THE CANADIAN DENTAL HYGIENISTS ASSOCIATION

L'ASSOCIATION CANADIENNE DES HYGIÉNISTES DENTAIRES

Brief to the

Commission on the Future of Health Care

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EXECUTIVE SUMMARY

The federal government has always played an important role in oral health despite the fact that it is largely funded privately and public insurance plans providing oral health coverage are lacking. The federal government is now called on to address the serious shortcomings in the current oral health system that have been identified in recent research. Some of these shortcomings include the high cost of care, the lack of accessibility to oral health services, the need for more cost-effective disease prevention and health promotion activities, and the need for greater integration of oral and general health care delivery.

A description of children's public dental hygiene programs in British Columbia, Prince Edward Island, and Quebec and of a volunteer program for persons with ALS in Ontario highlights some of the more innovative programs in Canada. A number of unmet oral health care needs across Canada are underscored. These include children's oral health care in Saskatchewan and on reserves, seniors in long-term care facilities, social service recipients with public dental coverage who are refused treatment by dentists, and street youth in Toronto. The oral health needs of a significant portion of the population can no longer be ignored. CDHA calls for Medicare coverage of oral health promotion and prevention of oral diseases through delivery of dental hygiene services. Particular attention should be given to dental hygiene services for populations at greatest risk, including those who have a low socio-economic status, limited access due to physical disability, illness, those who are far from services, who live on a reserve, and who lack or have restrictive dental insurance plans. This increase in public health care spending will bring Canada a little closer to the average public health care spending for other OECD countries.

Some of the oral health system problems can be addressed with additional public expenditures. Many of the problems, however, require a legislative and regulatory solution rather than a financial one. Significant cost savings can be obtained for the public and private oral health care system through implementing oral health care promotion and disease prevention programs. These programs promote self-care and enable the Canadian public to take greater responsibility for its own oral health care. One study shows that private sector spending on dental care was one of the top three most significant expenditures in 1998. Re-focusing oral health care on prevention and health promotion is one way to curb these costs. When oral health problems are prevented or recognized in the early stages by dental hygienists, costly future treatment of gum disease and caries is avoided. One of the most striking examples of the high costs of dental care is found in British Columbia, where the British Columbia Health Officer's Annual Report concluded that dental procedures are the most common surgical procedures that children receive in hospitals. These costly surgeries can be avoided with an increased emphasis on prevention and health promotion. There is also the need for more disease prevention and health promotion activities such as oral health education in schools that will lower total future health care costs and ensure that money is invested appropriately and effectively.

The most simple, effective, and least costly way to improve public access to dental hygiene for Canadians is to alter the existing provincial regulations and oral health care acts to permit dental hygienists to practise in alternative settings. The requirements for ongoing supervision by dentists and involvement of a dentist prior to dental hygiene care are inconsistent with the training, function, and abilities of dental hygienists. The main purpose of the requirements is to maintain the gatekeeper privileges of dentists. Changing these requirements will allow dental hygienists to practise co-operatively alongside dentists in their private practices and clinics as well as in alternative settings that include outreach and home care programs, long-term care facilities, community health centres, and schools. It will also allow mobile practices that can reach isolated populations. Increasing the number and variety of different oral health care settings will improve access for a greater number of clients and provide increased opportunity for the public to receive integrated oral and general health care services.

Research and the development of health human resources are explored in the context of improving the quality of services and public accountability. Planning for human resource training of dental hygienists should take into account an expanding body of dental hygiene theory, changing demographics, and oral disease patterns. In response to these issues, CDHA calls for a baccalaureate degree as the minimum entry requirement for dental hygienists by the year 2005. The federal and provincial governments must work together to provide leadership, direction, and support for educational institutions in their move from diploma to baccalaureate programs. CDHA also encourages the federal government to incorporate dental hygiene research into existing research currently conducted at the CIHR and the Health Transition Fund, and into other overlapping fields of practice that include health promotion, prevention, the determinants of health, and general health. This research will have a positive impact on the quality of services, influence the availability and delivery of care, and provide accountability to the public.

This report also looks at a groundbreaking U.S. report that links oral and general health and well-being. The report shows that the mouth harbours a wide variety of microbes that have a direct route to the rest of the body. Poor oral heath is linked to low birth weight in babies; periodontal diseases are linked to heart and respiratory diseases, osteoporosis, and diabetes; and dental plaque is linked to peptic ulcers. Based upon these findings, CDHA calls on the federal government to take a lead role in integrating oral and general health care delivery.

CDHA is committed to working collaboratively with the federal and provincial governments, the public, other health care providers and stakeholders to implement these vital changes to the oral health care system to better meet the oral health care needs of Canadians.

INTRODUCTION

The Canadian Dental Hygienists Association (CDHA), a national professional organization since 1964, represents the voice of Canada's 14,000 dental hygienists. Its Board of Directors is appointed by the nine provincial dental hygienists associations. The Board also includes a representative of the Quebec members, plus representatives from the Federation of Dental Hygiene Regulatory Authorities and the Dental Hygiene Educators of Canada. Our mission is as follows:

> The Canadian Dental Hygienists Association, as the collective voice and vision of dental hygiene in Canada, is dedicated to advancing the profession in support of our members and contributing to the health and well-being of the public.

