Access to fluoridated drinking-water

This factsheet presents information about the population with access to fluoridated drinking-water in New Zealand.

Key facts

Of the New Zealanders on registered drinking-water supplies, 61.4% (about 2.5 million people) had access to fluoridated drinking-water in the 2019/20 reporting period. This proportion has been largely unchanged since 2014/15.

People in major urban areas were more likely to have access to fluoridated drinking-water than people in other areas.

People in the South Island were far less likely to have access to fluoridated drinking-water (18.4%) than people in the North Island (74.1%).

Background information

Tooth decay (dental caries) is a major chronic disease among New Zealanders of all ages. It is often accompanied by pain, infection and tooth loss, and can lead to absence from work or school (Royal Society of New Zealand 2014). Dental caries are caused by acids that are produced by bacteria in the mouth. The acids dissolve the hard enamel of the tooth surface and initiate dental decay. A high-sugar diet can raise the number of bacteria, which in turn increases the production of decay-causing acids (Ministry of Health 2010; Royal Society of New Zealand 2014).

Fluoride is known to protect teeth against dental caries, so adding fluoride to drinking-water supplies can help limit tooth decay. Fluoride works to protect teeth in three ways (Royal Society of New Zealand 2014):

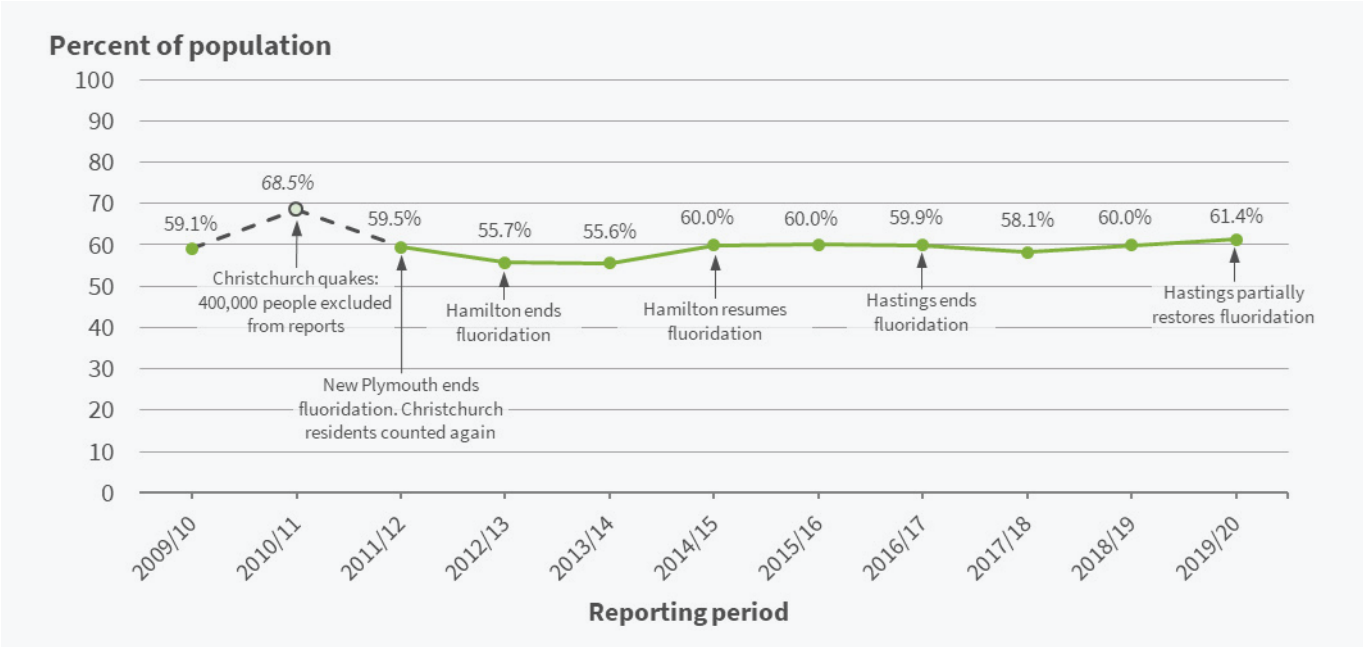
- strengthening of tooth enamel, making teeth more resistant to decay
- interference with the growth of bacteria that cause cavities
- repair of the early stages of tooth decay.

About 60% of New Zealanders on registered drinking-water supplies have access to fluoridated water

About 4.1 million New Zealanders (81.4% of the population) received water from registered drinking-water supplies during the 2019/20 reporting period. The remainder received water from very small community supplies (typically serving fewer than 100 people) or sourced their own water from 'self-supplies' (e.g., rainwater tanks). Of the population on registered supplies, 61.4% (2,539,700 people) had access to fluoridated drinking-water. From 2009/10 onwards, this proportion has remained largely unchanged, never ranging below 58.1% (Figure 1).

