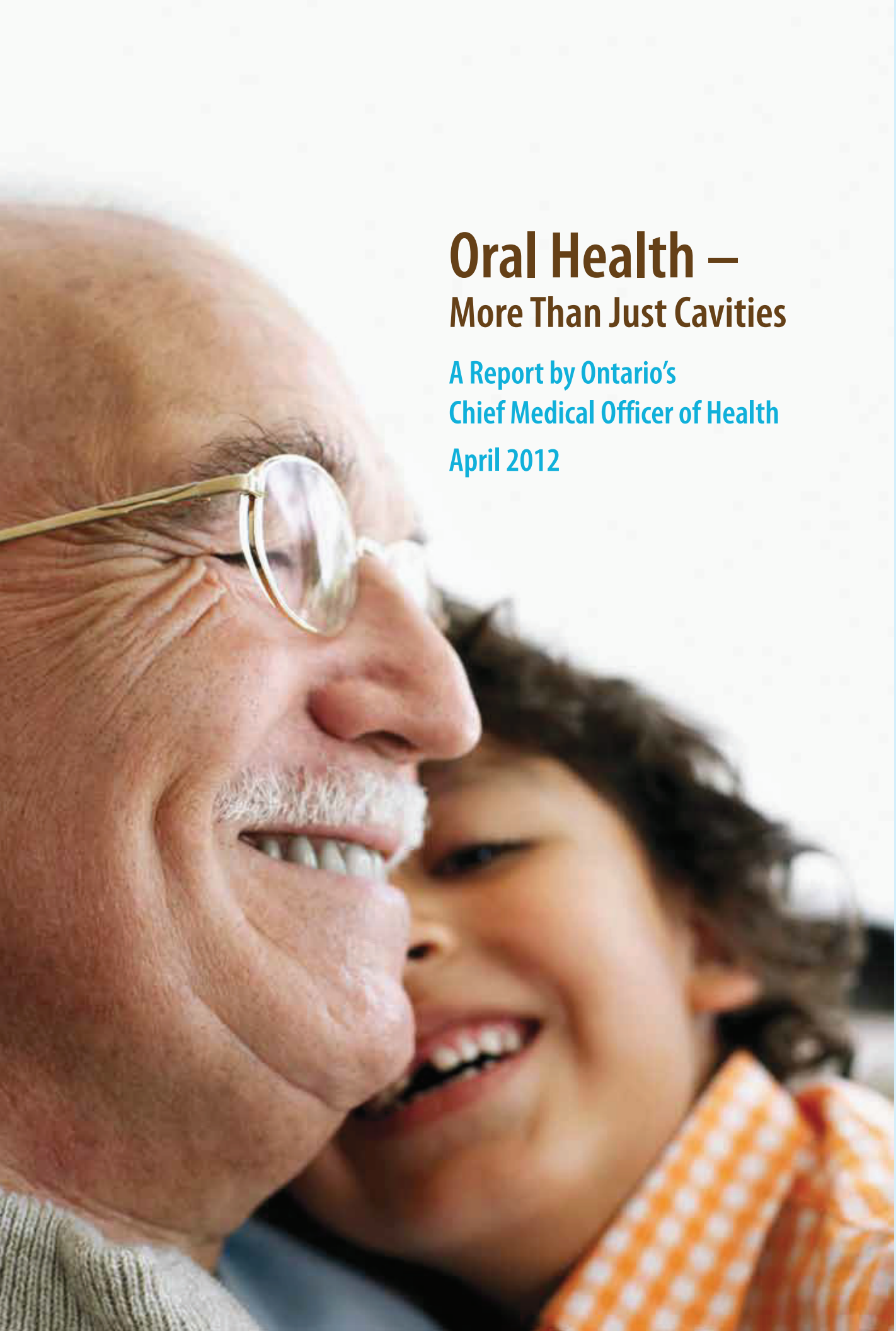

Oral Health –
More Than Just Cavities

A Report by Ontario's Chief Medical Officer of Health

April 2012

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Executive Summary

I have written this report to raise awareness of the importance of oral health and equitable access to oral health services. Many Ontarians are not aware of the connection to overall health. In addition, many Ontarians do not have access to affordable dental care.

The issues that concern me the most are:

- lack of awareness and knowledge among both the public and health care professionals of the importance of oral health and its links to overall health;
- risks associated with poor oral health, including its links to other diseases and serious health conditions;
- lack of understanding that better access to preventive oral health services could result in savings to the health care system;
- current publicly funded programs, while admirable in many respects, amount to a patchwork of services that are complex for clients to navigate, and difficult to assess in terms of health outcomes achieved and return on investment; and,
- low-income Ontarians, including children and seniors, do not have adequate access to preventive oral health services or treatment when and where they need it.

In Ontario we have made significant strides in providing dental services to people who struggle to pay from their own pockets. But current efforts are not enough. Opportunities exist for improved alignment and integration of publicly funded programs. Better monitoring and evaluation must also be done. I am hopeful that this report will bring more attention to the importance of dental health, and prompt a review of the effectiveness and efficiency of current publicly funded programs, within the current fiscal framework. I am also hopeful that an increased focus on these issues will result in improved access to oral health services for Ontarians, particularly low-income families and children, seniors and First Nations communities.

Arlene King, MD, MHSc, FRCPC
Chief Medical Officer of Health

Report Recommendations

I have made four recommendations for action and review by an expert advisory committee.

Recommendation 1

Conduct a review of current policies and mechanisms to ensure that all Ontarians have access to optimally fluoridated drinking water.

