Oral health of children

This factsheet presents information about the oral health of children living in fluoridated and non-fluoridated areas in New Zealand. Fluoride in drinking-water helps to prevent and reduce tooth decay.

Key facts

59% of 5-year-olds and 66% of children in school-year 8 were caries-free in 2018

Children in school-year 8 living in fluoridated areas had higher caries-free levels than their counterparts in non-fluoridated areas. There was no difference in caries-free levels by fluoridation status for 5-year-old children.

Māori and Pacific children had poorer oral health compared to other ethnicities.

Northland District Health Board had the lowest caries-free percentage for both children in school-year 8 and 5-year old children

Background information

Good oral health in children has major benefits as it prevents pain, infection and oral diseases such as dental caries (tooth decay). Children are at risk of dental caries as soon as their primary teeth (‘baby teeth’) begin to break through the gum at about the age of 6 months (Ministry of Health 2010). Tooth decay is the most common disease among children in New Zealand. It is also one of the leading reasons for preventable hospital stays in children (Ministry of Health 2015). Adding fluoride to drinking-water supplies can help prevent and reduce tooth decay (Royal Society of New Zealand 2014).

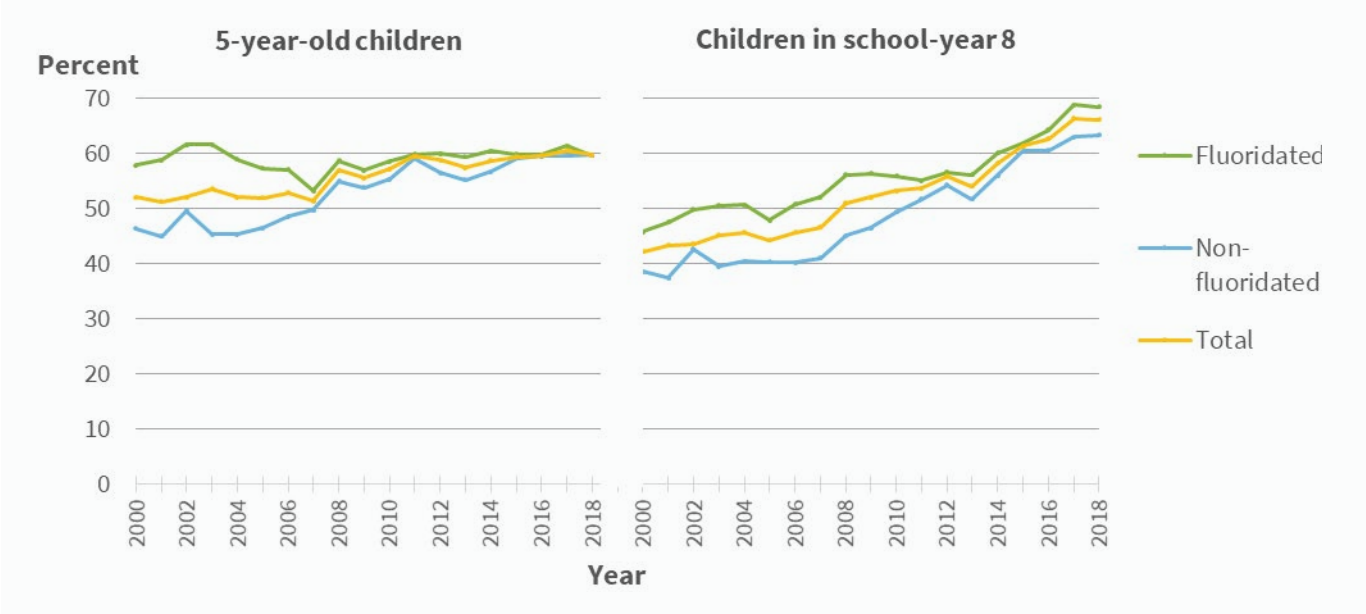
Oral health continues to improve

Overall, oral health in 5-year-old children and children in school-year 8 has improved between 2000 and 2018. The largest improvement in oral health is in children in school-year 8 and non-fluoridated areas (Figure 1).

Between 2000 and 2018, the level of children in school-year 8 that were caries-free (ie have no past or current experience of dental decay), increased from 42% to 66%. In the same timeframe, the level of 5-year-old children that were caries-free increased from 52% to 59% (Figure 1).

From 2000 to 2018, the difference in caries-free levels between fluoridated and non-fluoridated areas has generally decreased in both age groups (Figure 1).