The association serves the public by developing national positions and standards related to dental hygiene practice, education, research, and regulation. CDHA also promotes oral health for the public by working in co-operation with government, health agencies, public interest groups, and other health professions. Furthermore, CDHA provides services to its members, including continuing education, professional development, and representation on various external agencies. Through this work, the association is able to better prepare our members to serve the Canadian public more effectively.

Dental hygienists are registered primary oral health care providers who are integral members of the oral health care system. They have provided accessible, affordable oral health care for 50 years in Canada. The first point of contact in the oral health system is frequently with a dental hygienist who provides preventive, educational, clinical, health promotion, and therapeutic services—a process of care that includes assessment, treatment planning, and evaluation. Dental hygienists are the only health professionals whose primary concern is the prevention of oral disease. Registered dental hygienists have a unique body of knowledge, distinct expertise, recognized standards of education and practice, and a code of ethics.

We would like to thank the Commission for the opportunity to contribute this brief to the debate about the future of the country's national health care system. This is an important advocacy opportunity for the CDHA to be part of deliberations on a sustainable, accessible, high-quality health system for Canadians. We believe that good oral health is key to the social, economic, physical, and mental well-being of Canadians.

CDHA, in considering the central issues and challenges facing the public health care system, has organized its concerns under the four major themes identified by this Commission: Canadian values, sustainability, managing change, and co-operative relations. We look forward to working collaboratively in constructive partnership with the federal government, the public, and other stakeholders to ensure effective, long-term change that will lead to dental hygiene health services that meet the needs of Canadians.

CANADIAN VALUES

CDHA is a strong supporter of Medicare, a fundamental value of Canadian society and a defining feature of what it means to be Canadian. The principles underlying the Canada Health Act—universality, accessibility, comprehensiveness, portability, and public administration—are strongly valued within the CDHA. In addition, CDHA's goal of oral health prevention for all Canadians is in keeping with the Commission's goal of "a publicly funded health system that balances investments in prevention and health maintenance with those directed to care and treatment."[1]

The existing Canadian public health system has many positive aspects, which should be preserved. However, there is limited public coverage of dental hygiene services with the majority of services being privately funded. As a result, there is a group of high-need Canadians with inadequately addressed oral hygiene needs. There may be the perception that the oral health care system has resulted in a gradual improvement in the general population's oral health status since there are increasing numbers of adults who retain their teeth. But those at a low-socio-economic level have a serious lack of access to preventive oral care. Access is limited by physical disability, illness, distance from services, life on a reserve, and lack of, or restrictive, dental insurance plans. Studies show that the highest level of oral disease is found among the poor, Aboriginal populations, and other minorities.[2] The following research proves that there is a significant unmet need for dental hygiene care in Canada, which CDHA argues must be addressed by including dental hygiene care in Medicare.

Children

After a wave of progress in oral health education and screening programs for children, we are now seeing funding cuts and the elimination of public prevention programs. Repercussions from these cuts were predicted for children's health; research is proving that these fears were justified. The World Health Organization's Year 2000 goal was for 50 percent of 6-year-old children to be cavity free. However, results of the 1998–1999 Dental Screening Program in Saskatchewan are in, and 24 of 29 health districts failed to meet this goal.[3] This is a serious compromise to children's health, since healthy teeth contribute in a number of ways to a child's health and development. Teeth are involved in nutritional intake, development of proper speech, normal jaw development, guiding the permanent teeth into proper position, and they contribute to a child's appearance and healthy self-esteem.

British Columbia, Prince Edward Island, and Quebec are leaders in the provision of children's public oral health care. In British Columbia, community dental staff are working with almost 900 children each month in 90 different health unit sites to identify infants and toddlers at risk for caries.[4] Once the children are identified, their parents are provided with educational oral health information and support in an effort to reduce the risk. Prince Edward Island has a children's public dental care program that delivered services to 17,651 children between 1999 and 2000.[5] In Quebec, there are public preventive dental services aimed at children who are high-cavity risks. The goal of the

program is to reduce the average number of cavities, missing teeth, or fillings by 50 per cent by the year 2002 for children aged 6 to 12.[6]

The federal government can address children's oral health care specifically by working together with the provincial government to implement dental hygiene services and prevention education in schools and community health programs, particularly those with a high concentration of high-risk children.

Persons with Physical and Mental Disabilities

Persons with physical and mental disabilities are at risk for higher rates of oral disease than are other population groups. This may be due to a number of different factors including medical issues, side effects of medications, or physical disabilities that possibly inhibit or prevent independent care of oral hygiene. Brushing and flossing on a regular basis may be challenging. In addition, some persons with disabilities face barriers to obtaining proper oral health care services that use traditional service delivery models. Many dental offices are ill prepared, inaccessible, or unwilling to manage the complex medical and behavioural problems associated with persons with physical, mental, and developmental disabilities.

In Ontario, York Region Dental Hygienist Society members identified a specific group of individuals with disabilities whose oral hygiene care was severely neglected. They found that individuals with amyotrophic lateral sclerosis (ALS) were at high risk for dental disease for a number of reasons. At advanced stages of the disease, individuals with ALS are physically unable to carry out their own oral hygiene care and their ability to visit an oral health clinic is limited by the large number of offices that are wheelchair inaccessible. Dental disease can also be exacerbated by excessive saliva, inability to swallow, excessive bacteria accumulation, and oral complications due to medication. All contribute to the problem of increased dental disease. As a result, they are at a higher risk for dental disease than the general population.

