



## **Public consultation on proposed changes to the promotion and provision of healthy drinks in schools**

Ministry of Education New Zealand | Te Tāhuhu o te Mātauranga Aotearoa

Doctors For Nutrition Submission | June 2022

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Doctors For Nutrition appreciates this opportunity to provide a submission in response to the public consultation outlined in the Ministry of Education's [discussion document](#).

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**1. In what capacity are you providing feedback? For example, are you responding as a parent, student, organisation, principal, teacher, or other interested person? Please specify your role and, if applicable, the type of school you work in.**

Doctors For Nutrition is an Australasian health promotion charity led by medical and dietetic professionals from across Australia, New Zealand and globally. Our vision is a society and healthcare system that embraces nutrition solutions to help people live longer and healthier lives. More information is available at [doctorsfornutrition.org](http://doctorsfornutrition.org).

**2. Do you agree with our view of the problem? If not, why not?**

We agree that free sugars are a part of the problem, particularly when it comes to dental health. However, free sugars are certainly not the only issue (nor indeed the primary issue) when it comes to the health concerns currently facing our tamariki and population.

Unfortunately our last nutrition survey of children in Aotearoa/New Zealand is 20 years out of date. However, recent research from the US shows declines in added sugars intakes among children, adolescents, and teens from 2001-2018, regardless of sociodemographic factors, food assistance, physical activity level, or body weight status<sup>1</sup>.

While it is often assumed that refined sugar and carbohydrate are the major contributors to excess energy intake in Western society, this idea is not supported by research. A recent UK study found that compared to those with normal BMI, obese participants had a 14.6%, 13.8%, 9.5% and 4.7% higher intake from fat, protein, starch and sugar, respectively<sup>2</sup>. In fact, it was concluded that because the proportion of fat in the diet, rather than sugar, was higher among overweight and obese individuals, focusing public health messages on sugar may mislead on the need to reduce fat and overall energy consumption.

Although refined sugar is often blamed for the diabetes epidemic, it seems to have little role in its aetiology besides as a source of additional energy<sup>3</sup>.

An approach that considers other nutritional aspects, particularly saturated fat content, and ideally that includes healthy foods would be substantially more effective in health promotion. This approach would also be more aligned with actions suggested by the Ministry of Health to promote sustainability with food<sup>4</sup>. Nonetheless, a reduction in free sugars from beverages in our schools is a step in the right direction.

### **3. What other problems, if any, do you think should be taken into consideration in assessing options?**

See above. It is particularly important in the school setting that the environmental impact of food and beverage choices is also a consideration.

### **4. Are these the right objectives? Can you think of any others to add?**

As noted above schools should model both healthy and environmentally sustainable consumption behaviours for children at a young age, ideally for both food and drink.

### **5. Are there any other options that you think should be considered?**

Secondary schools should be included, and secondary students are more likely to have the means to purchase unhealthy drinks. It may be even more important that health promoting behaviours are modelled and supported in the secondary school environment where students are able to make more decisions independent of parents and whānau.

Doctors For Nutrition is a member of Health Coalition Aotearoa and agree with the Coalition that a further option should be considered if we are taking the health of our tamariki seriously. We urge the Ministry to consider that the existing nutrition guidelines for schools are replaced with a regulation that all schools and Kura Kaupapa Māori promote healthy, nutritious food, and a duty on all schools (primary and secondary) to only provide healthy food and drinks.

**6. Do you agree with this definition of healthy drinks? Are there any other drinks you think should be allowed, or any included in this definition that shouldn't be? If so, what are your reasons for including or excluding these drinks?**

Reduced or low-fat milk is not a healthy drink for children.

