serves over 300,000 people, or roughly 60% of the population of Newfoundland and Labrador. Central Health is the next largest region, servicing 18% of the province's population, while Western and Labrador-Grenfell serve roughly 14% and 8%, respectively. Nearly half of the physicians described working in a region serving more than 100,000 people, which should be considered with the fact that more than half of the population of Newfoundland and Labrador live in the greater St. John's area. Considering this, the number of survey respondents from each region reasonably represents physician demographics provincially.

Physicians were asked to describe their scope of practice; 42 physicians described working in a private clinic, 19 in emergency medicine, and 22 others in roles such as hospitalist, academic practice, and community clinics. This is not something that is well documented or tracked by any regulatory bodies or health authorities, and thus it is not possible to compare the respondent population to the family physician population.

Medical Education

Given the goal of understanding the education regarding dental care among family physicians, it was important to know where physician respondents completed their medical training. For both medical school and residency, over 80% of physicians trained in Newfoundland and Labrador, further breakdown is available in Table 1. Notably, there is only one medical school, Memorial University, in Newfoundland and Labrador.

The number of hours of education on dental care was assessed. Seventy-eight percent of physicians reported receiving less than 2 hours of education on dental care throughout medical school, and 84% of them received less than 2 hours throughout residency, as shown in Figure 1.

Table 1. Location of Medical Training.

Location of Training	Medical School n (%)	Residency n (%)
Newfoundland and Labrador	48 (80%)	50 (83%)
Elsewhere in Canada	5 (8%)	7 (12%)
Outside of Canada	7 (12%)	3 (5%)

Physicians primarily describe using self-study with tools such as MedScape™ or UpToDate™ to obtain their knowledge on oral health. Many use their personal experience as well. Some have learned at conferences, from collaboration with dental professionals, or from online resources such as YouTube™.

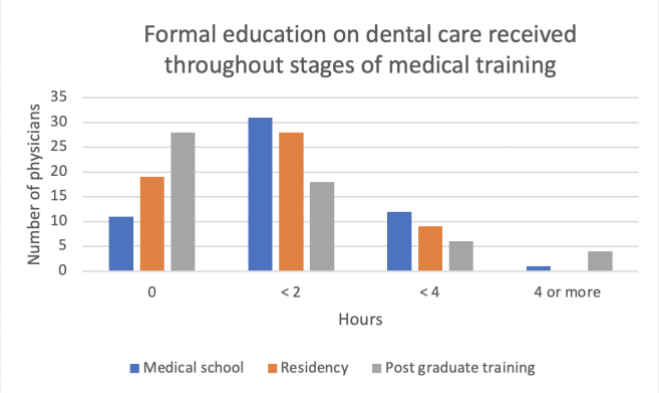

Figure 1. Hours of formal education on dental care during medical training

Perception of dental knowledge

Notably, no physicians feel their dental knowledge is above average when compared to their colleagues. Ninety-three percent feel they are average, with 7% feeling they are below average or poor. Most family physicians (91%) described themselves as only somewhat comfortable or somewhat uncomfortable addressing dental issues.

Dental care in practice

Most family physicians reported seeing dental issues in their practice at least once per month, as shown in Figure 2. They have provided care for a wide variety of presenting dental issues, such as preventative oral care, trauma management, pediatric and geriatric concerns, and pain and infection management.

Most physicians see dental issues in the adult (age 18-65) population most frequently. Most family physicians experience parents bringing up dental issues during well-baby visits, specifically.

Attitudes towards dental care in family medicine

Almost all family physicians agree that basic oral and dental health should be within the scope of a family physician, with 38% strongly agreeing and 46% somewhat agreeing. They also agree there should be more training and education regarding dental health, with 54% strongly agreeing and 36% somewhat agreeing. Infection and pain management are the most supported possible topics that should be addressed, with 56 and 52 physicians identifying these as areas of focus, respectively. Other significant topics include preventative oral care, trauma management, pediatrics, geriatric dental concerns, and associated health burdens.

There is support among family physicians for delivering training on dental care in several ways. A majority of respondents indicated there should be more formal lectures in medical school and residency, clinical experiences in medical school and residency, online self-learning tools, and post-graduate training. Notably, all physicians agreed that such training should be provided.

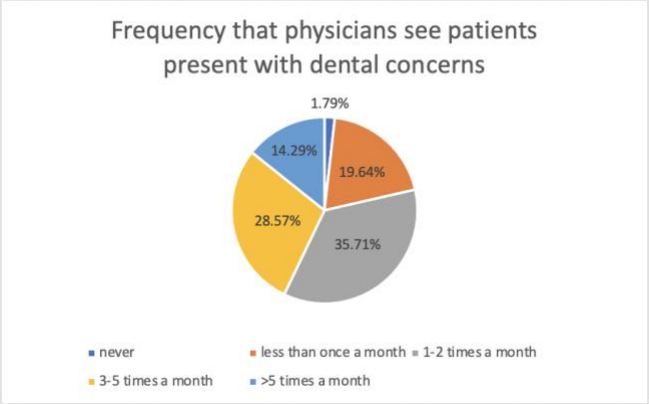

Figure 2. Frequency of dental concerns seen by family physicians.