In response to these specific needs, the members of the York Region Dental Hygienist Society developed a volunteer program including oral hygiene education and training for family members and caregivers, and educational workshops for ALS support groups. Persons with ALS also received one-on-one, at-home education and instruction in good oral hygiene, oral health assessments, plaque removal, scaling, and referrals to other health professionals. Through an initiative to better these clients' oral health, volunteer services have improved the quality of life for individuals with ALS.

A number of dental hygienists across Canada are involved in similar volunteer activities to improve the oral health of Canadians. Some dental hygienists volunteer in the public health department providing education to children in schools. Although there is a significant volunteer contribution, there are too many at-risk populations in Canada to properly address their oral health care needs solely with volunteer programs. The government needs to make an investment in programs for high-risk populations.

Seniors

Many seniors face significant barriers to obtaining proper oral health care, for a number of reasons. A loss of dental insurance often comes with retirement; accessing services is difficult due to restricted mobility; and long-term care facilities often have a limited capacity to deliver oral health services. Several medical studies support the need for increased preventive primary oral hygiene care for the elderly. One study reports over half of adults aged 55 or more have periodontitis;[7] another study shows that 15 per cent of adults aged 50 to 64, and 35 per cent of those 65 and older, had no natural teeth. One other medical study shows that 70 per cent of patients in long-term care facilities had unacceptable levels of oral health.[8]

Furthermore, a demographic and epidemiological study shows that seniors' oral health concerns have changed over time. Trends show increasing longevity with fewer and/or less severe carious teeth, but a much greater potential for gingivitis and mild forms of periodontitis.[9] These oral health problems can lead to further general health problems such as malnutrition and weight loss, which can be prevented by healthy teeth and gums. A healthy mouth protects against systemic diseases, to which seniors may have less immunity. An examination of dental hygienists' scope of practice shows that they are the oral health care providers best suited to deal with seniors' gingivitis and periodontitis.

The health system must be flexible enough to evolve with the changing health needs of Canadians. Changing demographic and epidemiological trends require new ways of providing oral health care. One change to meet the needs of the aging population could be in the mix of oral health services—allowing a greater number of dental hygienists specializing in preventive oral health care. A second change would take into account seniors' limited mobility. A new, more flexible service delivery model could increase the number of mobile dental hygienists working in a variety of settings in Canada. Mobile dental hygienists would also meet the needs of isolated and disabled populations. This innovative service delivery option has been initiated. However, it is hampered by regulations such as the "365-day" rule in British Columbia. This rule allows a dental hygienist to provide service to clients only if they have seen a dentist within the last 365 days.

The lack of effective care for the elderly is partly because dental hygiene services have not been integrated into general health care services in seniors' residences. The British Columbia government shows leadership in this area by making adult care residences responsible for ensuring that clients see an oral health care professional at least once every 12 months.[10] One of these professionals may be a dental hygienist. The federal government should encourage other provinces to follow this lead in providing better care for seniors.

Aboriginal People

The CDHA applauds the federal government for its recent initiative related to Aboriginal people in Canada. In July 2000, a nine million dollar contract was awarded to the

Saskatchewan Indian Federated College to manage a dental therapy program for five years. This shows an awareness of and response to some of the Aboriginal oral health needs. However, there are a number of other Aboriginal oral health issues that remain unaddressed. In 1997, only 51 per cent of the Aboriginal population on reserve reported visiting a dentist during the previous year; 91 per cent of children suffered from tooth decay; 25 per cent of children regularly suffered from toothache or bleeding gums; and only half the children had healthy gums, despite having oral care coverage.[11] Oral health services need to address this appalling incidence of oral disease in Aboriginal communities. This can be accomplished by increasing the number of dental hygienist service providers and prevention programs, and by creating teams of dental therapists and dental hygienists within Aboriginal communities.

Lower-income Canadians

Finally, lower-income Canadians are the least likely to have dental insurance or to have visited an oral health care provider during the past year. Although social assistance programs provide limited dental coverage, some dentists either severely limit or refuse to accept these clients. A 1994 study at the West Central Community Health Centres in Toronto shows that 23 per cent of family benefits clients and 20 per cent of general welfare clients were refused dental treatment by a dentist.[12] CDHA members report similar anecdotal evidence from other provinces across Canada. A U.S. study also reports that few dentists see Medicaid patients, since Medicaid funds dental care for low-income individuals and persons with disabilities at customary fees or the Medicaid fee schedule rate, whichever is lower. Although some states have increased their medical reimbursement to 80 per cent of customary fees, the norm is 47 per cent.[13]

A 1996 study on the oral health of Toronto street youth found that 41.4 per cent had dental decay and 49.4 per cent reported dental and oral pain in the past month.[14] This is higher than expected for teenagers and young adults in the general population. A minority of street youth are on welfare and have access to emergency dental treatment; however, the majority are receiving no government assistance and therefore do not have the financial means to pay for oral health services. Preventive oral health services provided by dental hygienists in community health centres would be one important step in preventing dental decay for this group of the population that has difficulty accessing services.