Recommendation 2

Conduct a review of how publicly funded oral health programs and services for Ontarians are monitored and evaluated. The review should include the quality, availability and appropriateness of current data and identification of missing data in order to improve programs and services.

Recommendation 3

Explore opportunities for better integration and/or alignment of low-income oral health services in Ontario, including integration and/or alignment with the rest of the health care system. This relates predominantly to the client journey, including making it easier for the client to access the care that is needed, when it is needed.

Recommendation 4

Explore opportunities to improve access to oral health services as well as awareness of oral health services available to First Nations people in Ontario, with a focus on better integration and/or alignment of the variety of available dental programs.

Introduction

Why We Should Care About Oral Health

"Look, Mom – no cavities!"[1]
Advertisement for Crest Toothpaste – 1958

Today in Canada, most people know they should brush and floss. Many of us were taught since childhood that regular brushing is the key to having healthy teeth and the best way to avoid cavities. The good news is that more than eight in ten Ontarians report brushing their teeth at least twice a day.[2] What is less well known is that there are dangers associated with poor oral health that extend beyond cavities and well beyond the cosmetic inconvenience of discoloured teeth.

Dental caries, also known as tooth decay or cavities, is one of the most prevalent chronic diseases in humans. It is a disease in which the mineralized tissues of the tooth undergo progressive destruction from the surface of the tooth. Dental caries are caused by bacteria that colonize the tooth surface and produce sufficient acids to demineralize the enamel covering of the tooth crown or the cementum covering the root, and then the underlying dentin.

Apart from structurally weakening teeth, dental caries can lead to infection, pain, abscesses, chewing problems, poor nutritional status and gastrointestinal disorders. Specifically, in young children, there is a relationship between dental caries and childhood obesity.[4,5,6] In young children, dental caries can contribute to poor nutritional status[7] and affect the growth of adult teeth.[3] In addition, children with extensive dental caries may need to undergo treatment under general anesthesia in hospital.[8] Equally alarming is the fact that caries, particularly in serious cases, can damage a child's sense of self-esteem, which in turn may affect his or her school performance, ability to learn, and potential to thrive.[9] This is a significant side effect of childhood caries that is widely acknowledged by the experts.[3]

Dental Caries in Children

- Dental caries affect 60 to 90 per cent of school children and the vast majority of adults in most industrialized countries[10]
- Among five- to 17-year-olds, dental decay is five times as common as asthma and seven times as common as hay fever.[11]

An equally significant threat to health is periodontal disease, also known as gum disease, which is also caused by oral bacteria. Gum disease can be extremely serious. There is also a growing body of scientific research suggesting that a relationship exists between periodontal disease and a number of serious health conditions.[11]

For example, in 2010, the Ontario Dental Association released a report that described a very interesting link between oral health in seniors and the prevention of certain bone-related and inflammatory conditions.[29]

Oral health, in other words, is about more than cavities and clean white teeth. Oral health is about the diagnosis and treatment of oral diseases, including dental caries, periodontal disease, temporomandibular joint (TMJ) disorders, soft tissue injuries and oral cancer. It's about preventing respiratory infections,

diabetes and other chronic diseases, and improving our overall health and well-being. As the World Health Organization has said, oral health is an important part of overall health, and a determinant of quality of life.[10] **In Canada, 57 per cent of children, 59 per cent of adolescents and 96 per cent of adults have been affected by tooth decay.**[30] This is a clear sign that we are not doing enough to enable people to protect themselves from oral diseases and the conditions that are associated with poor oral health.

Why is all of this important? I am concerned about oral health and its consequences and that not every Ontarian has access to important preventive dental interventions. I am particularly concerned about lower income Ontarians, including children in low-income families, and the profound importance of access to dental care in early life. We know that limited access to dental services can lead to severe health complications and negative social consequences. Ontario has made significant progress in enabling better access to dental care for children, and especially for children in low-income families, but we can do more. I am also concerned about seniors, including those in long-term care homes, and lack of access to adequate dental care.

Serious health conditions linked to periodontal disease

Respiratory Infections – Many studies have shown that poor oral hygiene in older adults is a major risk factor for aspiration pneumonia. The micro-organisms that cause pneumonia are commonly found in significantly high concentrations in the dental plaque of elderly people with gum disease.[12,13,14]

Cardiovascular Disease (Heart Disease and Stroke) – There is also a link between gum disease and cardiovascular disease (CVD).[15,16,17,18,19] However, there is no evidence to confirm a causal relationship or that treating gum disease will prevent CVD or modify its outcomes.

Diabetes – The connection between periodontal disease and diabetes is what is described as a two-way relationship. People with diabetes have a higher susceptibility to contracting infections, and so are at greater risk of developing gum disease. Conversely, oral infections can increase the severity of diabetes by increasing blood sugar levels.[20,21,22] Harmful periodontal bacteria may mediate increases in insulin resistance, resulting in an increase in blood glucose.[23]

Poor Nutrition – Poor oral health can have a significant impact on nutritional status. If your mouth is sore and infected, it is hard to eat. For some, particularly seniors, poor oral health can lead to substantial weight loss, dehydration, and infirmity.[29]

Low Birth Weight Babies – Poor oral health in pregnancy may also have a negative effect. There is evidence that suggests that periodontal disease may contribute to premature delivery and/or low birth weight in the newborn baby.[24,25,26,27] In turn, babies who are pre-term or low birth weight have a higher risk of developmental complications, asthma, ear infections, birth abnormalities, and behavioural difficulties, and are at a higher risk of infant death.[28]

Bone-related and inflammatory conditions in seniors linked to oral health status

Osteoporosis – This disease is characterized by decreased bone density and weakened bones. Dentists are in a very good position to help identify people with osteoporosis because early signs of the disease can often be seen in the mouth and detected through oral examination and dental x-rays.[29]

Rheumatoid Arthritis – Rheumatoid arthritis and gum disease are both chronic inflammatory conditions, and researchers have discovered that the management of gum disease with cleanings and antibiotics also has a beneficial effect on the signs and symptoms of rheumatoid arthritis.[29]

Oral Health and Health Care in Canada

Oral health occupies a delicate position in Canadian health care. The bulk of dental care is not covered by public health care plans in Canadian provinces and territories.

