



# Community water fluoridation

Position  
of the  
Québec  
Director of  
Public Health



THE QUÉBEC DIRECTOR OF PUBLIC HEALTH RECOMMENDS  
THAT FLUORIDATION OF COMMUNITY WATER BE INSTITUTED  
IMMEDIATELY IN LIGHT OF THE FOLLOWING:

- > Cavities are a major public health problem:
  - They negatively impact the health of the population, especially the most vulnerable.
  - They affect the vast majority of the population and cause irreversible tooth damage.
  - They are especially common among the underprivileged who do not have the financial resources needed to get oral care, including preventive care.
- > Cavity-prevention measures targeting individuals have hit a plateau and are no longer making inroads in the fight against cavity-related damage.
- > Fluoridating community water would help improve the poor oral health of Québec's population.
- > Water fluoridation is an effective, safe, and inexpensive approach to cavity prevention. It usually lowers the occurrence of cavities by 20% to 40% and cuts the costs associated with preventing and treating the disease.
- > Water fluoridation is widely endorsed by the international scientific and medical community.

- > Water fluoridation has no impact on the natural or aquatic environment.
- > At the recommended fluoride concentration, which varies around the world from 0.6 mg/L to 1.2 mg/L, there is no scientific data showing a link between water fluoridation and any specific health problem.
- > No other solution prevents cavities and improves the health of the population as a whole.
- > Water fluoridation was supported by 62 % of Québécois in a 2010 survey.
- > The ministère de la Santé et des Services sociaux pledges to pay municipalities for all fluoridation-related expenses.

THE PEOPLE OF QUÉBEC SHOULD DRINK WATER WITH SUFFICIENT LEVELS OF FLUORIDE.

WATER FLUORIDATION IS THE CORNERSTONE OF ANY PUBLIC PREVENTIVE ORAL HEALTH PROGRAM. AND ALL MUNICIPALITIES CONCERNED SHOULD INSTITUTE IT.