To adequately address the oral health care needs of Canadians identified above, there is a need to provide more equitable access to oral health care by bringing a greater range of the continuum of health care under the umbrella of public funding. The Canada Health Act's principle of comprehensiveness at present is narrowly focused on medically necessary services. This focus must be expanded. A broader focus is supported by the 1997 report by National Forum on Health that concluded: "If we focus on total costs and value for the money, the evidence suggests that increasing the scope of public expenditure maybe the key to decreasing total costs."[15]

The CDHA recommends Medicare coverage of oral health promotion and prevention of disease through delivery of dental hygiene services. In this political and economic climate, with an existing public health system that is increasingly stretched to provide basic services, the CDHA recognizes that this may need to be implemented in a staged process. Therefore, as a first step, in order to increase accessibility to oral health services for high-need populations, Medicare should include categorical public dental hygiene programs in populations of greatest risk, including low-income children, the elderly, institutionalized, Aboriginal communities, the homeless, and people with disabilities. This recommendation responds to the unmet need for oral health care among high-need populations. It should be implemented by developing companion legislation, a process that will not open the existing Canada Health Act and risk decreasing accessibility.

A recommendation for increased public funding for dental hygiene services raises the issue of how much public versus private funding should be allocated to health care. Some people argue that Canada spends an excessive amount on public health care, much more than other countries. An international comparison of health spending sheds some light on this issue. In 1998, Canada was fifth among 27 OECD countries in total spending per person on health care. However, most other countries had a higher share of spending from the public sector, due partly to the fact that other health systems encompass a broader continuum of care within their publicly funded systems.[16] This information dispels the myth that Canada spends more on its public health care system than most other countries. If Canada wants to maintain a global reputation in the area of health care, there must be room for a larger continuum of care within public health care. CDHA argues that this must include promotion of oral health and prevention of disease through delivery of dental hygiene services.

SUSTAINABILITY

In 1988, the federal government identified "dental hygienists as the only health professionals whose primary concern is the prevention of oral disease."[17] Today, dental hygienists are involved in more health promotion and disease prevention than any other oral health professional. A common definition of health promotion is the process of enabling persons to improve and take increasing control over and responsibility for their health. In keeping with the practice of health promotion and disease prevention, dental hygienists advise clients about nutrition, related dietary issues, good hygiene practices, and encourage self-care.

Dental hygienists' work in the area of disease prevention and oral health promotion not only produces better oral health status and quality of life but also reduces oral health care costs. This in turn results in a more fiscally sustainable public and private health care system. If oral health problems are not recognized in the early stages by dental hygienists, then costly treatment is needed later on. A number of research projects provide evidence for the cost savings associated with dental hygienists' work in the area of prevention and promotion.

A British study reports that, on average, an adolescent not receiving oral health care will develop 2.2 new dental caries per year. A dental hygienist working full-time with 1,600 children per year can prevent 1.3 caries per child for a total of 2,080 caries; a hygienist working with 4,000 children can prevent 0.9 caries per child for a total of 3,600 cases.[18] This dental hygiene prevention work thus prevents 2,080 to 3,600 dental caries. A visit to a dental hygienist twice a year is far less expensive than treatment for dental caries by a dentist. Evidence for significant cost savings through the use of oral hygiene prevention is found in a report by the American Dental Hygienists Association that concludes: "Every dollar invested in preventive care saves between 8 to 50 dollars of more costly care."[19]

Early childhood caries is a serious problem that can result in pain and suffering, compromise growth in infants, and negatively impact the future growth of teeth. It is a costly problem to repair and often requires hospitalization and general anesthesia. In 1997, the British Columbia Provincial Health Officer's Annual Report concluded that dental procedures are the most common surgical procedures that children receive in hospitals.[20] Dental procedures in hospitals, usually on a day-surgery basis, include tooth extractions, fillings, and other restorative dental work. A hospital setting is often required for children's dental procedures because of the children's age and the length of time required for treatment. Childhood dental disease is preventable if more children received oral health instruction and preventive services from dental hygienists; many of these surgeries could be prevented. The cost-effectiveness of the care provided by dental hygienists can be defined by the overall financial savings associated with reduced surgical costs for nurses, anesthetists, and dentists.

Two studies show the need to investigate more cost-effective ways of providing oral health care services in Canada. The Canadian Institute for Health Information analyzed

private sector spending on health care, and dental care was one of the top three most significant out-of-pocket expenditures in 1998.[21] Between 1980 and 1990, there was a 136 per cent inflation in privately and publicly funded dental insurance programs in Canada, double the rate of the economy as a whole.[22]

These studies show that the present dental system gives rise to substantial costs for society and the private funder. Dental hygienists provide a viable means of cost containment. Their emphasis on prevention and oral health promotion can reduce oral and overall health costs by preventing gum disease and caries that are costly to treat. We are calling on the federal government to take a lead role in balancing the investment in dental hygiene services that focus on prevention, with the investment in dental disease and cavity treatment. Unless our health care services and the way we deliver them are refocused on *preventing* illness rather than just treating it, Canadians will be stuck in a spiral of increasing public and private expenditures with no real solution to our health needs.

Canada could enhance its competitive economic position through better health care. In the spring of 1998, Statistics Canada's *Perspectives on Labour and Income* indicated a serious lack of productivity in the Canadian workforce due to absenteeism.[23] Most of this absenteeism is due to poor health; individuals are either ill themselves or have to care for a child with health problems. Since periodontal disease is the most prevalent chronic disease, it is a significant contributing factor to the lack of productivity. Missing and unfilled teeth and gum disease mean pain, difficulty in eating and digesting nutritious foods, loss of sleep, poor performance, and low self-esteem. Oral diseases contribute to poor overall health and directly impact on important aspects of life, including attendance and performance at work. Effects of gum disease, when treated early by a dental hygienist, are completely reversible. A stronger emphasis on preventive oral health care can contribute to a productive, competitive workforce that would enhance Canada's economic position.

