



MONITORING REPORT 2018



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About Healthy Auckland Together

Healthy Auckland Together is a coalition committed to improving the environment of Auckland so that it is a place where all people can live full and healthy lives. By working collaboratively, we want to make it easier for everyone to be active, eat better and stay a healthy weight.

Our Vision

Our vision is a social and physical environment that supports people living in Auckland to eat well, live physically active lives, and maintain a healthy body weight, within their communities.

We will do this by focusing on three goals:

1. improving nutrition
2. increasing physical activity
3. reducing obesity.

These goals have a priority focus on equitable outcomes for Māori, Pacific and lower socio-economic communities.

Who We Are

Healthy Auckland Together partners include agencies from health, local government, transport, iwi, university and NGOs. Together we are responsible for some of the key environmental settings that influence our health.

Key Healthy Auckland Together Strategies

- What we do: Collaborative approaches between partners for more effective and equitable outcomes.
- What we say: Influence policy and environmental decisions, and raise the profile of key issues.
- What we measure: Monitor, collect and present evidence to inform our approach and encourage progress towards the vision.

Healthy Auckland Together is committed to a strategic approach that involves collaboration amongst partner organisations, the co-ordination and strengthening of existing programmes, and improved infrastructure. Healthy Auckland Together's main focus is on regional activities within the direct control of partner agencies, while using its collective voice to influence policy settings at the national level.

Healthy Auckland Together Partners

Acknowledgements

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The organisations that contributed data to this report are: the Ministry of Health, the Ministry of Transport, Auckland Council, Auckland Transport, Auckland Regional Dental Service, Statistics NZ, the Heart Foundation, and the University of Auckland INFORMAS health group.

Overview

Welcome to the third Healthy Auckland Together Monitoring Report.

This report provides a snapshot of Aucklanders' current and future health by measuring obesity, nutrition and physical activity rates. We also check indicators of our environment – our community and transport infrastructure, and the supply and marketing of food. All of these have a strong influence on healthy behaviours and can either support or obstruct our goal of people living in Auckland eating well, living physically active lives, and maintaining a healthy body weight.

Obesity is a major risk factor for a wide range of non-communicable diseases, including heart disease, stroke, type 2 diabetes, cancer, osteoarthritis and depression. Obesity in New Zealand has overtaken tobacco as the leading cause of health loss.

Obesity rates have continued upwards for adults and in children aged 0 to 14 years old. The proportion of obese adults in Auckland closely matches that of the rest of New Zealand, at 30.4% in 2017, up from 24% a decade ago. Similarly, the proportion of obese 0 to 14-year-olds was 15% in 2017, up from 11% in 2011.

Yet only 8.2% of our four-year-olds weighed at the B4 School Check (B4SC) are obese. We have sustained a decline over three years in the proportion of four year olds above a normal weight.

We are seeing the results of an increase in healthy behaviours in the early years of children's lives in Auckland, and the unfortunate reversal of the same behaviours as children head to school and move into adult life. More research is needed to accurately determine the cause of these changes. The Monitoring Report's indicators point to the potential contribution of unhealthy diets in an environment largely unsupported by healthy nutrition policies, and decreasing incidental exercise from children's trips to and from school.

This year we have looked at the prevalence of obesity and poor dental health according to deprivation and, unsurprisingly, found a very close relationship between the two in children.

Poor nutrition continues to be a major determinant of health and obesity. This year's report includes the survey of dental health from B4SC data, which covers nearly every school-aged child in Auckland. What we find is that children residing in the highest deprivation areas are 22% less likely to have healthy teeth and gums than those residing in the least deprived areas.

The report does highlight some notable positives, however, especially in our built environment. The sustained investment in public transport and cycleways is producing real gains in the numbers of people travelling without a car.

The aim of this report is to give the public, policy makers and key stakeholders clear information on Auckland's environmental and health outcomes. The annual release of this report also helps provide context over time, highlighting the trends in the prevention of obesity.

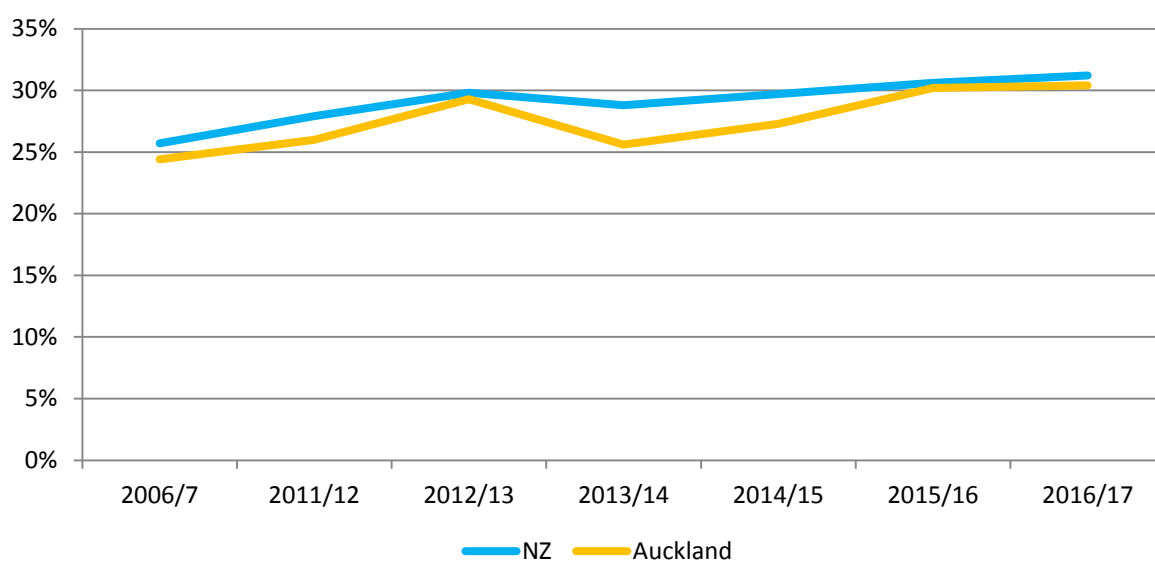
1 Population Indicators

Obesity is a major risk factor for ill health. It increases the risk of a wide range of diseases, including heart disease, stroke, type 2 diabetes, cancer, osteoarthritis, depression and others. Obesity in New Zealand has now overtaken tobacco use as the leading cause of overall health loss¹.