With the exception of certain publicly funded programs, Canadians have to rely, for the most part, on insurance policies or their own pocketbooks to cover dental and other oral health services.

Publicly Financed Dental Care in Canada[31,32]

Total (public and private) dental care expenditures have increased from $1.3 billion in 1980 to $12.6 billion today while the publicly funded share of dental care expenditure has decreased from 20 per cent in the early 1980s to approximately 6 per cent today.

The Canadian Health Measures Survey (CHMS) was launched in 2007, and in 2010 dental health was included for the first time as a part of the survey. In 2010, Health Canada released a report on the findings of the oral health component of the survey. It paints a very useful picture of where we are as a society when it comes to safeguarding oral health, and by implication where we need to try to be.[30] Some of the findings include:

- 62.6 per cent of Canadians had private dental insurance
- 74.5 per cent of Canadians made a dental visit in the previous 12 months
- 10 per cent more Canadians received dental care than Australians or Americans
- 17.3 per cent of Canadians avoided receiving dental care because of the cost
- 16.5 per cent of Canadians declined recommended care because of the cost
- 2.26 million school days are lost annually due to dental visits or dental sick days
- 4.15 million working days are lost annually due to dental visits or dental sick days[30]

The Importance of Prevention

The importance of prevention has been an emphasis of my 2009 and 2010 Annual Reports, and this viewpoint is shared by many in the public health and health care sectors. On January 30th 2012, *Ontario's Action Plan for Health Care*[33] was released by the Ministry of Health and Long-Term Care (MOHLTC), and outlined how Ontario will enhance care for Ontarians by providing better access to care, higher quality care and better value for money. This plan emphasizes prevention, better integration and continuity across the health system.

Prevention is critical to good oral health. Tooth decay and gum disease are almost always easily preventable and there are some very important preventive oral health services that should be available to all Ontarians.

All Ontarians should have access to optimally fluoridated drinking water. Fluoridation is highly effective and can reach large populations who benefit from it. Other preventive services may be less accessible to people without private dental insurance or those living on low incomes, which further reinforces the importance of "population-based" prevention such as community water fluoridation.

Some of the most effective preventive oral health services include: water fluoridation; fluoridated toothpaste; fluoride mouth rinses; fluoride varnish and sealants. Water fluoridation is the process of adjusting the level of fluoride in a public drinking water supply to optimize the dental benefits of preventing tooth decay. Ontario has one of the highest rates of water fluoridation in Canada, with nearly three-quarters of Ontarians living in areas where municipal water supplies contain fluoride.[34]

Water fluoridation can reduce tooth decay in children's primary teeth by up to 60 per cent, and in their permanent teeth by up to 35 per cent. Adults experience a 20 to 40 per cent reduction in tooth decay from lifelong exposure to water fluoridation.[35] The practice of water fluoridation is the subject of some controversy, but the science is clear. Since 1997, there have been 18 major reviews examining fluoridation, including an expert panel convened by Health Canada in 2007. These reviews have consistently found that fluoridation is effective in reducing the risk of tooth decay, and is the most cost-effective way of providing the benefits of fluoride to all residents in a community regardless of age, socioeconomic status, education, employment or dental insurance status. It promotes equality among all segments of the population, particularly the underprivileged and the hardest to reach, where other preventive measures may be inaccessible or not affordable. It has also been shown to provide the greatest benefits to those that need it the most, meaning those most at risk for disease.[36]

In Ontario, fluoride additives must meet rigorous standards of quality and purity before they can be used. Studies show that when fluoride is added to water at recommended levels in Ontario and across the country, it is not linked to adverse health effects.[37,38]

Should the public be concerned about dental flourosis?

The most common side effect of excess fluoride consumption is dental fluorosis. Dental fluorosis is an alteration in the appearance of the teeth caused by a change in enamel formation, which occurs during tooth development. Questionable, very mild, mild and moderate dental fluorosis have no effect on tooth function.[39]

The prevalence of moderate and severe fluorosis in Canada is extremely low. Evidence suggests that since 1996 there has been an overall decreasing trend of moderate dental fluorosis in Canada. The *Canadian Health Measures Survey: Oral Health Statistics 2007-2009* collected key information relevant to the health of Canadians by means of direct physical measurements such as blood pressure, height, weight and physical fitness, in addition to clinical dental measures. Conclusions from the survey included that, "[so] few Canadian children have moderate or severe fluorosis that, even combined, the prevalence is too low to permit reporting. This finding provides validation that dental fluorosis remains an issue of low concern in this country."[30] While recognizing that some people are concerned about the risk of dental fluorisis, in light of the evidence, it is my view that the benefits of water fluoridation far outweigh the risk of dental fluorosis.