The peak in the proportion of the population receiving fluoridated water in 2010/11 was due to a large drop in the recorded population on registered water supplies. In 2010/11, 10 supplies serving 400,000 people in Christchurch were excluded from the Annual Drinking-water Quality Report following the Canterbury earthquakes. The actual number of people receiving fluoridated water did not change in equal measure, as Christchurch's water supply is not fluoridated. As the recorded 'total population on registered supplies' changed drastically for this period only, the peak should be discounted as an outlier. The actual number of people who received fluoridated water is presented in Table 1.

Figure 1: Percentage of the population on registered community drinking-water supplies with access to fluoridated drinking-water, 2009–2020



Source: Ministry of Health 2021

Table 1: Population on fluoridated drinking-water supplies, by year, 2009–2020

Period:	2009 /10	2010 /11	2011 /12	2012 /13	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20
People on registered supplies (millions)	3.97	3.40	3.81	3.81	3.83	3.79	3.79	3.82	3.84	4.08	4.14
People served fluoridated water (millions)	2.35	2.33	2.27	2.12	2.13	2.27	2.28	2.29	2.23	2.45	2.54
Percent served fluoridated water	59.1%	68.5%	59.5%	55.7%	55.6%	60.0%	60.0%	59.9%	58.1%	60.0%	61.4%

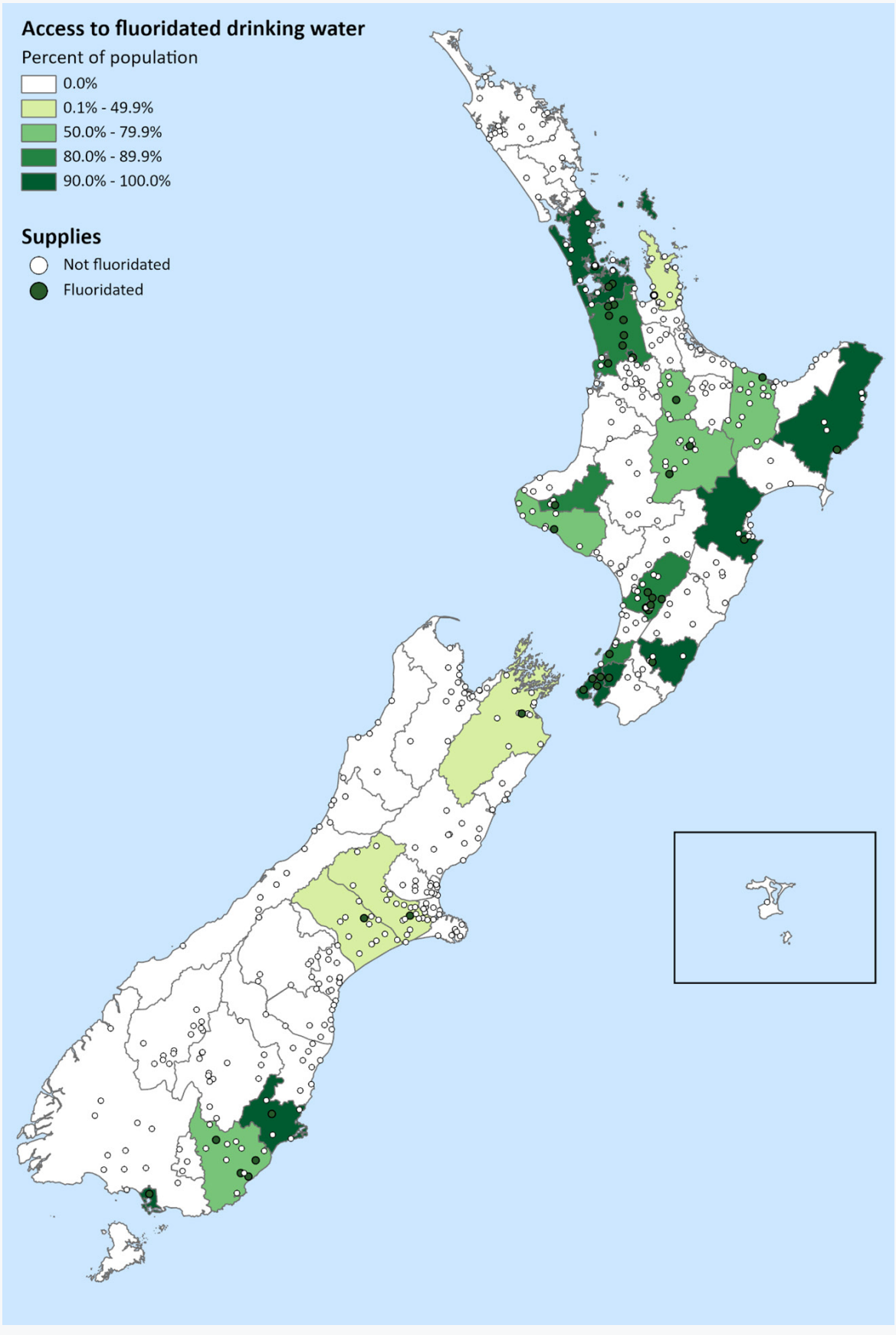
Source: Ministry of Health 2021

People in the North Island were four times as likely to have access to fluoridated drinking-water