Oral health services contribute to the Canadian economy and productivity by
increasing the standard and quality of life enjoyed by Canadians;
influencing business decisions to locate international companies in Canada;
increasing health research and innovations;
producing a healthy population and workforce.

The key aspects of a fiscally sustainable health care system must include oral disease prevention, early detection of oral disease, and population-based oral health promotion such as social marketing of good dental hygiene behaviour and oral health education. To have health care money spent where it will have the greatest impact, dental hygienists need to be more involved in public health departments, community public health systems, community health centres, and educational settings such as grade schools. Here dental hygienists could teach techniques for good oral health care to bring about positive changes in behaviour in all members of the family.

MANAGING CHANGE

Health care challenges will not be solved with money alone. There are a number of other areas where the government can make changes to improve oral health care. Some of the opportunities for change can be explored by asking the following questions:
"Where are we prepared to make changes to find efficiencies?
"How can we improve access, quality and public accountability in health care?"
"How can health human resource planning and service delivery contribute to health care efficiencies?"

Access to Care

Oral health has perhaps been given only sporadic attention because it has not been integrated with other health care services and because its delivery system maintains the dentist as gatekeeper of access to services. However, several surveys suggest dental hygiene forms an integral part of the oral health care system. CDHA and an associated insurance company carried out an informal survey of all dental services and found that dental hygienists could provide a significant number of the services currently billed to existing dental plans. In addition, the 1990 Canadian health promotion survey shows that 96 per cent of dentate Canadians aged 15 and over who visited a dentist went for a dental checkup or cleaning; about 42 per cent went for tooth fillings or extractions.[24]

Although dental hygiene is an integral part of the oral health care system, provincial regulations in a number of provinces limit consumers' access to and choice of a dental hygienist. These regulations favour an outdated hierarchical service delivery model that requires dentists to supervise dental hygienists' work. As a result, the public must choose one of a number of dentists in order to access a dental hygienist. Some progress has been made since 1980 when the CDHA last submitted a brief to the Health Services Review Commission, calling for a removal of the supervision requirement.[25] In Ontario, Saskatchewan, and British Columbia, dental hygienists are now permitted by legislation to practise in alternative settings without the supervision of a dentist. However, regulations in Manitoba, New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island still restrict public access to care.

These outdated regulations limit dental hygienists' practice to traditional settings. At present, there are relatively few opportunities for dental hygienists to practise in alternative settings, since about 85 per cent of dental hygienists work in traditional dentists' private practices, another 8 to 10 per cent in public health dental care, and about 3 per cent in teaching and administration.[26] To make oral health care available to all Canadians, dental hygienists need to be permitted to work in a variety of other settings, roles, and environments, together with other health care professionals. With an unsupervised service delivery model, dental hygiene can be provided in more alternative non-traditional settings, including outreach and home care programs that serve the homebound and institutionalized, long-term care facilities, community health clinics, and schools. It will also allow more prevention programs to be put in place. In addition, mobile dental hygiene practices will contribute to a more appropriate geographical

distribution of dental hygienists, since they will be permitted to practise in settings and areas where dentists do not choose to work.

So on the one hand there are under-serviced areas such as northern Canada with shortages of health care professionals; on the other hand, there are dental hygienists who are restricted in their attempts to meet these needs. Since 1995, British Columbia has removed some of the barriers to public access. As a result, dental hygienists now work with under-served population groups through mobile dental hygiene practices. These types of creative and cost-effective models of service delivery are needed to meet present-day challenges.

The requirement to have dental hygienists supervised by a dentist is inconsistent with the training, function, and abilities of dental hygienists. Dentists have a considerably larger scope of practice than dental hygienists. However, for the scope of practice that overlaps the two professions, dental hygienists receive over three times the hours of enhanced clinical experience compared with dental students.[27] Furthermore, many dental schools, recognizing the clinical expertise of dental hygienists, employ them to teach clinical periodontal procedures (scaling, root planing, and curettage) to their dentistry students.[28] This evidence suggests that dental hygienists are more technically experienced than dentists in the overlapping scopes of practice and the supervision of a dental hygienist by a dentist is unwarranted.

Health economists in Canada suggest that human resource substitution is a fundamental aspect of health care reform.[29] About three-quarters of health care expenditures are for wages, salaries, and fees so the efficient use of health personnel is important to ensure a cost-effective delivery system. Except for a limited use of nurse practitioners, the introduction of midwives, and the substitution of dentists by denturists, human resource substitution has not been seriously attempted despite considerable evidence of its cost-saving potential.[30] Current human resources information shows there are at present 44 dental hygienists to 54 dentists per 100,000 population.[31] The ratio of dental hygienists to dentists should be increased to best serve the public interest and to provide cost-effective preventive oral health care. But this will not occur unless the gatekeeper privileges of the dentist are removed.