At the end of the survey, respondents were given a chance to add any further comments they had in the form of free text. Here, two major themes evolved. Physicians think that patients should have better access to affordable dental care, and physicians think they are not trained sufficiently in dental care and could thus benefit from further education. Most comments focused on the fact that dental care should be publicly funded, but since it is not, patients' concerns often fall to the family physician. Dental care was described as "lacking in our education" and that physicians were "at times trying to manage issues that [they are not] trained to treat." Dental care is "rarely taught but often seen."

DISCUSSION

Summary of the results

To our knowledge, this is the first study assessing the education, comfort level, and experiences of primary care physicians in Newfoundland and Labrador regarding dental health care in their practice. Our survey found that family physicians frequently see patients regarding a variety of dental complaints, yet they reported very little formal education in this area of practice throughout all stages of their medical training. They supported more training on dental care during any stage of medical education but also emphasized the need for affordable and accessible dental care provided by dentists.

Comparison to the literature

Most survey respondents felt that oral and dental health care should be included in the scope of practice of family physicians, but most family physicians reported being only somewhat comfortable or somewhat uncomfortable addressing dental complaints. This is consistent with similar research from the United States, where a survey of family medicine residency programs found that 79% of programs felt oral health care issues should be addressed by primary care physicians.[13] However, 68% were not satisfied with the current level of competence that their family medicine residents graduate with, and 67% felt residents were not prepared to answer oral health-related questions on family medicine board exams.[13] A scoping review by Harnagea et al. (2017) found that the most commonly cited barrier to oral health care in primary care was providers reported lack of competency[14]. Most survey respondents reported receiving less than 2 hours of formal education on dental care in both medical school and residency. Notably, many participants reported no formal education at all. This is consistent with research from other jurisdictions, including the United States, where almost one-fifth (19%) of family medicine programs had 0 hours of oral health curriculum, 51% reported 1-3 hours, and 31% reported 4 or more hours of education.[13]

This survey shows that family physicians regularly see dental presentations in their practice despite a lack of formal education on the topic, and family physicians support more formal training in dental care. Increasing formal dental and oral health education in medical school and residency curriculum has been highlighted as an area of importance in the literature. Goodell et al. (2019) conducted a scoping review to develop Entrustable Professional Activities (EPAs) for oral health integration into primary care training.[15] Their results included EPAs for oral health risk assessment, general oral health history and examination, as well as disease-specific evaluation for common oral health issues such as dental caries, periodontal disease, oral pain, benign oral lesions, and oral cancer. Their EPAs also included providing prevention-related counseling to patients. Morel et al. (2022) piloted a clerkship module and clinical experience for third-year students at a medical school in the United States, demonstrating the feasibility of incorporating such training into the medical school curriculum. They found that students who completed this module increased their oral health knowledge as well as their comfort in conducting oral examinations.[16]

Implications and Future Research

The results of this study can be used as a tool to advocate for further education on dental care to be provided throughout medical education, whether it be in the undergraduate or residency curriculum. To further support this, this study could be expanded to survey current medical students and residents about their experience and comfort with oral health care education.

This study can also be used to support the development of an educational tool regarding dental care for family physicians. Clinical audits regarding dental visits in primary care would be beneficial to further support the data this survey provides.

STRENGTHS AND LIMITATIONS

Strengths of the study include that it was accessible through an online survey platform. It also included both qualitative and quantitative data, allowing respondents to add additional information and experiences that were not directly evident from quantitative-based questions.

Limitations include survey design with absence of a clinical audit of the care provided, making the results potentially influenced by recall bias. Only physicians in one province were surveyed, with the majority having completed their medical training at the same university, possibly reducing generalizability. Additionally, those physicians who did choose to participate in the survey may be different than those who did not, potentially having more of an interest in dental care and medical education. Further potential bias exists due to the survey developers themselves being in medical training in Newfoundland and Labrador and being aware of the frequency of dental visits to family physicians and their lack of education on the same. Further, given a poor response rate, no statistical analysis was completed.

CONCLUSIONS

The results of this study were not surprising to the authors. The results highlight the prevalence of dental issues seen in primary care in Newfoundland and Labrador. It shows that family physicians receive minimal education on dental care across all stages of training, yet they regularly treat dental complaints in a variety of settings. Ultimately, there are two major themes: family physicians in Newfoundland and Labrador support universal access to dental care, and family physicians in Newfoundland and Labrador support more formal education on dental care, which can be delivered at any stage of training. Ideally, all Newfoundlanders and Labradorians would have affordable and timely access to a dentist. Realistically, more education on dental care would benefit primary care providers and their patients. The authors hope that this data can be presented to curriculum developers at both the undergraduate medical education and postgraduate medical education levels such that this topic can be formally integrated into medical education in Newfoundland and Labrador.

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