

Local policies to decrease the availability of sugar-sweetened beverages

A background paper



Canterbury
District Health Board
Te Poari Hauora o Waitaha

Prepared for the Communities Team
by the Information Team
Community & Public Health
November 2015

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Sugar-sweetened beverage consumption and health outcomes

This background paper provides a very brief summary of current evidence relating to the consumption of sugar-sweetened beverages (SSBs)¹ and health outcomes, and current district health board (DHB) and local government policies that have been implemented in New Zealand to decrease SSB availability.

Several recent systematic reviews and meta-analyses of observational studies, prospective cohort studies, and randomised controlled trials have found a significant positive relationship between SSB consumption and poor health outcomes among children and adults including:

- weight gain, overweight and obesity (Bucher Della Torre, Keller, Laure Depeyre, & Kruseman, 2015; Malik, Pan, Willett, & Hu, 2013; Te Morenga, Mallard, & Mann, 2013; Woodward-Lopez, Kao, & Ritchie, 2011)
- type 2 diabetes (Greenwood et al., 2014; Imamura et al., 2015; Malik et al., 2010)
- gout (Singh, Reddy, & Kundukulam, 2011), and
- hypertension (Cheungpasitporn et al., 2015; Jayalath et al., 2015; Keller, Heitmann, & Olsen, 2015; Malik, Akram, Shetty, Malik, & Njike, 2014; Xi et al., 2015).

Reviews found that those who drank SSBs most often (usually one or more servings per day) were at a significantly higher risk of these negative outcomes than those who drank SSBs the least often (usually no, or infrequent, consumption). For example, one meta-analysis reported that in prospective studies, the risk of children being overweight or obese was 55 percent higher among those with the highest intake of SSBs (approximately one serving per day) compared with those with the lowest intake (none or very little) (Te Morenga, et al., 2013). Also, the risk of poor health outcomes associated with SSB consumption tended to increase in a dose-dependent manner. An additional meta-analysis found that with every 330mL increase in SSB intake per day (slightly less than one standard-size can of SSB), the risk of type 2 diabetes increased by approximately 20 percent (Greenwood, et al., 2014).

In addition, it has been found that more frequent consumption of SSBs is significantly associated with dental caries among both children and adults (Armfield, Spencer, Roberts-Thomson, & Plastow, 2013; Bernabe, Vehkalahti, Sheiham, Aromaa, & Suominen, 2014; Levy, Warren, Broffitt, Hillis, & Kanellis, 2003; Marshall et al., 2003; Warren et al., 2009). Combined, these adverse health outcomes are associated with significant illness, disability, premature mortality, and inequity in New Zealand (Ministry of Health, 2013). Globally, it was estimated that in 2010, almost 300,000 deaths (about 0.6 percent) were attributable to diets high in SSBs (Lim et al., 2012).

¹ Beverages containing a caloric sweetener (usually sugar), including: carbonated/"fizzy"/"soda" drinks, powdered drinks, cordials, formulated caffeinated/"energy" drinks, electrolyte/"sports" drinks, fruit drinks, "soft" drinks, flavoured milks and "liquid breakfast" drinks, cold teas and coffees, and flavoured waters.

Although observational studies cannot definitively prove that the consumption of SSBs directly causes these poor health outcomes, there is evidence from prospective cohort studies and randomised controlled trials that consuming SSBs leads to poorer health outcomes, and removing SSBs from the diet can result in improved health outcomes (see examples in the reviews listed above). For example, a systematic review found that substituting SSBs with alternative beverages (such as water or low-energy beverages) was associated with significantly lower energy intake and less weight gain in the long-term (Zheng, Allman-Farinelli, Heitmann, & Rangan, 2015).

Sugar-sweetened beverage consumption in Aotearoa New Zealand

The New Zealand Ministry of Health recommends that children and adults limit their intake of SSBs because they are high in sugar and energy, and contain few (if any) beneficial nutrients (Ministry of Health, 2012, 2015). Some also contain stimulants, such as caffeine, which are inappropriate for children (Ministry of Health, 2012). However, in New Zealand, the consumption of SSBs is common among children, adolescents and adults (Clinical Trials Research Unit & Synovate, 2010; Ministry of Health, 2014; Parnell, Scragg, Wilson, Schaaf, & Fitzgerald, 2003; Sundborn, Gentles, & Metcalf, 2014; Sundborn, Utter, Teevale, Metcalf, & Jackson, 2014; University of Otago & Ministry of Health, 2011).

In the most recent New Zealand Health Survey, 59 percent of children (2-14 years of age) reported having “fizzy drink” at least once in the past week, and 17 percent had it three or more times in the past week (Ministry of Health, 2014). A previous large nationwide nutrition survey conducted in 2002 reported that beverages (including SSBs) provided 24 percent of total sugar intake and were the leading contributor of sugar to the diet of children (Parnell, et al., 2003). Among secondary school students participating in a national survey in 2007, 29 percent consumed “fizzy or soft drinks” four or more times per week, 45 percent consumed them 1-3 times per week, and 26 percent had not consumed any in the last week (Sundborn, Utter, et al., 2014). In a nationwide survey of New Zealand adults (15 years of age and over) conducted in 2008/2009, seven percent of respondents reported drinking “soft” or “energy” (not including “diet”) drinks daily, and 24 percent reported drinking them three or more times a week (University of Otago & Ministry of Health, 2011). Fruit juice and fruit drinks were consumed more often, with 14 percent of respondents drinking them daily, and 37 percent drinking them three or more times a week. Non-alcoholic beverages (including SSBs) were the second highest source of dietary sugar for adults – providing 17 percent of total sugars – after fruit (providing 18 percent) (University of Otago & Ministry of Health, 2011). There is a lack of more up-to-date published data on the consumption of SSBs among adolescents and adults, and their relative contribution to sugar intake in the diet of New Zealanders.