A regulation to permit dental hygienists to practise in alternative settings without the supervision of a dentist is consistent with the major objectives of health care reform. Such a regulation

emphasizes disease prevention, health promotion, protection, and education that reduce health care costs both in service delivery and through reduction of future incidence of illness and treatment;
promotes efficiency by improving the quantity and mix of preventive oral health care services;
promotes equity and improves access to services by providing preventive oral care services to under-serviced populations;
ensures a cost-effective match between needs and interventions.

The supervision requirement by dentists is not the only regulation that restricts public access to dental hygienists. There are a number of other ways in which access to care is limited. In British Columbia, even though dental hygienists can practise in alternative settings, the regulations make access to a dental hygienist dependent upon client examination by a dentist within the previous 365 days. In Saskatchewan, there are no supervision requirements. However, dental hygienists must be employed or practice under contract with (a) an employer that employs or has established a formal referral or consultation process with a dentist, or (b) a dentist. In Ontario, for dental hygienists to do a controlled act of scaling and root planing, including curettage of the surrounding tissue, they must have an order from a member of the Royal College of Dental Surgeons.

The dentist's position as gatekeeper to dental hygiene services is not based on a public health need nor is it in keeping with the move toward increased consumer choice in health care. Professor Manga points out in his paper on *The Independent Practice of Dental Hygiene: Economics, Politics and Policy*, that it is ironic that individuals can choose to have a midwife deliver their baby, without the mother being required to see a general practitioner; however, they cannot have preventive oral health care services with dental hygienists until they have paid for the services of a dentist.[32]

Access to care is also limited through internal policies of employers and insurance companies. Over the past several years, CDHA worked with the Canadian Health and Life Insurance Association to develop a National Dental Hygiene Care Claim Form and a CDHA National List of Dental Hygiene Services and System of Service Coding. The CDHA has developed positive relationships with several insurance companies, which recognize that some provincial regulations now allow dental hygienists to practise in alternative settings. As a result, these companies have adjusted their plans to allow payment for services performed by a dental hygienist. Claim forms can be submitted and signed by the dental hygienist, regardless of the presence or absence of a dentist. However, the majority of insurance companies still do not recognize existing regulations and there is a misalignment between insurance company policies and provincial regulations. As a result, even in British Columbia where dental hygienists legally work unsupervised and can have their own practice, insurance companies still require the signature and billing number of a dentist before any payment is provided.

Sun Life recognizes dental hygiene claims in unsupervised settings, in jurisdictions where it is legally permitted, for all employers whose plans they administer with one exception—the federal government plan. The other major insurance carrier for the federal government, Great West Life, has informed the CDHA that while the wording in their plan does not meet current provincial legislation, change must be directed by the employer or, in this case, the federal government. The federal government must take a leadership role in managing the change in the delivery of oral health care by directing the federal government insurance carriers to follow the current legislation and process the claim submissions for dental hygiene services provided by dental hygiene practitioners in unsupervised settings. This will allow appropriate implementation of current regulations and will allow dental hygienists to practise in a manner that is in keeping with the regulations. It is ironic that, on the one hand, dental hygienists in alternative practice

settings are willing and keen to provide services to social assistance recipients who have difficulty finding a dentist to treat them; while, on the other hand, the government will not recognize dental hygienists as service providers in its health care plan and denies payment to dental hygienists working within their scope of practice in alternative settings.

The most serious consequences of this service delivery model—dentists acting as gatekeepers to the oral health system—are the barriers it creates for direct public access to dental hygiene services. In addition, it hampers effective utilization of dental hygienists; increases health care costs both in service delivery and through increased future incidence of caries and gum disease; and imposes a heavy cost on society in terms of unmet needs and a lack of integration of services. These are compelling arguments for governments to eliminate the dentist's gatekeeper privileges, including the supervision requirement. Support for the elimination of supervision is found in the Economic Council of Canada[33] and the U.S. Federal Trade Commission,[34] which cites the supervisory restrictions as limiting market competition and access to dental hygienists' services and recommends self-regulation and removal of the supervisory clause. The gatekeeper role played by dentists must be changed so Canadians can get improved access to affordable oral health care in alternative practice settings and non-traditional work settings. CDHA calls for a regulation across all provinces declaring that dentists have no authority over a dental hygienist via supervision orders, examinations, direction, or pre-authorization of services. CDHA recommends that the federal government's transfer payments to provinces be dependent upon regulatory reforms that meet the above requirements.

Quality Services

Commissioner Roy Romanow emphasized quality services in his speech of August 14, 2001, when he gave a broad definition of sustainability that included not just fiscal sustainability, but also quality services, public confidence, provider support, and a healthy workplace.[35] Quality services are also a top priority for Canadians. In March 2000, the Environics Research Group surveyed Canadians and, out of five different aspects of health care that included quality, costs, publicly funded system, integrated community and hospital services, quality care was rated as the most important feature of health care.[36]

The CDHA sees the development of health human resources as an important way of obtaining quality services. CDHA placed quality services and accountability high on its list of priorities when it developed a *Policy Framework for Dental Hygiene Education in Canada, 2005*.[37] This policy was developed in partnership with the Allied Dental Educators' Committee of the Association of Canadian Faculties of Dentistry with additional sponsorship from Dentistry Canada Fund. As well, a broad base of stakeholders from the professional associations, dental hygiene regulatory bodies, colleges, universities, and the Commission on Dental Accreditation of Canada were represented in this development process.