Prevention – The Economic Argument

The economic argument for prevention in health care can often be a challenging one to make, and this can be the case when it comes to oral health. It is always easier to track, measure and assess the results of treatment than for preventive interventions. Put another way, it is often much simpler to count the number of people who have been treated once they have become sick than to determine how many people avoided illness because of prevention. That said, there are studies that have been able to quantify the economic argument for preventive oral health care. For instance in one U.S. study, dental visits in early childhood have been found to be cost-effective in reducing the need for restorative care, even though early visits appear to increase the utilization of preventive care services (and preventive costs) later in childhood. Preschool-aged children who had an early preventive dental visit were more likely to use subsequent preventive services and experience lower dental health costs.[40] We have also seen an innovative model designed to determine which interventions, singly and in combination, could have the greatest effect in reducing caries experience and cost in a population of children from birth to five years.[41]

I cannot discuss the economics of oral health without mentioning the irrefutable economic argument in support of community water fluoridation. Quite simply, this particular intervention saves money in addition to teeth. The average lifetime cost per person to fluoridate a community can be less than the cost of one dental filling.[42,43] A study by the Centers for Disease Control and Prevention in the U.S. demonstrated that children in communities without fluoridated water were three times more likely than children in communities where the water is fluoridated to need and receive dental treatment in a hospital operating room. Obviously, by this point the condition is often quite severe. Also, the cost of that care is approximately twice as high as in communities where the water is fluoridated.[44]

It is also important to note that fluoride mouth rinses, fluoride varnish and sealants are all clinical interventions that require active participation by the client. These interventions are also more expensive and only benefit those who are offered or take advantage of them, while fluoridation of the water supply, where it is feasible, is a population level intervention with demonstrated value for money. It is a great example of a public health initiative rooted in health equity principles with no requirements of active participation of children and families to experience the benefits.

It is my view that the improvements to oral health in Ontario as a result of our publicly funded oral health programs, which I describe later in this report, would be undermined by the removal of fluoridation from the water supply.

Anti-fluoridation advocacy efforts, targeting municipalities, are undermining Ontario's admirable record of providing a large proportion of the population with optimally fluoridated drinking water. They are also costly in terms of time and resources for committees, councils, medical officers of health, associate medical officers of health, public health unit dental staff and other dental professionals. The fluoridation of Ontario's drinking water supplies is a safe, cost-effective and efficient population health intervention.

In light of the importance of water fluoridation to the oral health of Ontarians, my first recommendation relates to fluoridated drinking water:

Recommendation 1

A review of policies and mechanisms to ensure that all Ontarians have access to optimally fluoridated drinking water.

Preventive oral health treatments

Fluoridated Toothpaste – Fluoride containing toothpastes have been widely used for more than five decades and remain the most common intervention for the prevention of dental caries. The pooled results of 70 studies assessing the effect of toothpaste containing fluoride suggest that the use of fluoridated toothpaste is associated, on average, with a 24 per cent reduction in decayed, missing and filled tooth surfaces.[45]

Fluoride Mouth Rinses – Fluoride mouth rinses have been used extensively for the past 30 years to prevent dental caries in children. In the 1970s and 1980s, the use of rinses was widespread in school-based oral health programs in countries experiencing a high prevalence of dental caries. The intensive use of fluoride mouth rinsing in school programs has been discontinued in many developed countries because of doubts regarding its cost effectiveness. The current view is that fluoride mouth rinsing programmes are only appropriate for children with high rates of dental caries. They are effective, however. The pooled results of 34 studies suggest that the use of this intervention is associated, on average, with a 26 per cent reduction in decayed, missing and filled teeth.[46]

Fluoride Varnish – Professionally-applied fluoride varnishes were developed in the 1960s as a preventive intervention for dental caries. They are appropriate for at-risk tooth surfaces in caries-susceptible individuals, and are applied with small brushes, syringes or cotton pellets. They adhere to the tooth surface for 12 hours or more in a thin layer, thereby prolonging the contact time between fluoride and dental enamel. This enables them to act as a slow-releasing reservoir of fluoride. There is a substantial caries-inhibiting effect of fluoride varnish. Results of a systematic review examining the effectiveness of semi-annual fluoride varnish applications showed that the use of fluoride varnish is associated with a 46 per cent reduction in decayed, missing and filled tooth surfaces.[47]

Sealants – Sealants were introduced in the 1960s. They are plastic coatings that are applied by a dental professional to the deep grooves or fissures on the biting surfaces of permanent posterior teeth. The sealant material blocks out bacteria and the nutrients for those bacteria, thereby preventing a cavity from forming in the more decay-susceptible areas of the tooth. This treatment is highly effective. Reduction of caries incidence in children and adolescents after placement of sealants ranges from 86 per cent at one year to 78.6 per cent at two years and 58.6 per cent at four years.[48,49] However, sealants do not last forever, and need to be monitored on an ongoing basis.

Oral Health, the Ontario Picture

As in other provinces, most dental services are not publicly funded. Ontario covers some limited surgical-dental services delivered in-hospital under the Ontario Health Insurance Plan (OHIP), and there are other dental care programs targeted to specific groups. Dental services covered under OHIP are set out in both the Health Insurance Act and the Schedule of Benefits for Dental Services under the Health Insurance Act. Dental services covered under OHIP must be performed in a public hospital and must be medically necessary. The schedule of benefits lists the full "schedule" of services that are covered. These include such services or procedures as: dental consultations, diagnostic consultations, reconstructive procedures, and cleft lip and cleft palate surgery.

Ontario Public Health Standards

The Ontario Public Health Standards (OPHS),[50] released in 2008, articulate expectations for Ontario's boards of health, as they fulfill their responsibilities to provide public health programs and services that contribute to the physical, mental and emotional health and well-being of all Ontarians. The OPHS Child Health Program, the goal of which is "to enable all children to attain and sustain optimal health and developmental potential," specifies a societal outcome related to oral health – "an increased proportion of children have optimal oral health."