## ADDITIONAL INFORMATION

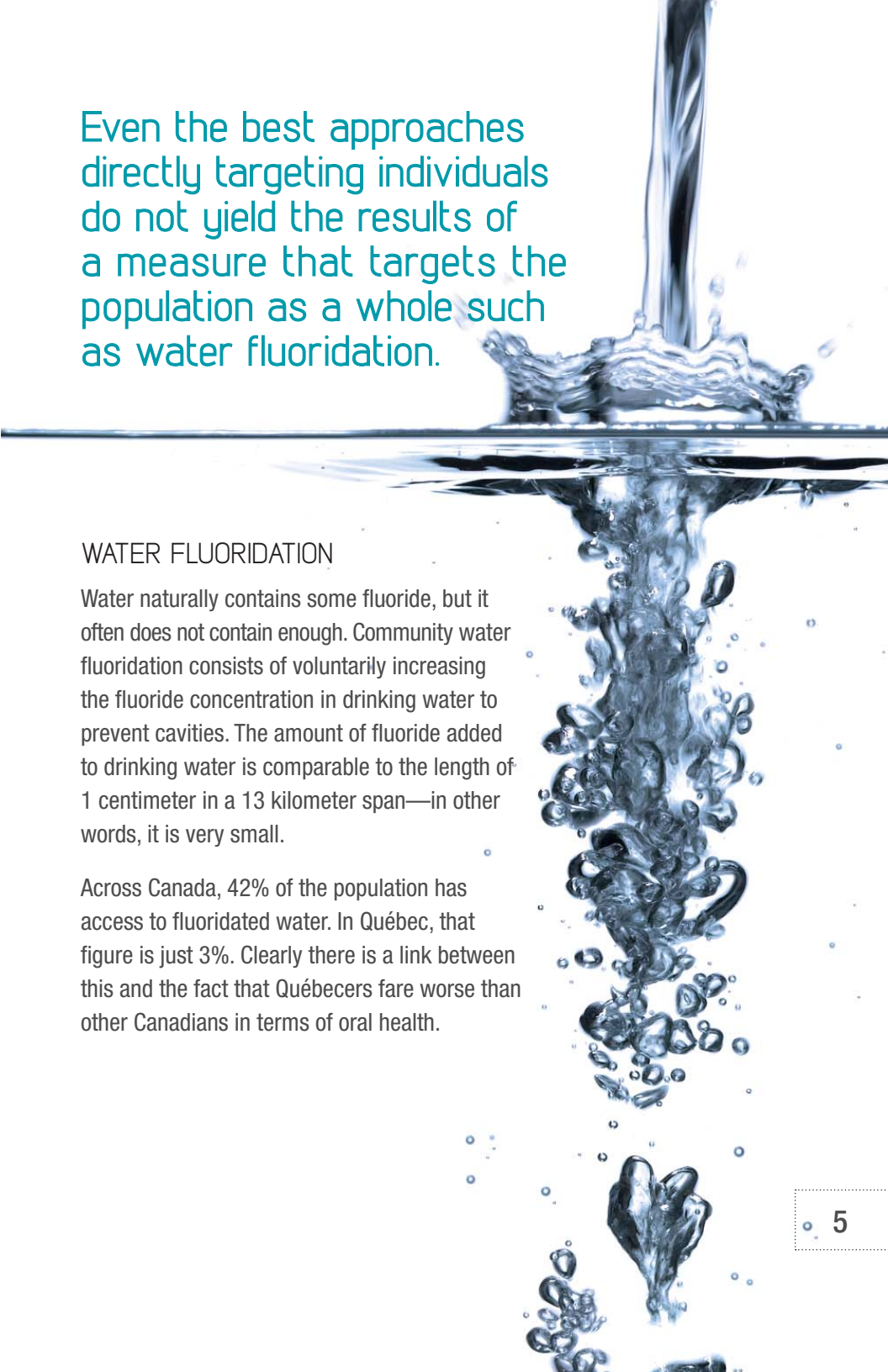
### CAVITIES

Dental caries (or cavities) are the result of a chronic, infectious, and transmissible disease that affects the vast majority of the population. They can cause pain and oral infections that negatively affect development in children and the quality of life and general health of people of all ages.

Cavities are caused by bacteria and are made worse by poor eating habits and oral hygiene. They cause tooth damage that is irreversible in most cases. Restoring affected teeth slows the progression of the disease, but cavities often come back. Cavities require many extremely costly treatments that can pose risks for people in ill health.

According to the latest oral health studies conducted in Québec:

- > Children in Québec have 40% to 50% more cavities than other school-aged children in North America.
- > Three out of four adults with at least one of their own teeth have periodontal disease, and have already had cavities in over half their teeth.
- > The rate of complete edentulism (loss of all teeth) in Québec is among the highest in Canada. In 2007–2009, 13% of Québécois age 45 to 64 and 40% of those 65 and older had lost all their teeth, while just 5% and 20% of Ontarians had.



Even the best approaches directly targeting individuals do not yield the results of a measure that targets the population as a whole such as water fluoridation.

### WATER FLUORIDATION

Water naturally contains some fluoride, but it often does not contain enough. Community water fluoridation consists of voluntarily increasing the fluoride concentration in drinking water to prevent cavities. The amount of fluoride added to drinking water is comparable to the length of 1 centimeter in a 13 kilometer span—in other words, it is very small.

Across Canada, 42% of the population has access to fluoridated water. In Québec, that figure is just 3%. Clearly there is a link between this and the fact that Québécois fare worse than other Canadians in terms of oral health.

## A RECENT SURVEY CONDUCTED IN QUÉBEC IN 2010 FOUND THAT 62% OF THE POPULATION SUPPORTED WATER FLUORIDATION.

### WATER FLUORIDATION AND CAVITY PREVENTION

Fluoride strengthens teeth and neutralizes the effect of cavity-causing bacteria. In addition to other preventive measures like brushing with fluoride toothpaste, water fluoridation helps the population develop fewer cavities and keep their teeth longer. Fluoridated water reduces the occurrence of cavities in the population by 20% to 40%. For some people who are more vulnerable to cavities, including the underprivileged, the elderly, and children with poor eating habits and oral hygiene, it can reduce cavities by up to 64%. Treating cavities is extremely costly. A 20% to 40% reduction in cavities would save a Québec family of four \$320 a year on oral care.

In addition to being economical for everyone, water fluoridation is good for society as a whole. It lightens the burden on the public health system and private insurers. It also leads to increased productivity and quality of life across society as the need for dental visits and care is reduced.

UNFORTUNATELY, LESS THAN 3 % OF THE POPULATION HAS FLUORIDATED WATER (220.000 PEOPLE).



IN QUÉBEC, ABOUT  
**THREE BILLION DOLLARS**  
IS SPENT ON ORAL CARE  
ANNUALLY.