The Policy Framework concludes that future dental hygiene practice must respond to an expanding body of dental hygiene theory, changing demographics and oral disease patterns, and the increasing need for quality oral health services. In addition, CDHA recognizes that entry-level education must adapt to remain commensurate with preparation for entry to an evolving health care system, which demands greater independence, accountability, and quality of service.

At the present time, CDHA supports all nationally accredited Canadian dental hygiene diploma programs and the three existing dental hygiene baccalaureate programs. However, to meet the changing demands on health care, the new CDHA education policy states that by the year 2005, a baccalaureate degree will be the minimum entry requirement for dental hygienists.

CDHA also believes there is a significant role for the provincial dental hygiene regulating institutions to create accountability within dental hygiene service. The regulating body ensures that standards are adhered to, dental hygienists provide services within their scope of practice, and the public is protected. In addition, many dental hygiene regulatory bodies ensure public accountability through a requirement for regular education credits as part of their continuing competency requirements. All regulatory bodies have minimum education and examination requirements for registration as a professional dental hygienist.

Having CDHA's new education policy and the National Dental Hygiene Board certification examination as a minimum requirement for registration provide the following advantages:
recognition of the increased mobility of the health workforce, allowing dental hygienists to practise in all national jurisdictions with minimum constraints and barriers;
ensuring consistent quality dental hygiene services across the country;
response to globalization pressures and the increasing importance for health care professionals across the country to have consistent minimum academic qualifications. Business decisions to locate international companies in Canada are dependent in part upon Canada's ability to provide consistent health care services to employees across the country. Consistency across Canada will be an advantage when attracting investment and jobs to Canada; ensuring an adequate supply of well-trained dental hygiene professionals.

CDHA calls on the federal and provincial governments to work together to improve the quality of dental hygiene services in Canada through leadership, direction, and support for educational institutions as they move from diploma programs to baccalaureate programs.

Research

CDHA promotes a strong role for the federal government in developing a national research agenda that includes oral health. The federal government should follow the lead provided by the U.S. government in their important research reported in *Oral Health in America: A Report of the Surgeon General*[38] that finds oral health integral to general

health. (Please see the following section for a detailed description of the report.) Dental hygiene research should be developed through Canadian Institutes of Health Research (CIHR) and the Health Transition Fund. CDHA also challenges the federal government to incorporate dental hygiene research into other areas of research, such as health promotion, prevention, the determinants of health, and general health. This new research will provide important information for oral health care service and program decisions, which will result in improvements in the quality of oral health care and influence the availability and delivery of high-quality dental hygiene care.

Dental hygiene research should also focus on the following areas:
oral epidemiology;
infrastructure for statistics and data;
innovation or improvements in interventions;
investigations of efficacy of services;
economic, sociological, cost-benefit, and management research to address oral health care system issues.

CO-OPERATIVE MECHANISMS

In May 2000, U.S. Surgeon General David Satcher released *Oral Health in America: A Report of the Surgeon General.*[39] This is the first time since the reports began 51 years ago that the Surgeon General dedicated an entire report to oral health.

This groundbreaking report alerts Americans to the link between oral health and general health and well-being. It also frames the science of oral health in a way that helps to educate, motivate, and mobilize the public to deal more effectively with oral health issues. In addition to a lack of awareness of the importance of oral health among the public, the report found a significant disparity between racial and socio-economic groups with regards to oral health and subsequent overall health issues. Based upon these findings, the Surgeon General calls for action to promote access to oral health care for all Americans, especially the disadvantaged and minority children found to be at greatest risk for severe medical complications resulting from minimal oral care and treatment.

This warning of the link between oral health and general health is equally important for Canadians and their governments. Attention to this warning will ensure a greater role for Canadian governments and citizens in oral health that will ultimately lead to better general health for all Canadians. The following medical research provides compelling evidence of the link between oral health and general health. It shows that the mouth harbours a wide variety of microbes that have a direct route to the rest of the body. Poor oral health is often the source of significant illnesses and fatalities. In addition, the condition of the mouth can help diagnose major ailments of the body.

Poor oral health is linked to low birth weight in babies, which is associated with coronary heart disease, hypertension, and diabetes in later life.[40] A 1996 study reported in the *Journal of Periodontology* showed that if a pregnant woman has gingivitis, she is seven times more likely to have a premature, low-birth-weight baby.[41] The impact is greater than if she smoked during pregnancy, a danger that is highly publicized. These studies provide a strong argument for the incorporation of oral health care into public health programs for pregnant women.

Periodontal diseases are also linked to major health problems including heart disease, stroke, and respiratory diseases (such as aspiration pneumonia),[42] osteoporosis, and diabetes.[43] In addition, dental plaque is a possible reservoir for *Helicobacter pylori*, a causative micro-organism of chronic type B gastritis and peptic ulcer disease.[44]

The following story of a 52-year-old man demonstrates the tragic consequences of neglecting dental hygiene and the connection between gums and the heart. Following 30 years of service in the navy, this man retired to Windsor, Ontario, to open a private business. He was blessed with good health and his business was thriving when suddenly his health deteriorated and he was admitted to the Windsor hospital emergency department with bacterial endocarditis caused by an infection in his bloodstream, which started from a gum infection. Emergency surgery was required to save his life and he was

transferred to the London Health Sciences Centre. The bacteria had attacked the mitral valve in his heart; his chances of surviving surgery were 10 per cent due to the infection.