Figure 1: 5-year-old children and children in school-year 8 who were caries-free, by fluoridation status, 2000-2018



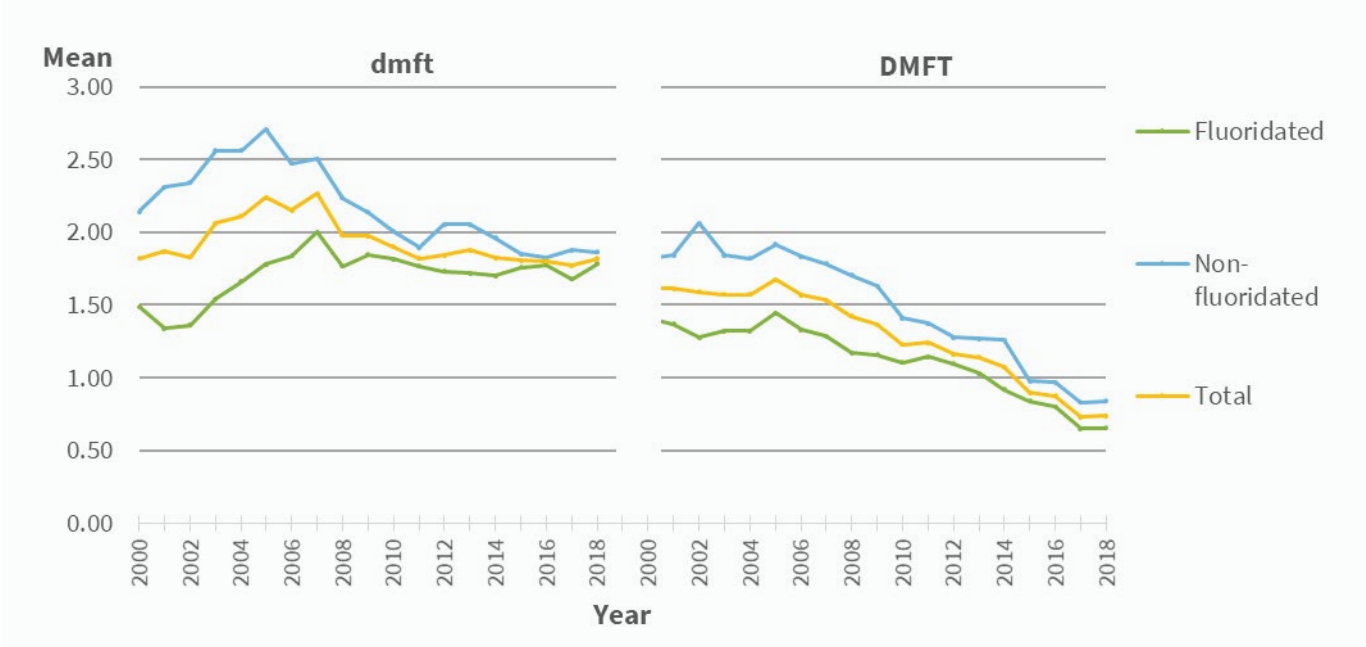
Source: Ministry of Health 2019

Between 2000 and 2018, the mean number of DMFT (decayed missing and filled permanent teeth) of children in school-year 8 dropped from 1.6 to 0.7 (Figure 2). This means that on average, children in school-year 8 had less than half as many decayed, missing or filled permanent teeth in 2018 compared to 2000.

Five-year-old children had, on average, 1.8 dmft (decayed missing and filled deciduous teeth) in 2018 (Figure 2). The overall mean dmft increased between 2000 and 2007 but decreased from 2008 to 2018. It is now at the same level as in 2000.

In general, children who live in areas with access to fluoridated drinking-water had a lower mean number of decayed, missing or filled primary and permanent teeth. The difference between fluoridated and non-fluoridated areas decreased over time, as was seen previously for levels of caries-free children in Figure 1.