While working in the Philippines helping malnourished children, nutritional biochemist T. Colin Campbell noticed those with the highest protein diets were most likely to develop liver cancer. He investigated this further in experimental animal studies. After exposure to the carcinogen (aflatoxin) thought responsible for unusually high rates of liver cancer in Filipino children, high protein diets promoted cancer in the mice, whereas low protein diets inhibited its initiation. The effect of dietary protein was so powerful Campbell explained "...we could turn on and turn off cancer growth simply by changing the levels consumed". Casein, which makes up 87% of the protein found in cow's milk, most consistently and strongly promoted cancer<sup>5</sup>.

Intake of dairy protein particularly (along with other animal sources), increases levels of insulin-like growth factor 1 (IGF-1) hormone<sup>6,7</sup>, implicated in the development and progression of several cancers<sup>8</sup>. Increased IGF-1 is associated with risk for a number of cancers<sup>9</sup>, but most well established for breast<sup>10</sup>, prostate<sup>11</sup>, and colorectal cancers<sup>8</sup>, for all of which it is believed to be causal.

Dairy consumption has been associated with higher risk of cancer overall<sup>12</sup>. Consistent with Campbell's findings, a higher risk of liver cancer was associated with dairy intake in China<sup>12</sup>. Risk of several cancers with well-established links with IGF-1 is increased by dairy consumption. Consumption of dairy foods, and milk especially, has been associated with an increased risk of breast cancer<sup>12,13</sup>. Increased IGF-1 appears associated with oestrogen receptor positive (ER+) but not oestrogen receptor negative (ER-) breast cancers<sup>10</sup>, and only ER+ and progesterone positive cancers showed convincing positive associations with milk intake in a recent study that adjusted for soy intake and considered low levels of milk consumption<sup>13</sup>.

Consumption of dairy foods, and again milk especially, has been associated with a dose-dependent increase in risk of prostate cancer<sup>14</sup>. Japan, where this research took place, experienced an almost linear 25-fold increase in prostate cancer deaths following World War 2, coinciding with the 'Westernisation' of the Japanese diet, which included a 20-fold increase in milk consumption<sup>15</sup>. Again, IGF-1 may be responsible for this association<sup>16</sup>. A recent review of scientific publications found that: "The overwhelming majority of the studies included...were suggestive of a link between milk consumption and increased risk of developing prostate cancer."<sup>17</sup>

Acne is a near ubiquitous skin condition particularly of adolescence in Westernised societies, but has a substantially lower prevalence in non-Westernised populations

where it may even be absent entirely<sup>18</sup>. Significantly higher levels of IGF-1 are found in people who have acne compared with those who do not<sup>19</sup>. A review of 14 studies including almost 80,000 young people found consumption of dairy significantly increased risk for acne<sup>20</sup>. Interestingly, and consistent with the proposed link with IGF-1, researchers report a link between adolescent acne and both breast<sup>21</sup> and prostate cancers<sup>22</sup> in later life.

Therefore, Doctors For Nutrition support 'healthy drinks' being defined as plain, unflavoured water, and unsweetened reduced or low-fat plant based milks (e.g. soy, rice, almond, oat) with added calcium and vitamin B12 only. Both of these choices are consistent with the health of our tamariki and our planet, and are aligned with actions suggested by the Ministry of Health to promote sustainability with food<sup>4</sup>.

**7. Can you think of any difficulties primary schools might have in only providing healthy drinks? Would a 'lead-in' period be helpful for schools to transition to the new duty?**

We support schools being provided with a 'lead-in' period of 6 months to 1 year in order to enable them to adjust or terminate existing contracts and distribute remaining stocks of unhealthy beverages that they are unable to return to suppliers.

**8. If you are an area and/or composite school, are there particular difficulties you may face implementing this duty?**

Not applicable.

**9. Can you think of any benefits and/or challenges that secondary schools would face in meeting a new legal duty to only provide healthy drinks?**

We agree that there may be challenges as outlined in the example provided and therefore support a short 'lead-in' period as detailed in our response to Question 7.

**10. Do you agree that we should replace the current guidance to promote healthy food and nutrition with Regulations that require school boards to continue doing this? Please explain the reasons for your agreement or disagreement.**

Yes, we support this change. It is important that there is a clear and consistent rule for all schools in New Zealand and that all schools provide only healthy drink options.