The following are expected outcomes of public health programs and services that relate all or in part to oral health:

- The board of health achieves timely and effective detection and identification of children at risk of poor oral health outcomes, their associated risk factors and emerging trends; children urgently in need of oral health care have access to such care; children in need of preventive oral health services receive essential clinical preventive oral health services; and the board of health achieves timely and effective detection and identification of communities with levels of fluoride outside the optimal range in drinking water (with respect to communities that are already fluoridating their drinking water supply).

To achieve this, the OPHS Child Health Program Standard mandates public health units to provide oral health screening in elementary schools. Boards of health provide needed services, free of charge, to children who come from low-income families and who often have no dental insurance. For a number of children, particularly new immigrants, this screening is their first interaction with a dental professional.[51] The screening serves a number of functions including:

- Identifying children with urgent dental problems, advising parents of the need for treatment and following up to ensure the child receives the care needed.
- Identifying children who would benefit from one, or more, dental preventive services.
- Identifying schools where the dental needs of children change significantly between school years due to a change in the school population. When dental staff notice this, they follow up with school staff to determine what other needs families may have and alert other public health staff as appropriate.
- Collecting and analyzing data to be included in an annual board of health report from the medical officer of health on local oral health surveillance findings. This report includes information on trend analysis, program planning, implementation and evaluation (as appropriate).
- Making surveillance data available to the general public and local health community through multiple local media channels, including the board of health website.

Helping Kids Achieve Better Oral Health Through Prevention

- 661,229 elementary school children were screened in the 2010-2011 school year
- 28,032 children (four per cent of total screened) received a topical fluoride through the Ontario Public Health Standards preventive services requirement and CINOT
- 12,787 children (two per cent of total screened) received one or more fissure sealants through the Ontario Public Health Standards preventive services requirement and CINOT
- 22,237 children (three per cent of total screened) received one or more units of scaling (cleaning) through the Ontario Public Health Standards preventive services requirement and CINOT

While public health units undertake a range of activities to identify the oral health needs of the children that they serve, I am concerned about the comprehensiveness, quality, comparability, and availability of the data that are collected. This concern also relates to the other publicly funded oral health programs and services offered by the province. This is why there is not more locally collected data in this report.

In order to deliver the most effective and efficient oral health services possible to Ontarians, data on the availability, appropriateness and accessibility of existing services must be available. Good data is also required to measure short-term, intermediate and long-term client and program outcomes, as well as to inform program planning, design, delivery and evaluation. Monitoring and evaluation must be built into any publicly funded oral health program for Ontarians.

Ontario could become a national leader if action is taken on this recommendation. The lack of useful, high-quality data is a significant issue in Ontario.

Recommendation 2

Conduct a review of how publicly funded oral health programs and services for Ontarians are monitored and evaluated. The review should include the quality, availability, and appropriateness of current data and identification of missing data in order to improve programs and services.

Some additional considerations that could be addressed through this recommendation include:

- Utilizing and/or linking data from across low-income programs and/or considering common low-income dental performance measures. For instance, an evaluation of whether there is a decreased need for emergency care among a target population as a result of a preventive and basic treatment programs, or analysis of where there are remaining gaps in dental coverage since systems may not track ineligible applicants who may have a need. It could be helpful to review potential opportunities to map the client journey and track their use of dental services for all government programs.
- Evaluation of the existing data and its ability to measure short-term, medium-term and long-term outcomes. For example, short-term and medium-term measures such as information on increased points of access and program uptake are currently easier to obtain than longer term outcomes such as improved oral health in target populations. For longer term health outcomes, consideration could be given to data sources beyond program-specific databases such as emergency room dental visits and the deprivation index.

A Patchwork of Services

In Ontario there are a number of programs designed to ensure that people who cannot afford dental care do not fall through the cracks. However, it is important to realize that even families and individuals who have private dental insurance may still be struggling to access and pay for dental care. For some, deductibles and payment limits under their plan may be a barrier.

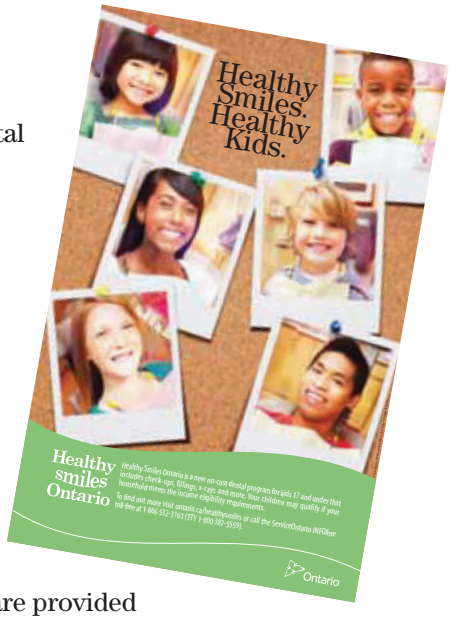
Current programs include the following:

Children In Need Of Treatment Dental Program

The Children In Need Of Treatment (CINOT) dental program is designed to help ensure that babies, children and youth receive the urgent and emergency dental care they need. The program offers assistance to low-income families without dental insurance for whom the cost of dental care would create financial hardship. CINOT is administered through Ontario's public health units, and is intended to identify and address cases of dental neglect in children and to ensure that these children receive care.[52]

CINOT was launched in 1987. On January 1, 2009, the program was expanded from the old cut-off of children up to Grade 8 or their 14th birthday (whichever was later) to include children up to their 18th birthday. In 2010, CINOT paid for basic dental care for 40,360 children and youth with serious oral health problems who might have otherwise gone untreated.