Figure 2: Mean dmft (5-year-old children) and DMFT (children in school-year 8), by fluoridation status, 2000-2018



Source: Ministry of Health 2019

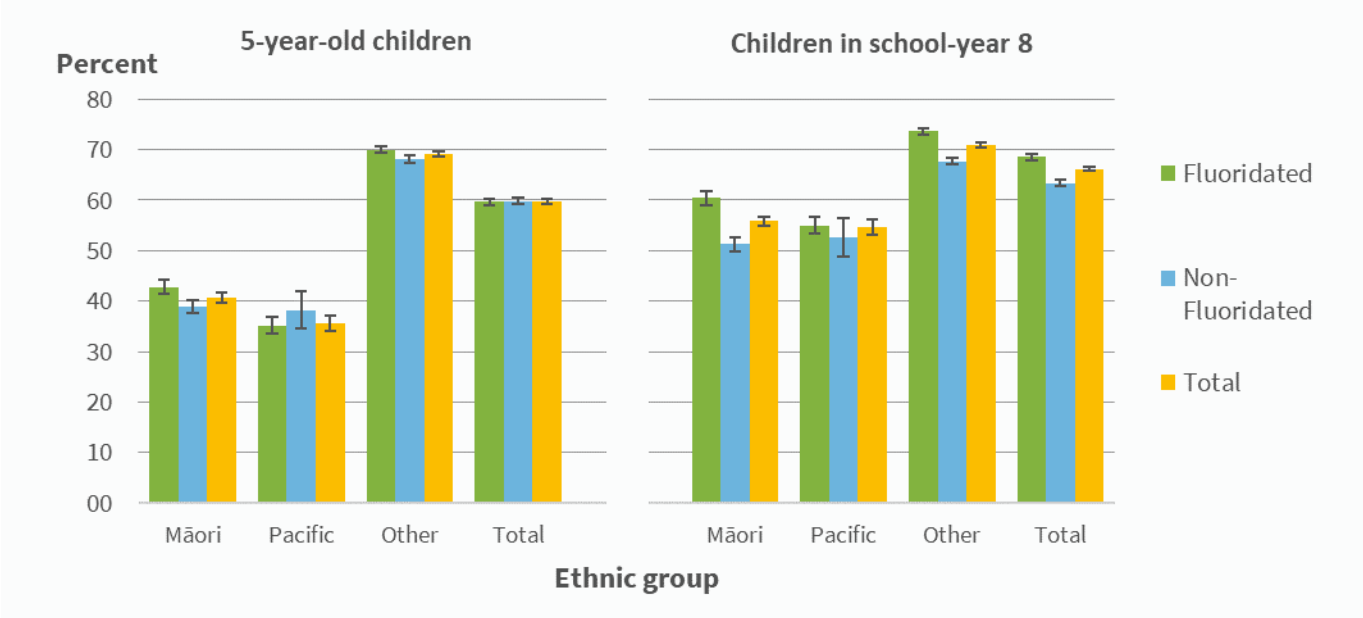
Ethnicity and fluoridation status differences

The percentage of caries-free children was higher in areas with access to fluoridated drinking-water supplies for children in school-year 8. In 2018, 69% of children in school-year 8 who lived in fluoridated areas were caries-free, compared to 63% in non-fluoridated areas (Figure 3).

There was no difference in caries-free percentage by fluoridation status for 5-year-old children in 2018 (Figure 3). In 2018, 59% of 5-year-old children living in both fluoridated and non-fluoridated areas were caries-free.

Māori and Pacific children in both age groups had lower caries-free percentages compared to other ethnicities (Figure 3).