**Water fluoridation helps everyone keep  
their teeth longer and saves about \$80 a year per person  
on dental care.**

## WATER FLUORIDATION AND HEALTH

The recommended concentration of fluoride in drinking water varies worldwide from 0.6 mg/L to 1.2 mg/L. The concentration is determined based on the natural drinking water sources and other potential sources of fluoride exposure, including food.

At the recommended fluoride concentration, there is no scientific data showing a link between water fluoridation and any specific health problem. For over 65 years, the medical and scientific community has been studying the safety and effectiveness of water fluoridation, which is supported by more than 90 national and international organizations, such as:

- > The Canadian and American medical and dental associations.
- > The Canadian and American paediatric associations.
- > Ordre des dentistes du Québec.
- > Centers for Disease Control and Prevention.
- > World Dental Federation.
- > Health Canada.
- > World Health Organization.

In June 2007, Institut national de santé publique du Québec published a scientific report titled *Water fluoridation: An analysis of the health benefits and risks*. This report summarizes current knowledge on the safety and effectiveness of water fluoridation.



The Centers for Disease Control and Prevention consider community water fluoridation one of ten great public health achievements of the 20th century.

The Canadian Task Force on Preventive Health Care gives drinking water fluoridation an A, which is the highest possible grade. The rating is based on sufficient scientific data showing that water fluoridation is the most effective approach.

## WATER FLUORIDATION AND EQUITY

Water fluoridation is the most equitable approach to cavity prevention because the entire population benefits from it, especially the underprivileged. Cavities affect greater numbers of low-income and low-education individuals. About 30% of the population reports having difficulty paying for oral care, and the at-risk population generally has poorer eating habits and oral hygiene. Twice as many low-income individuals have untreated cavities than the more affluent.

However, the underprivileged living in areas where water is fluoridated have better oral health than people of the same socioeconomic status in areas where the water is not fluoridated. Water fluoridation is thus a public health measure that is of particular benefit to those without the financial resources needed to access oral care.

FLUORIDATION IMPROVES THE MINERAL  
QUALITY OF WATER WITHOUT ALTERING  
ITS TASTE, SMELL, OR APPEARANCE.

## WATER FLUORIDATION AND THE ENVIRONMENT

A number of studies show that water fluoridation has no impact on the natural or aquatic environment because fluoride is already naturally present there. It is found in the ground, minerals, air, streams, and plants. It is used in a variety of industrial processes, in hygiene products, and in some drugs. It is not considered a drug when used to adjust the fluoride content of drinking water, and is instead considered a mineral or natural element contributing to the formation and health of teeth. The fluoride used for water fluoridation is naturally derived primarily from apatite, a mineral that is very common in the Earth's crust.

Seawater naturally contains about 1.4 mg/L of fluoride, and freshwater in Canada has about 0.01 to 11 mg/L. Voluntarily adding fluoride to drinking water generally increases the total fluoride concentration in streams by just 0.001 to 0,002 mg/L, which is below detectable levels.

## WATER FLUORIDATION AROUND THE WORLD

Over 350 million people in 33 countries have access to voluntarily fluoridated water, and more than 50 million people in 27 other countries have access to water that is naturally fluoridated to the optimum concentration, for a total of 60 countries worldwide.

In China, over 200 million people drink water that is naturally fluoridated to a concentration equal to or higher than the optimum level. In the United States, 75% of the population has access to naturally (4%) or voluntarily (71%) fluoridated water.

## LEGAL BASIS

The object of the *Public Health Act* “is the protection of the health of the population and the establishment of conditions favourable to the maintenance and enhancement of the health and well-being of the general population” (Section 1).

The *Public Health Act* addresses drinking water fluoridation in sections 57 through 60. According to Section 59, “the national public health program must include actions designed to encourage the fluoridation of water.” This document is a response to that requirement.

In the *Gazette officielle du Québec* in 2004, the Government of Québec set the optimum fluoride concentration in community water for the prevention of cavities at 0.7 mg/L pursuant to Section 57 of the *Public Health Act*. This concentration was determined based on the fluoride levels in natural drinking water sources and other potential sources of fluoride exposure, including food.

In connection with Section 58 of the Act, the Ministry, through the Laboratoire de santé publique du Québec, now monitors water fluoridation in Québec by checking the quality of fluoride products and the fluoride ion content of drinking water distribution networks.

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