In addition, SSB intake in New Zealand is higher among Māori, Pacific, and those living in neighbourhoods with high deprivation scores (Ministry of Health, 2014; Sundborn, Gentles, et al., 2014; Sundborn, Utter, et al., 2014; University of Otago & Ministry of Health, 2011). Together, these findings suggest that SSBs would be a suitable target for intervention to improve the diet of New Zealanders as their consumption is associated with negative health consequences, they are commonly consumed by children and adults, they provide little-to-no nutritional value, and removing them from the diet can result in positive health outcomes and improved health equity.

Environmental interventions to decrease the availability of sugar-sweetened beverages

Decreasing SSB consumption among New Zealanders is a challenging prospect due to their relatively low cost, wide availability, high palatability, and heavy marketing. Therefore, it is pertinent to consider how DHBs and local government might play a role in limiting SSB consumption to improve the health of their communities. The World Health Organization and World Cancer Research Fund International, among other organisations, highlight the need to create health-promoting food environments that enable the public to easily make healthy food choices, as part of multicomponent strategies to improve public health and prevent and control non-communicable diseases (Hawkes, Jewell, & Allen, 2013; World Cancer Research Fund International, 2015; World Health Organization, 2013). Policy areas to achieve this include increasing the availability of healthy food and beverages in public institutions (including schools and health settings) and workplaces (Hawkes, et al., 2013; World Cancer Research Fund International, 2015; World Health Organization, 2013).

In line with this, the New Zealand Beverage Guidance Panel² (2014a) recently issued a policy brief containing options for different stakeholders and settings to contribute to reducing SSB consumption. These included recommendations to promote and implement restrictions and policies that impact on the availability of, and access to, SSBs. For example, recommendations for local government, workplaces and health professionals (including DHBs and Public Health Units) include developing and adopting an organisational SSB-free beverage policy, and ensuring SSBs are not sold on health care premises (New Zealand Beverage Guidance Panel, 2014a, 2014b). The Health Promotion Agency (2013) has also published guidelines for providing healthier beverage options in workplaces. These recommendations provide practical policy options relevant to DHBs and local government who have the opportunity to model a healthy environment through providing only healthy beverages for staff, visitors, and patients.

Barriers to introducing healthier food and beverage options and/or limiting less healthy options in workplaces include fears from retailers about poor sales and loss of revenue (Grech & Allman-Farinelli, 2015). However this may not be the case if well-priced healthy options are provided instead. For example, a systematic review of interventions to increase the availability and/or promotion of healthy choices in vending machines at workplaces, universities and schools found that increasing the proportion of healthy options available increased the sales of these items without a decrease in overall sales and/or loss of profits (Grech & Allman-Farinelli, 2015). One of the studies included in this review was an intervention in two Auckland hospitals that found that the introduction of healthier food items into their vending machines did not affect sales volumes, and increased staff satisfaction with vending machine products (Gorton, Carter, Cvjetan, & Ni Mhurchu, 2010).

² Independent panel includes several nutrition and health researchers and advocates, established to develop guidance to government and community groups to limit the intake of SSBs.

District health board and local government policies to decrease the availability of sugar-sweetened beverages

Recently DHBs and some local councils in New Zealand have introduced policies to support public health by limiting the availability of SSBs. In March 2014, Nelson Marlborough DHB became the first DHB in New Zealand to implement a policy limiting access to SSBs, which states that SSBs will not be sold on its premises, as part of a healthy eating policy for staff and visitors (Nelson Marlborough District Health Board, 2014). Since then, many other DHBs have developed policies addressing the sale and supply of SSBs on their premises. In August 2015 a letter from the Director General of Health was sent to all DHB Chief Executives and Chairs requesting that any DHBs that had not yet fully developed or implemented policies to remove SSBs from their premises, to do so by 30 September 2015 (Stewart, 2015). Hospitals in several other countries have also implemented policies to limit the sale of SSBs to varying degrees on their premises (Wojcicki, 2013).

Nelson City Council supported the initiative of the Nelson Marlborough DHB, and in July 2014, implemented a SSB policy which states that only beverages with no sugar added to them prior to the point of sale will be available for consumption at council workplaces (Nelson City Council, 2015). The policy also applies to council meetings, workshops and training events, conferences, council-funded social functions, and council-managed vending machines. The policy does not apply to hot or alcoholic beverages, or to beverages that are brought from home for personal use. Beverages that are accepted as alternative choices and are supported under this policy include water, 100 percent fruit juice, plain (i.e. unflavoured) milk, and artificially sweetened or “zero” sugar soft drinks. In a recent presentation to a SSB symposium, Nelson City Mayor Rachel Reese reported that the implementation of the council’s SSB policy was a simple process, community response was positive, and she encouraged other councils to “give it a go” (Reese, 2015).

In February 2015 Marlborough District Council became the second council in New Zealand to limit the sale of SSBs from council premises and council-funded events (Marlborough District Council, 2015). Since then, other local councils in New Zealand (including the Christchurch City Council (CPH, Communities Team Leader, 2015), Dunedin City Council (Elder, 2015), Timaru District Council (Montgomerie, 2015), and Palmerston North City Council (Heaton, 2015)), have been involved in meetings with DHBs about their role in creating health-promoting environments in their regions and limiting the availability of SSBs at council premises and events.

It is encouraging to see that DHBs and some local councils are providing leadership to ensure that they provide beverage choices that are aligned with national dietary guidelines. There is further opportunity for more councils to support the actions of their DHBs and follow the example of Nelson City and Marlborough District to become role models for their local communities. Policies and actions at this level are essential to increase the healthiness of food environments and contribute to reducing diet-associated non-communicable diseases and their related inequities.

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