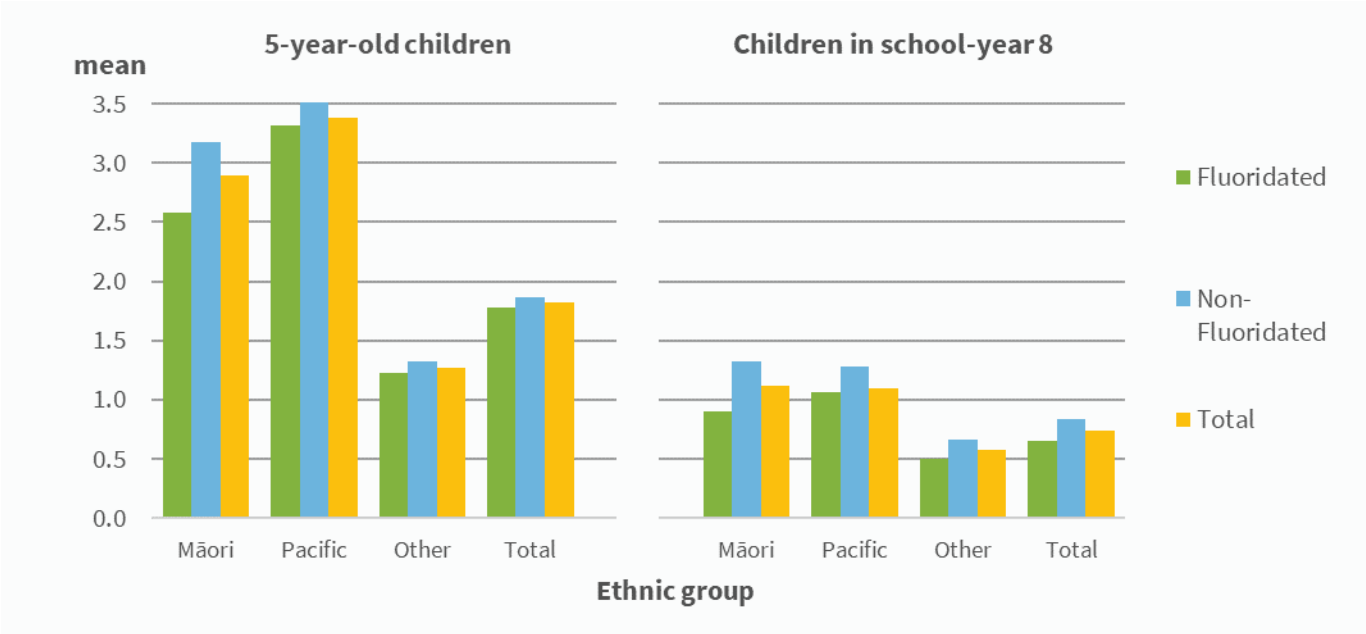
Figure 3: 5-year-old children and children in school-year 8 who were caries-free, by ethnic group and water fluoridation status, 2018



Source: Ministry of Health 2019

Among all ethnicities and both age groups, the mean number of decayed, missing or filled teeth (dmft/DMFT) was lower in fluoridated areas compared to non-fluoridated areas (Figure 4). Māori and Pacific had higher mean dmft scores among 5-year-old children and children in school-year 8 compared to other ethnicities. This difference was larger among 5-year-old children. Pacific children aged 5-years-old had a mean of 3.3 dmft and Māori a mean of 2.9 dmft. This compares to just 1.3 dmft for Other 5-year-old children.

Figure 4: Mean dmft (5-year-olds) and DMFT (children in school-year 8), by fluoridation status, 2018

