Oral Health Care in Greenland: Delivering Moder n Dentistry Across the Arctic





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Greenland's vast distances, harsh Arctic climate, and scattered population present unique challenges for healthcare delivery. Despite these obstacles, the country has developed a comprehensive public dental service that reaches even the most remote settlements. A strong focus on prevention, locally adapted education, and close collaboration within communities has led to remarkable improvements in the oral health of Greenlandic children and adolescents.

Greenland's ice sheet is more than 3 km thick at its deepest point. The inhabitable 20% of Greenland lies along the periphery, primarily in the south and west. There are a total of 56,700 inhabitants living in 71 geographical locations. Transportation between settlements originally took place by dog sled and boat, but today it is carried out by ship and aircraft. There are no roads between towns. Thus, people live quite scattered about.

The healthcare system operates health stations in all locations. In the larger settlements, healthcare personnel are assigned and handle a wide range of tasks. In many instances challenges and problems are resolved locally within the community. Care for the community and for others is very widespread and permeates society. This is clearly felt when meeting Greenlanders. The desire for collective success is often far greater than the pursuit of individual success—an approach that helped ensure survival and success in earlier times.

From traditional diet to modern oral health challenges

The geography and the Arctic environment form the framework of Greenlandic society. Nature is rich in food sources. From the sea come fish, shellfish, seals, and whales. From the land, hunting yields reindeer, musk oxen, hares, and many different birds. These were the original sources of food for the Greenlandic population. They also provided materials for clothing, kayaks, boats, and lighting.

Today, sheep farming and the cultivation of hardy vegetables take place in the inner fjords of southern Greenland. Challenges related to transportation and climate make the import of fresh food very expensive compared to frozen and preserved products. As a result, many sugar-rich products are easily accessible and relatively inexpensive.

The original Inuit diet was not particularly cariogenic, but with the increasing import of carbohydrate-rich foods escalating in the 1950ties, both the frequency and severity of dental caries

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have increased dramatically. A similar development is seen in other Arctic populations.

Building a nationwide dental service

Therefore, need for dental care has emerged and became an important part of the public healthcare system. In larger towns dental clinics are staffed by dental teams consisting of dental assistants, dental hygienists, clinical dental technicians, and dentists. In smaller towns, the permanent staff varies. In some places there are dental assistants and hygienists, with dentists present only during certain periods of the year. Small settlements with few inhabitants receive visits from mobile dental teams, with the frequency depending on the population size.

With spectacular views of icebergs from the clinic windows, dental practice in Greenland encompasses a wide range of settings. Professionals may work in modern, well-equipped dental clinics in larger towns as well as less equipped facilities in remote settlements with as few as 50–100 inhabitants. Outreach visits to these settlements generally last up to one week and involve travel by boat or helicopter, while dog sleds have occasionally been used for transportation in more remote areas.

Prevention as a national strategy

Due to the high prevalence of dental caries in the population, a national preventive program targeting children and adolescents was introduced. The strategy focused on improving oral health through systematic, population-based and individual approaches to health promotion and prevention initiatives implemented across the entire country. As part of the program, annual oral health registrations were established for selected age groups allowing for continuous monitoring of dental status and evaluation of the health promotion and preventive program. Comprehensive data on caries prevalence among children and adolescents are available.



The logo of the Dental services in Greenland

Significant improvements in children's oral health

Data on the caries prevalence among children and adolescents illustrate marked improvements over time following the implementation of the national strategy. To provide two concrete examples, we illustrate data for 6 year olds and 15 year olds.

Among 6-year-olds, the proportion of children and adolescents without need for operative treatment has increased substantially from 25% in 2008 to 50% in 2018, reflecting a notable positive development in early childhood oral health. Although a slight decline has been observed in more recent years the overall level remains considerably higher than at baseline.

A similar, though more gradual, improvement has been observed among 15-year-olds. In 2008, only 14% of this age group were without need for operative treatment. This proportion increased to 31% in 2018 and further to 39% in 2025, demonstrating a steady and sustained improvement over time, albeit from a lower starting point.

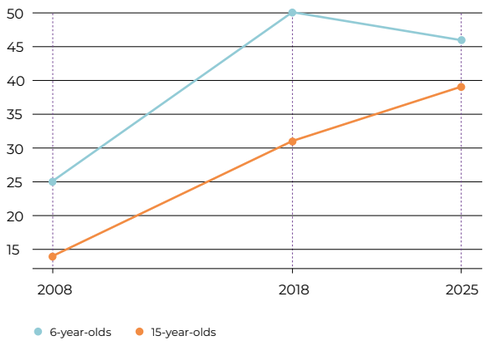
Delivering care across a vast country

Most of the population are receiving modern dentistry provided by the professionals of the dental team in modern clinics. The subpopulation living in the smallest settlements has access to a more sporadic dental care service in connection with visits from dental staff to the settlement. This means that more radical treatment choices may be necessary.

To this day, children and young people are prioritized if staffing resources become scarce. Then adults are then offered a limited range of treatments until full restorative care becomes available again. Clinical dental technicians travel around providing dentures and partial prostheses for those with major tooth loss.

FIGURE 1

Caries and gingivitis in 9-year-old children



Proportion of caries without cavities among 6- and 15-year-olds in Greenland in 2008, 2018, and 2025. A marked improvement is observed over time, particularly among 6-year-olds, with a doubling in the proportion of caries-free children from 2008 to 2018, followed by a slight decline by 2025. Among 15-year-olds, a steady increase is observed across the entire period.





Outreach visits involve travel by boat or helicopter – and occasionally even by dog sled.



Education and the greenlandic dental workforce

Dentists and clinical dental technicians are trained in Denmark. Most of the dentists are recruited from Denmark. The dentist provides dental services. When people need dentures, they are serviced by clinical dental technicians that go around the country. They provide their service from the clinics in the cities, and the health stations in the smaller communities.

Dental assistants and dental hygienists are trained locally through programs tailored to the specific tasks they face in Greenland. A strong emphasis has been placed on enabling these professionals to provide health promotion and preventive care. The education programs have been conducted locally, with special consideration of the challenges of the work and the unique conditions in Greenland. Dental assistants and hygienists are bilingual, allowing them to work with citizens in both Greenlandic and Danish.

Society, community and the artic way of life

In Greenland, you cannot own land in the same way as in most other countries. All land belongs to Greenlandic society. Instead of buying and owning a plot of land, you can apply for and obtain a right of use to a specific area for a particular purpose, such as housing. The right of use is typically granted without a fixed end date and remains valid as long as the conditions are met. The right of use can be revoked if the land is not utilized, if the terms are violated, or if society needs the land. You own the building you build, but not the land on which it stands. It is possible to sell a building and at the same time transfer the right of use to the land, provided that the authorities approve it.

Traditionally, hunting was a communal activity that provided food while strengthening social cohesion and cooperation within Greenlandic communities. Today, many locals still make use of nature for hunting, fishing, and berry picking. Trophy hunting attracts many foreigners to Greenland, just like those who wish to experience its many unique natural attractions.