Healthy Smiles Ontario



On October 1, 2010 the Healthy Smiles Ontario (HSO) program was launched across the province. The purpose of the program is to build upon current dental screening and preventive dental services to provide access to preventive and early treatment services, including checkups, cleaning, fillings and X-rays for low-income children and youth 17 years of age or under who do not have access to any other form of dental coverage.[53]

Ontario Works

Ontario Works is a social assistance plan designed to help Ontarians who are in temporary financial need. The program provides financial assistance to cover basic costs such as food and housing, and also provides assistance in preparing for and finding a job. In addition, dependent children age 17 and under whose parents are Ontario Works participants are eligible to receive dental care at no cost to them.[54] Also, in some municipalities dental services are provided to adult Ontario Works clients. For example, in Peel Region, adult Ontario Works clients can receive emergency dental coverage.

Ontario Disability Support Program

The Ontario Disability Support Program (ODSP) helps people with disabilities who are in financial need pay for living expenses, like food and housing. ODSP recipients, their spouses and dependent children can also receive coverage for basic dental services provided they meet specific criteria.[55]

Taking the Initiative – Local Oral Health Programs

Public health units across the province have launched several oral health initiatives that are worthy of mention and commendation. They include:

Halton Oral Health Outreach Program

The Halton Oral Health Outreach (HOHO) Program provides access to oral health preventive and treatment services to adults with special needs and elderly persons. The program, which is administered by the **Halton Regional Health Department**, provides oral assessments, oral health promotion, co-ordination of services and referrals for treatment. It also conducts surveys to collect data and monitor outcomes.[56]

Sioux Lookout Fluoride Varnish Program

A randomized, controlled trial was conducted in the **Sioux Lookout** area, on six-month to five-year-old Aboriginal children, to test the effectiveness of fluoride varnish along with oral health counselling in reducing early childhood caries. The success of this trial led to a regular program of applying fluoride varnish in the Sioux Lookout communities.[57]

Region of Peel Mobile Dental Clinic

The Region of Peel provides free preventive dental services, including sealants, topical fluoride and scaling, to children and youth who do not have dental insurance and cannot afford dental care. In an effort to ensure widespread access to this program, the Region of Peel converted a 28-foot recreational vehicle (RV) into a Mobile Dental Clinic in 2006. The bus ensures that the **Region of Peel Health Department** is able to provide low-income children and youth with necessary dental care or preventive dental services in their own communities.[58]

Integration of Oral Health Services

Notably lacking in all of these otherwise commendable programs and initiatives is a sense that they form part of a co-ordinated and efficient oral health care system, and even less that they are an integrated part of the overall health care system. And yet, if you consider the well established links, described earlier, between oral health and overall health, this seems to be a failure both in planning and execution.

A 2004 survey[59] of 200 government and professional oral health agencies (random sample of social and health care agencies and dental, dental hygiene and denturist professional organizations) in Canada revealed that:

- 91.1 per cent of respondents agree that oral health is isolated from general health.
- Governments tend to resist including dental care in health programs.
- Common concerns related to oral and dental care delivery included the need for alternative delivery sites; recognition of oral health as a component of general health; and regulatory issues (e.g., increasing practice opportunities for non-dentist oral health care providers).

It is important to understand that, notwithstanding the above, it is widely acknowledged that non-dental health professionals, particularly family physicians and nurses, can play a major role in preventing oral disease when equipped with an understanding of the core diseases and how to detect and monitor outcomes.[60] The integration of primary dental and medical care can improve patient care, avoid discrepancies in patient information and reduce the need for secondary referrals.[61] In addition, the International Dental Federation,[62] the World Health Organization[10] and the Canadian Dental Association[63] have all promoted and encouraged expanding the role of dental professionals in the treatment of tobacco dependence. With all of this in mind, it is important that Ontario continue to consider how to improve the integration of its oral health services within the broader health care system.

Recommendation 3

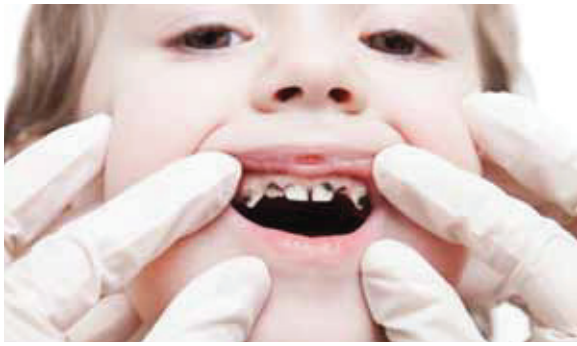
Explore opportunities for better integration and/or alignment of low-income oral health services in Ontario, including integration and/or alignment with the rest of the health care system. This relates predominantly to the client journey, including making it easier for the client to access the care that is needed, when it is needed.

The following elements should be included in this review:

- An analysis of opportunities to improve the effectiveness, efficiency and reach of these programs needs to be conducted, as well as consideration of the possibility of having one point of accountability within the Ontario government. Ontario's publicly funded oral health services includes the programming provided via the Ontario Public Health Standards (including the surveillance component), OHIP, hospitals/emergency rooms, CINOT, CINOT Expansion, HSO, ODSP and Ontario Works.
- An analysis of opportunities to improve the effectiveness, efficiency and reach of Ontario's publicly funded oral health services when integrated and/or aligned with those of the Government of Canada. This is of particular importance to Aboriginal populations.
- An analysis of opportunities to improve the effectiveness, efficiency and reach of Ontario's publicly funded oral health services when integrated and/or aligned with those of the rest of the health care system.