In the North Island, 74.1% of the population on registered supplies were served fluoridated water in the 2019/20 reporting period. Thirty-three of the North Island's 253 registered supplies were fluoridated, spread across 19 territorial authorities. In the South Island, just 18.4% of the population on registered supplies were served fluoridated water. Nine of the South Island's 230 registered supplies were fluoridated, covering six territorial authorities.

Most of the territorial authorities with access to fluoridated drinking-water were those containing major urban areas, especially in the North Island (Figure 2); Christchurch, New Plymouth and Tauranga were notable exceptions to this. Wellington, Lower Hutt, Upper Hutt, Porirua and Dunedin had 100% of their population served by fluoridated drinking-water supplies.

Figure 2: Access to fluoridated drinking-water, by territorial authority, 2019/20



Source: Ministry of Health 2021

Table 2 provides the population and proportion figures for each territorial authority shown in Figure 2 (above).

Table 2: Access to fluoridated drinking-water, by territorial authority, 2019/20

Territorial authority	Population on registered supplies	Population with access to fluoridated water	Percent with access to fluoridated water
Wellington City	210,637	210,637	100.0%
Lower Hutt City	103,872	103,872	100.0%
Porirua City	55,005	55,005	100.0%
Invercargill City	50,456	50,456	100.0%
Upper Hutt City	39,927	39,927	100.0%
Hamilton City	169,525	169,325	99.9%
Auckland	1,451,638	1,422,604	98.0%
Dunedin City	116,360	112,515	96.7%
Gisborne District	31,721	30,600	96.5%
Hastings District	68,747	64,764	94.2%
Masterton District	20,940	19,000	90.7%
Palmerston North City	88,877	79,427	89.4%
Waikato District	35,385	31,235	88.3%
Manawatu District	18,051	15,419	85.4%
Stratford District	8,123	6,773	83.4%
Kapiti Coast District	43,865	35,800	81.6%
Taupō District	37,692	27,748	73.6%
South Waikato District	18,416	13,300	72.2%
Whakātane District	31,302	21,020	67.2%
Clutha District	13,592	7,985	58.7%
South Taranaki District	17,850	9,710	54.4%
Thames-Coromandel District	21,123	7,657	36.2%
Ashburton District	23,930	1,700	7.1%
Marlborough District	35,218	1,500	4.3%
Selwyn District	50,429	1,700	3.4%

Source: Ministry of Health 2021

The territorial authorities below lack any fluoridated water supplies

Table 2: Access to fluoridated drinking-water, by territorial authority, 2019/20

Territorial authority	Population on registered supplies
Christchurch City	352,473
Tauranga City	146,097
Whangarei District	71,780
New Plymouth District	65,210
Rotorua District	63,211
Napier City	57,660
Queenstown-Lakes District	55,899
Nelson City	52,790
Waimakariri District	52,534
Timaru District	43,658
Whanganui District	40,325
Waipā District	35,018
Western Bay of Plenty District	30,446
Far North District	29,614
Horowhenua District	26,586
Tasman District	26,475
Central Otago District	19,950
Waitaki District	19,949
Matamata-Piako District	18,004
Hauraki District	14,682
Southland District	12,268

Territorial authority	Population on registered supplies
Tararua District	11,056
Ruapehu District	10,319
Grey District	9,920
Gore District	9,570
Rangitikei District	8,734
Westland District	7,887
Kawerau District	7,721
Hurunui District	7,600
South Wairarapa District	6,998
Central Hawke's Bay District	6,871
Kaipara District	6,613
Buller District	6,594
Waitomo District	6,402
Waimate District	6,161
Opotiki District	5,560
Wairoa District	5,317
Carterton District	5,230
Ōtorohanga District	4,557
Mackenzie District	3,710
Kaikoura District	3,670
Chatham Islands Territory	125

Source: Ministry of Health 2021

Data for this indicator

This indicator presents information based on analysis of data published in the *Annual Report on Drinking-water Quality 2019–2020*, published by the New Zealand Ministry of Health in June 2021.

Unless otherwise stated, all differences mentioned in the text between two values are statistically significant at the 5% level or less.

For additional information, see the metadata link below.

References

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

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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.

Other related topics include:

Oral health of children

Access to safe drinking-water

Waterborne diseases related to drinking-water

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Further information

For descriptive information about the data Metadata Sheet

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