**11. What do you think about these circumstances? Are any of them unnecessary? Can you think of any other circumstances where it would be reasonable to not have the duty? If so, why?**

We agree with exceptions to these duties for medical or public health reasons as listed. We also agree in principle with the idea that it can be important to have

different kinds of food and drinks for celebrations or special events. This seems reasonable as long as it is occasional, and also that there are always healthy and environmentally sustainable food and drink options provided and encouraged at these events too.

**12. Do you feel that the high-trust light-touch compliance approach is appropriate? If not, why not?**

Yes, we agree with the approach proposed.

**References**

1. Ricciuto L, Fulgoni VL, Gaine PC, Scott MO, DiFrancesco L. Trends in Added Sugars Intake and Sources Among US Children, Adolescents, and Teens Using NHANES 2001-2018. *J Nutr.* 2022 Feb 8;152(2):568-578. doi: 10.1093/jn/nxab395. PMID: 34850066; PMCID: PMC8826875.
2. Anderson JJ, Celis-Morales CA, Mackay DF, et al. Adiposity among 132 479 UK Biobank participants; contribution of sugar intake vs other macronutrients. *Int J Epidemiol.* 2017 Apr 1;46(2):492-501.
3. Lean ME, Te Morenga L. Sugar and type 2 diabetes. *Br Med Bull.* 2016 Dec;120(1):43-53.
4. Ministry of Health. 2019. Sustainability and the Health Sector: A guide to getting started. Wellington: Ministry of Health.
5. Campbell, T. C., & Campbell, T. M. *The China study: The most comprehensive study of nutrition ever conducted and the startling implications for diet, weight loss and long-term health.* BenBella; 2006.
6. Romo Ventura E, Konigorski S, Rohrmann S, et al. Association of dietary intake of milk and dairy products with blood concentrations of insulin-like growth factor 1 (IGF-1) in Bavarian adults. *Eur J Nutr.* 2020 Jun;59(4):1413-1420. doi: 10.1007/s00394-019-01994-7. Epub 2019 May 14. PMID: 31089868.
7. Holmes MD, Pollak MN, Willett WC, Hankinson SE. Dietary correlates of plasma insulin-like growth factor I and insulin-like growth factor binding protein 3 concentrations. *Cancer Epidemiol Biomarkers Prev.* 2002 Sep;11(9):852-61. PMID: 12223429.
8. Murphy N, Carreras-Torres R, Song M, et al. Circulating Levels of Insulin-like Growth Factor 1 and Insulin-like Growth Factor Binding Protein 3 Associate With Risk of Colorectal Cancer Based on Serologic and Mendelian Randomization Analyses. *Gastroenterology.* 2020 Apr;158(5):1300-1312.e20. doi: 10.1053/j.gastro.2019.12.020. Epub 2019 Dec 27. PMID: PMC7152801
9. Knuppel A, Fensom GK, Watts EL, et al. Circulating Insulin-like Growth Factor-I Concentrations and Risk of 30 Cancers: Prospective Analyses in UK Biobank. *Cancer Res.* 2020 Sep 15;80(18):4014-4021. doi: 10.1158/0008-5472.CAN-20-1281. Epub 2020 Jul 24. PMID: 32709735.