- Consideration of opportunities to find efficiencies that enable an extension of the programs to other low-income populations.
- Consideration of opportunities for a larger number of public-academic and public-private dental partnerships in order to leverage each other and increase the reach of Ontario's publicly funded oral health services. The remuneration for provider participation in publicly funded programs is a part of this conversation, as it is a barrier to public-private dental partnerships and access to care for those in need.

Oral Health Inequities in Ontario



As mentioned earlier, most oral health services are not covered by Canada's publicly funded health care systems. Dental care financing is predominantly private. Of the $12.6 billion spent on dental services in Canada in 2009, approximately 60 per cent was paid through employment insurance plans.[64,65,66] Five per cent was publicly funded through provincial/territorial government programs like CINOT and Healthy Smiles Ontario. That leaves 35 per cent of dental services being paid out-of-pocket, which can result in inequitable access to oral health services, as well as oral health outcomes. In addition, having private dental insurance does not guarantee access to care.[67]

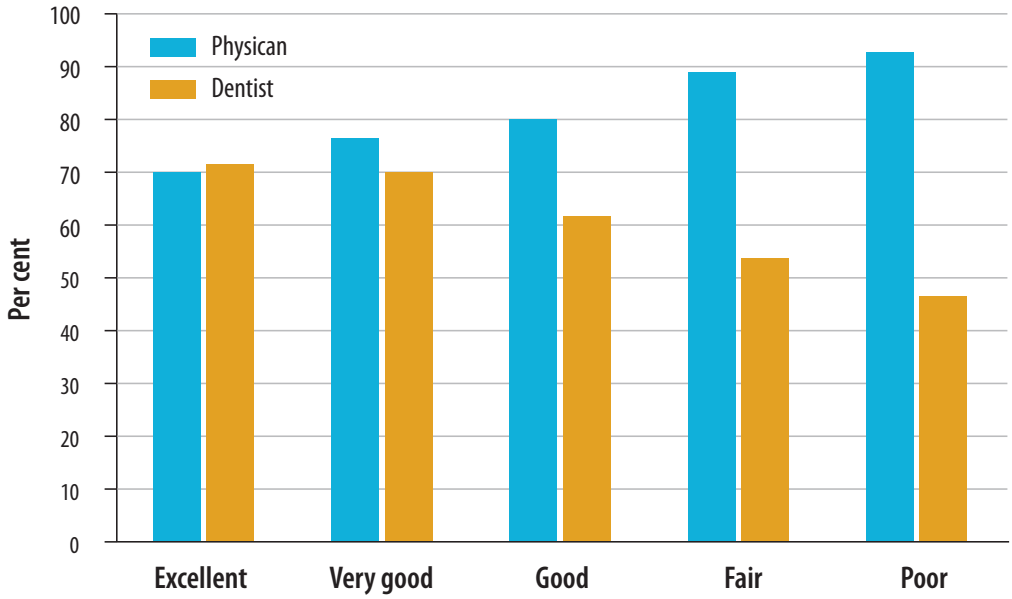
Ontario has the lowest rate of public funding for dental care, as a percentage of all dental care expenditures in the province, at 1.3 per cent. This province also has the lowest per capita public sector spending on dental services, at $5.67 per person (as compared to the national average of $19.54).[68] What that means is that, more than any other province, we are running the risk of having people slip through gaps in the safety nets we have established for them.

I have written at length in previous reports about what are called "determinants of health." These are the economic, social and environmental conditions that are known to greatly influence health. Factors like housing, education and income. The link between poor housing conditions and poor health is well established, as is the link between inadequate education or low income and poor health. With respect to oral health, these determinants also contribute to inequity in oral health status.[69]

It is the people at the lower end of the income and social scale who find themselves either without private dental insurance, unable to afford adequate dental care even if they do have dental insurance, or dependent on what I have described as a patchwork of publicly funded services. However, once these same Ontarians develop a serious health condition which may have been linked to poor oral health, they can access treatment and care, often some of the best in the world, through the publicly funded health care system. The precariousness of access to dental preventive and treatment services, especially for low-income Ontarians, makes little sense.

This relationship is clear in the following figure which illustrates how in Ontario individuals with a lower level of self-reported health visit the physician more, yet it is the opposite when it comes to dentists.

Consultation with dentist or family physician by level of health, Canadian Community Health Survey, 2010



The inequities that exist in Ontario with respect to oral health care are deep and they are serious. The government programs outlined earlier in this report are important programs that do a great deal of good. But there are significant gaps that remain:

- 71 per cent of Ontarians visited a dentist in 2005. Among Ontarians with lower income and less education, as well as those with no insurance, only half made such a visit.[70]
- Ontarians with lower income, less education, as well as those with no insurance and those over the age of 65, are more likely to only visit the dentist in cases of emergency.[70]
- Among Ontarians who did not visit a dentist in the past three years, one in five cited cost as a barrier.[70]
- Approximately half of Ontarians aged 12 years and over reported having oral or facial pain, or discomfort, in the previous month.[70]
- Lower income Ontarians are the most likely to report mouth conditions that cause them to avoid social interactions such as conversation, laughing or smiling.[70]
- 68 per cent of Ontarians report having dental insurance. However, among older Ontarians and those with lower income and less education, there is a significant drop in coverage rates (36 per cent, 40 per cent, and 41 per cent respectively).[70]

Our best efforts notwithstanding, many Ontarians are not receiving the oral care they need to live healthy and happy lives.