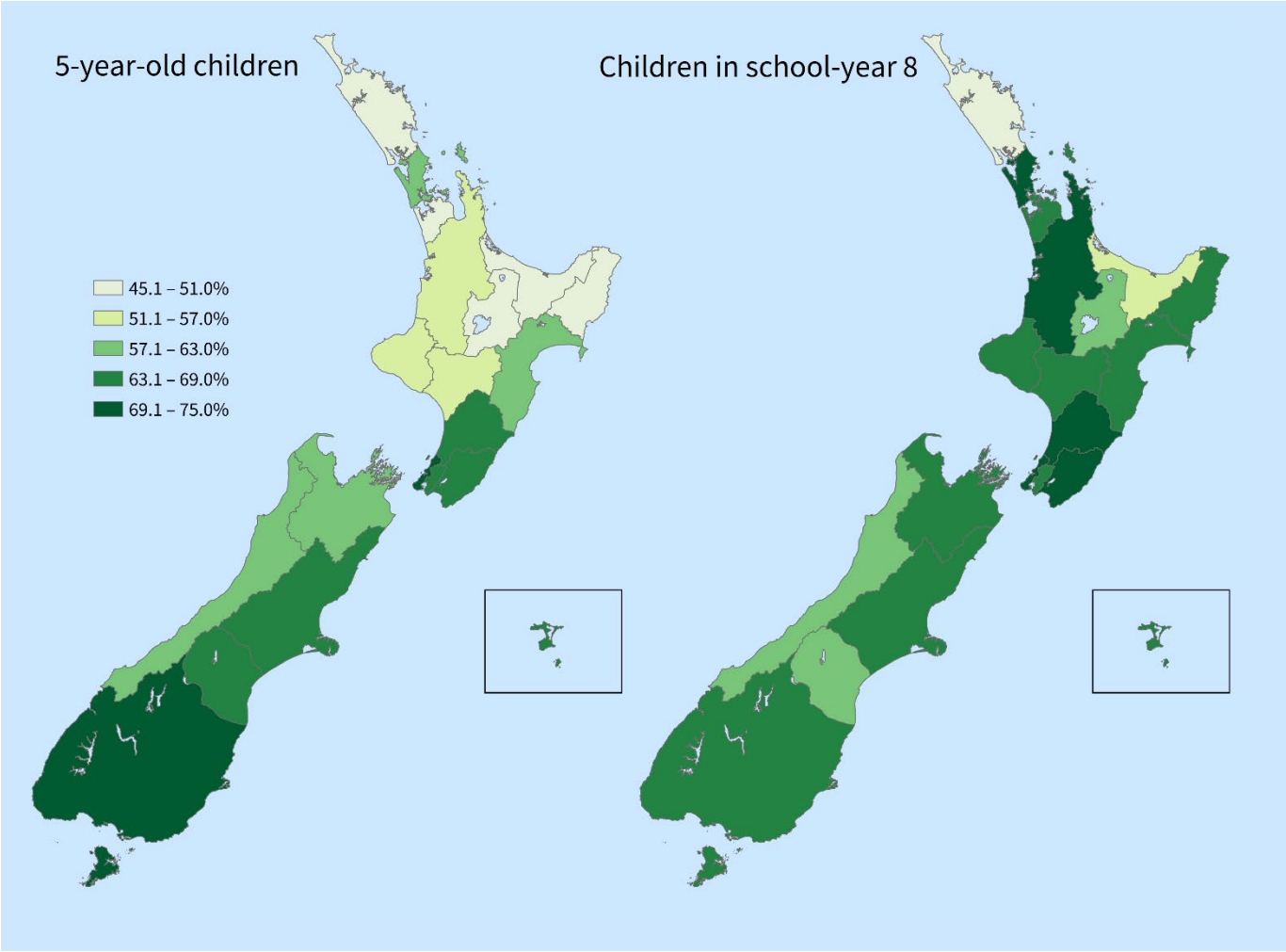


Source: Ministry of Health 2019

Northland District Health Board had the lowest caries-free percentages for children in school-year 8 and 5-year old children

In 2018, the DHBs with the lowest caries-free percentages for 5-year-old children were Northland, Counties Manukau, Tairāwhiti, Lakes and Bay of Plenty. For children in school-year 8 the DHBs with the lowest caries-free percentages were Northland and Bay of Plenty (Figure 5).

Figure 5: Percentage of 5-year-old children and children in school-year 8 who were caries-free, by District Health Board, 2018



Source: Ministry of Health 2019

Data for this indicator

This factsheet presents information on data collected for 5-year-old children and children in school-year 8 examined under the Community of Oral Health Service.

This comprises of:

- The mean number of decayed, missing and filled deciduous teeth (dmft) for 5-year-old children and the mean number of decayed, missing or filled permanent teeth (DMFT) for children in school-year 8.
- Percentage of children caries-free (have no past or current experience of dental decay).

For additional information, see the metadata link below.

Unless otherwise stated, all differences mentioned in the text between two values are statistically significant at the 5% level or less. This is based on the corresponding 95% confidence intervals not overlapping.

References

Ministry of Health. 2010. *Our Oral Health: Key findings of the 2009 New Zealand Oral Health Survey.* Wellington: Ministry of Health.

Ministry of Health. 2015. *Annual Update of Key Results 2014/2015: New Zealand Health Survey.* Wellington: Ministry of Health.

Ministry of Health. 2019. *Age 5 and Year 8 oral health data from the Community Oral Health Service 2018.* Wellington: Ministry of Health. URL: **https://www.health.govt.nz/nz-health-statistics/health-statistics-and-data-sets/oral-health-data-and-stats/age-5-and-year-8-oral-health-data-community-oral-health-service** (accessed February 2020).

Royal Society of New Zealand. 2014. *Health effects of water fluoridation: A review of the scientific evidence.* Wellington: Office of the Prime Minister's Chief Science Advisor and Royal Society of New Zealand.

Wright JC, Bates MN, Cutress T, Lee M. 1999. *The Cost-Effectiveness of Fluoridating Water Supplies in New Zealand. A report for the New Zealand Ministry of Health.* Porirua: Institute of Environmental Science and Research Limited.

Other drinking-water quality topics include:

Access to safe drinking-water

Water-borne diseases related to drinking-water

Access to fluoridated drinking-water

Author

The authors of this factsheet is Allan Schori. **ehinz@massey.ac.nz**

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Further information

Mean number of decayed, missing or filled teeth of children, by fluoridation status **Metadata Sheet**

Percentage of children who are caries-free, by fluoridation status **Metadata Sheet**

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