One year later, he was again admitted to the hospital with congestive heart failure and underwent a second surgery to install a plastic mitral valve and pacemaker. Due to these medical emergencies and ongoing health problems, he was unable to work and his thriving business disappeared. Reflecting on these events, he realizes that he neglected his oral health for many years. He has recently offered to act as a spokesperson for CDHA to help raise public awareness of the link between gum disease and heart disease and to help prevent others from experiencing the devastating illness that he had.

Dr. Ernest Hawk, MD, chief of a research group in the National Cancer Institute, believes that "with regard to oral cancers, dental hygienists have a very important role. The foundation of oral cancer prevention is identifying patients who are at risk, and the best approach available is a good dental exam."[45] Of the many oral diseases and conditions dental professionals see, oral cancer is one of the few that has life-and-death implications. Early detection is the key to reducing mortality. The most common site of oral cancer is on the sides of the tongue, an area inspected by dental hygienists during regular oral inspections. Dental hygienists' education prepares them to recognize abnormal conditions or visible lesions in the mouth and to make appropriate referrals for treatment of conditions that are outside their scope of practice. By recognizing conditions that may potentially pose additional health risks and eventually place a heavier burden on the health care system, dental hygienists provide cost savings for the larger health care system.

According to a recent study by the Oregon Research Institute, there is some evidence that dental hygienists are effective in anti-tobacco campaigns.[46] The study shows that once a year about half of all tobacco users see a dental hygienist who provides counselling on the dangers of tobacco use. Some of the dangers include mouth lesions and receding gums. Conclusions from the study show that increased knowledge of these risks provides a strong motivator to reduce or quit smoking.

Due to this growing awareness of the link between oral health and general health, it has become essential that Canadians have a more integrated approach to the delivery of health care. Oral health can be integrated into other health care settings by providing oral health care in primary health care settings and long-term care facilities, through outreach clinics, mobile oral health units, and home care.

This integration will enhance interdisciplinary co-operation and allow joint outreach programs for those with special needs or those who do not use services appropriately. Dental hygienists work primarily in traditional settings, with 85 per cent in traditional dentist's private practices, another 8 to 10 per cent in public health programs, and about 3 per cent in teaching and administration. Community health centres, health service organizations, CLSCs in Quebec, and similar organization are locations where dental hygienists could easily be integrated into the provision of service, especially as these organizations emphasize prevention and health promotion. The West Central Dental

program in Toronto is an example where dental hygiene has been integrated successfully into a community health setting. The program offers oral hygiene outreach, education, teaching, advocacy, and clinical services.

The integration of oral and general health provides the following advantages to the health care system. Integration

allows changes in health care delivery, based on evidence from medical research showing links between oral and general health. Periodontal diseases are linked to major health problems that include heart disease, stroke, respiratory diseases, osteoporosis, and diabetes;

better meets the health needs of Canadians since the condition of the mouth can help diagnose major ailments of the body and good oral health care is an effective illness-prevention strategy;

enhances interdisciplinary co-operation and allows joint outreach programs for those with special needs or those who do not use services appropriately.

One of the important roles for the federal government in developing co-operative relations is to develop new ways of delivering integrated health care. Unfortunately, oral care is often forgotten in discussions of such delivery models, even though oral health is a major indicator of overall health. The federal government must take an active role in promoting oral health as an integral component of general health. The above evidence of the link between oral health and general health should be a wake-up call for government policy makers.

RECOMMENDATIONS

Canadian Values

1. That Medicare provide coverage for promotion of oral health and prevention of disease through delivery of dental hygiene services. The first step in implementing this recommendation should include categorical public dental hygiene programs in populations of greatest risk, including children, the elderly, Aboriginal communities, low-income Canadians, the homeless, and people with disabilities. In order to increase accessibility to services, these programs should rely on non-traditional delivery systems that allow dental hygienists to practise in alternative settings such as schools and long-term care facilities and to have mobile services that would address the needs of seniors, persons with disabilities, and geographically isolated populations.

Sustainability

1. That the federal government take a lead role in providing oral health care services that include oral disease prevention, early detection of oral disease, and population-based oral health promotion, such as social marketing of good dental hygiene behaviour and oral health education; that the federal government work together with the provincial governments to ensure that hygienists are more involved in public health departments, community public health systems, educational settings such as grade schools, and community health centres.

Managing Change

1. That the federal government transfer payments to provinces be dependent upon regulatory reforms that remove restrictive regulations requiring direct supervision of hygienists by dentists, and that the federal government declare that dentists have no authority over a dental hygienist via supervision orders, examinations, direction, or pre-authorization of services.

2. That the federal government instruct Great West Life and Sun Life insurance companies to delete the words “under direct supervision of a dentist” from the Public Service Dental Care plan and the Dental Services Plan in order to allow processing of claims by dental hygienists who are in alternative practice settings and not supervised by a dentist.

3. That the federal and provincial governments work together to improve the quality of dental hygiene services in Canada through leadership, direction, and support for educational institutions in their move from diploma programs to baccalaureate programs.

4. That dental hygiene research be developed through Canadian Institutes of Health Research and the Health Transition Fund, and be incorporated into other areas of

research such as health promotion, prevention, general health, and the determinants of health.

Co-operative Mechanisms

1. That the federal government take a lead role in integrating oral health care delivery into general health care delivery in order to respond to the mounting medical evidence that oral disease directly affects the health of the entire body.

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