Oral Health and Canada's Aboriginal Peoples

Aboriginal communities, particularly remote ones, have among the lowest – if not the lowest – levels of health accessibility and health outcomes in Canada. Preliminary findings from the First Nations Regional Longitudinal Health Survey (RHS) (2008/10)[71] indicate:

- Among six- to 11-year-old First Nations children, 83.8 per cent received dental care in the past year. This percentage is lower than the equivalent finding for the general Canadian population (91.3 per cent) and for Aboriginals living off-reserve (92.2 per cent).
- Of the infants and toddlers surveyed (0-2), 18.7 per cent had their teeth affected by Baby Bottle Tooth Decay (BBTD) compared to 11.9 per cent in RHS 2002/03; 30.9 per cent of the three- to five-year-old First Nations children had been affected by BBTD and 26.9 per cent of six- to 11-year-olds had a history of BBTD.
- Of the infants with BBTD, 40.6 per cent were treated for the condition, while the majority of preschoolers (77.1 per cent) and school-aged children (90.4 per cent) were also treated for BBTD.
- 36.2 per cent of three- to five-year-olds and 41.9 per cent of six- to 11-year-olds needed dental fillings in RHS 2008/10 compared to 28.4 per cent and 32.5 per cent in RHS 2002/03, respectively.
- 71.1 per cent of nine- to 11-year-old First Nations children were in need of a check-up and preventive care and 14.3 per cent required orthodontic care at the time of the survey.

Health Canada's Non-Insured Health Benefits Program provides coverage for a range of oral health services to Ontario's First Nations communities. However, poor oral health outcomes prevail as a result of poor access to oral health services and a lack of awareness of the importance of oral health.

Children's Oral Health Initiative

Introduced in 2004, the Children's Oral Health Initiative (COHI) is a national initiative to prevent dental caries and improve oral health among young First Nations and Inuit children living on reserves. It was developed as a policy response to the acute oral health needs of Aboriginal children. The federal government provides funding for this initiative directly to regions which then provide services through contribution agreements that allow First Nations and Inuit communities to administer the programme themselves. COHI targets pregnant women, parents and primary caregivers, preschool children ages 0 - 4 years and school-aged children ages 5-7 years living in First Nations and Inuit communities. Five years after its inception, COHI has been implemented in 231 communities across Canada.[72]

Recommendation 4

Explore opportunities to improve access to oral health services as well as awareness of oral health services available to First Nations people in Ontario, with a focus on better integration and/or alignment of the variety of available dental programs.

For instance, provincial infrastructure provided through Healthy Smiles Ontario, such as public health unit mobile dental clinics, could be leveraged to improve access to dental services in First Nations communities. Data gathered from completed surveys could be used to identify gaps in dental services in First Nations communities (e.g., First Nations Public Health Advisory Committee (FNPHAC): Public Health Survey and Community Engagement, RHS, Oral Health Survey and National Dental Survey).

Best practice models which are currently being developed in northern communities should be reviewed to facilitate tri-partite (First Nations, provincial, federal) cooperation in treatment and prevention services. If successful, these models should be expanded to other parts of the province.

Conclusions

This report was written to raise awareness of the importance of oral health, and the need to improve access to preventive and treatment services. There has been progress in Ontario especially for low-income Ontarians. However, we need to do more. It is time that the importance of oral health to overall health is fully recognized. It is also time that the unequal burden of poor oral health on low-income and otherwise disadvantaged Ontarians is further recognized and addressed. This report provides recommendations for action which are intended to promote improvements to, and alignment and integration of, existing programs within the current fiscal framework. It is my hope that these improvements will enable more services to be delivered, especially to low-income Ontarians. Oral health is key to overall health and it's about more – much more – than cavities.

Report Recommendations

I have made four recommendations for action and review by an expert advisory committee.

Recommendation 1

Conduct a review of current policies and mechanisms to ensure that all Ontarians have access to optimally fluoridated drinking water.

Recommendation 2

Conduct a review of how publicly funded oral health programs and services for Ontarians are monitored and evaluated. The review should include the quality, availability and appropriateness of current data and identification of missing data in order to improve programs and services.

Recommendation 3

Explore opportunities for better integration and/or alignment of low-income oral health services in Ontario, including integration and/or alignment with the rest of the health care system. This relates predominantly to the client journey, including making it easier for the client to access the care that is needed, when it is needed.

Recommendation 4

Explore opportunities to improve access to oral health services as well as awareness of oral health services available to First Nations people in Ontario, with a focus on better integration and/or alignment of the variety of available dental programs.

Glossary

Assessment and surveillance
Population health assessment includes measuring, monitoring, and reporting on the status of a population's health, including determinants of health and health inequities. Surveillance contributes to effective public health program planning, delivery and management. Dissemination of surveillance analyses may take the form of reports, advisories, healthy public policy recommendations, alerts or warnings. Surveillance has historically been associated with infectious diseases and vaccination programs, but its importance has become increasingly recognized for environmental health issues, child health, reproductive health, chronic disease prevention and injury prevention.

Epidemiology
The study of the distribution and determinants of health-related states and events (such as diseases) in specified populations, and the application of this study to the control of health problems.

Health promotion and policy development
Health promotion is the process of enabling people to increase control over and improve their health. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy lifestyles to well-being. Healthy public policy is characterized by an explicit concern for health and equity in all areas of policy and by an accountability for health impact. Health promotion policy development combines diverse but complementary approaches including legislation, fiscal measures, taxation and organizational change. It is coordinated action that leads to health, income and social policies that foster greater equity.

Priority Populations
The OPHS directs Public Health Units to identify "priority populations" by surveillance data, epidemiological analysis or other research, including community and other stakeholder consultations. Practitioners could either adjust universal interventions to increase accessibility for certain sub-groups, or develop specific strategies in order to address inequalities in the social determinants of health. This approach challenges public health practitioners to balance resource allocation between universal and priority population- focused interventions to increase impact and affect overall population health outcomes.

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