10. Murphy N, Knuppel A, Papadimitriou N, et al. Insulin-like growth factor-1, insulin-like growth factor-binding protein-3, and breast cancer risk: observational and Mendelian randomization analyses with ~430 000 women. *Ann Oncol*. 2020 May;31(5):641-649. doi: 10.1016/j.annonc.2020.01.066. Epub 2020 Mar 10. PMID: 32169310; PMCID: PMC7221341.
11. Watts EL, Fensom GK, Smith Byrne K, et al. Circulating insulin-like growth factor-I, total and free testosterone concentrations and prostate cancer risk in 200 000 men in UK Biobank. *Int J Cancer*. 2021 May 1;148(9):2274-2288. doi: 10.1002/ijc.33416. Epub 2020 Dec 11. PMID: 33252839; PMCID: PMC8048461.
12. Kakkoura MG, Du H, Guo Y, et al. Dairy consumption and risks of total and site-specific cancers in Chinese adults: an 11-year prospective study of 0.5 million people. *BMC Med*. 2022 May 6;20(1):134. doi: 10.1186/s12916-022-02330-3. PMID: 35513801; PMCID: PMC9074208.
13. Fraser GE, Jaceldo-Siegl K, Orlich M, Mashchak A, Sirirat R, Knutsen S. Dairy, soy, and risk of breast cancer: those confounded milks. *Int J Epidemiol*. 2020 Oct 1;49(5):1526-1537. Doi: 10.1093/ije/dyaa007. PMID: 32095830; PMCID: PMC8453418.
14. Mikami K, Ozasa K, Miki T, et al. Dairy products and the risk of developing prostate cancer: A large-scale cohort study (JACC Study) in Japan. *Cancer Med*. 2021 Oct;10(20):7298-7307. doi: 10.1002/cam4.4233. Epub 2021 Oct 4. PMID: 34606688; PMCID: PMC8525158.
15. Ganmaa D, Li XM, Qin LQ, Wang PY, Takeda M, Sato A. The experience of Japan as a clue to the etiology of testicular and prostatic cancers. *Med Hypotheses*. 2003 May;60(5):724-30. doi:10.1016/s0306-9877(03)00047-1. PMID: 12710911.
16. Harrison S, Lennon R, Holly J, et al. Does milk intake promote prostate cancer initiation or progression via effects on insulin-like growth factors (IGFs)? A systematic review and metaanalysis. *Cancer Causes Control*. 2017 Jun;28(6):497-528. doi: 10.1007/s10552-017-0883-1. Epub 2017 Mar 30. PMID: 28361446; PMCID: PMC5400803.
17. Sargsyan A, Dubasi HB. Milk Consumption and Prostate Cancer: A Systematic Review. *World J Mens Health*. 2021 Jul;39(3):419-428. doi: 10.5534/wjmh.200051. Epub 2020 Jul 27. PMID: 32777868; PMCID: PMC8255404.
18. Cordain L, Lindeberg S, Hurtado M, Hill K, Eaton SB, Brand-Miller J. Acne vulgaris: a disease of Western civilization. *Arch Dermatol*. 2002 Dec;138(12):1584-90. doi: 10.1001/archderm.138.12.1584. PMID: 12472346.
19. Tsai TY, Chao YC, Chou WT, Huang YC. Insulin resistance and insulin-like growth factor-1 level in patients with acne: A systematic review and meta-analysis. *Dermatol Sin* 2020;38:123-4.
20. Juhl CR, Bergholdt HKM, Miller IM, Jemec GBE, Kanters JK, Ellervik C. Dairy Intake and Acne Vulgaris: A Systematic Review and Meta-Analysis of 78,529 Children, Adolescents, and Young Adults. *Nutrients*. 2018 Aug 9;10(8):1049. doi: 10.3390/nu10081049. PMID: 30096883; PMCID: PMC6115795.

21. Murphy JD, Sandler D, White AJ, O'Brien KM. Severe acne and risk of breast cancer. *Breast Cancer Res Treat.* 2019 Sep;177(2):487-495. doi:10.1007/s10549-019-05302-z. Epub 2019 Jun 5. PMID: 31165375; PMCID: PMC6771926.
22. Ugge H, Udumyan R, Carlsson J, Andrén O, Montgomery S, Davidsson S, Fall K. Acne in late adolescence and risk of prostate cancer. *Int J Cancer.* 2018 Apr 15;142(8):1580-1585. doi:10.1002/ijc.31192. Epub 2017 Dec 14. PMID: 29205339; PMCID: PMC5838533.