1.1 Adult Obesity

Figure 1 shows that obesity in Auckland has been gradually rising over the past decade – slightly lower than the overall New Zealand proportion, but in the same direction as the national trend. The prevalence of obesity in Auckland closely matches the national prevalence². The overall proportion of adults with obesity in Auckland is now 30.4%. This represents an increase of about a fifth in the last decade. In 1977, the proportion of the New Zealand proportion that was obese was only 10%³.

Figure 1: Adult Obesity Prevalence in Auckland



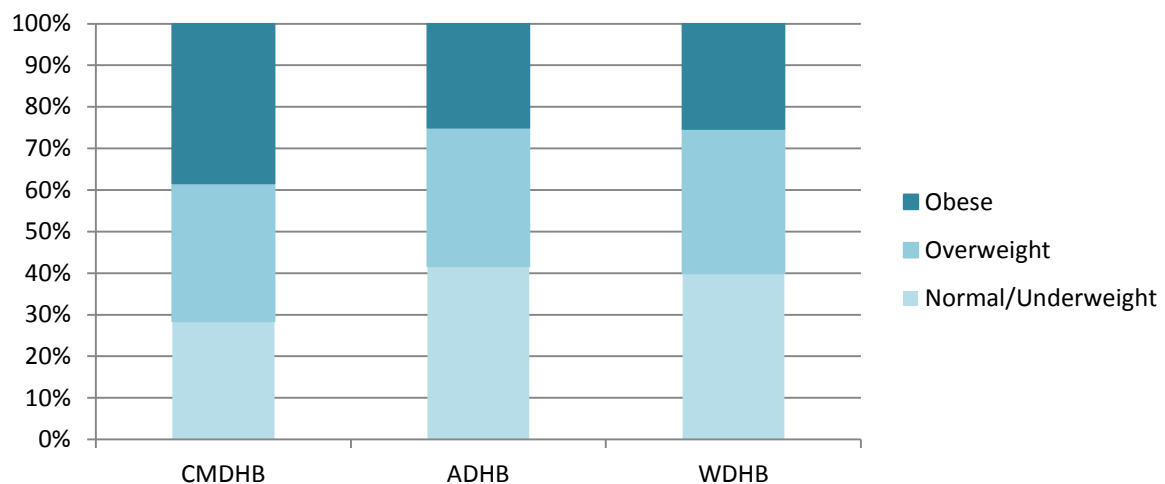
¹ Ministry of Health. 2016. Health Loss in New Zealand 1990–2013: A report from the New Zealand Burden of Diseases, Injuries and Risk Factors Study. Wellington: Ministry of Health.

² Ministry of Health. Annual Update of Key Results 2015/2016: New Zealand Health Survey. Ministry of Health 2016 978-0-947515-91-1

³ Superu - <http://superu.govt.nz/sites/default/files/Obesity%20Fact%20Sheet.pdf>

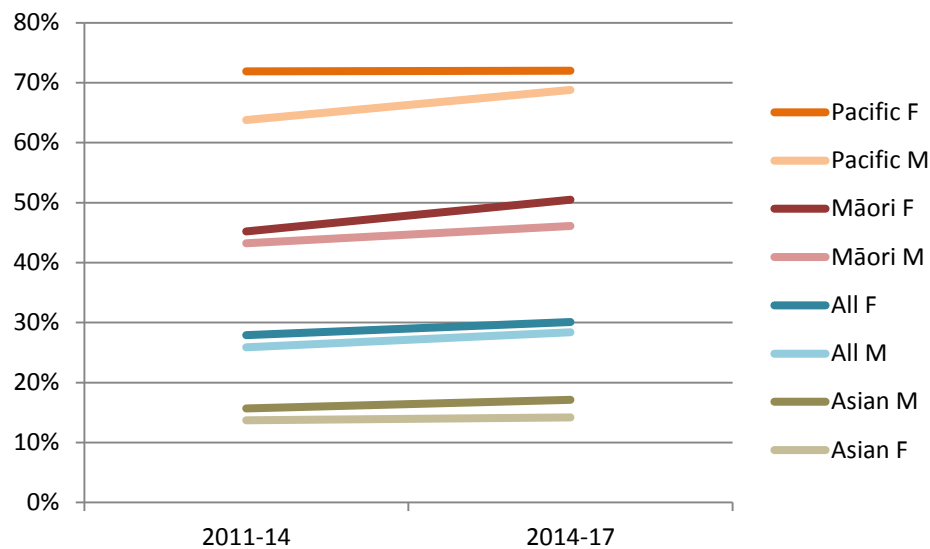
The geographic distribution of obesity in the Auckland region is far from homogenous and reflects the varied ethnic and socioeconomic make-up of the city's communities. In Figure 2, however, the proportions of the populations who are obese differ, with Auckland and Waitemata having approximately 25% of the population determined to be obese, while for Counties Manukau, the respective figure is approaching 40%. DHB level breakdowns reveal that each of the region's three DHBs has populations within which approximately a third of people meet overweight (but not obese) criteria.

Figure 2: BMI Distribution of Adults by DHB in Auckland



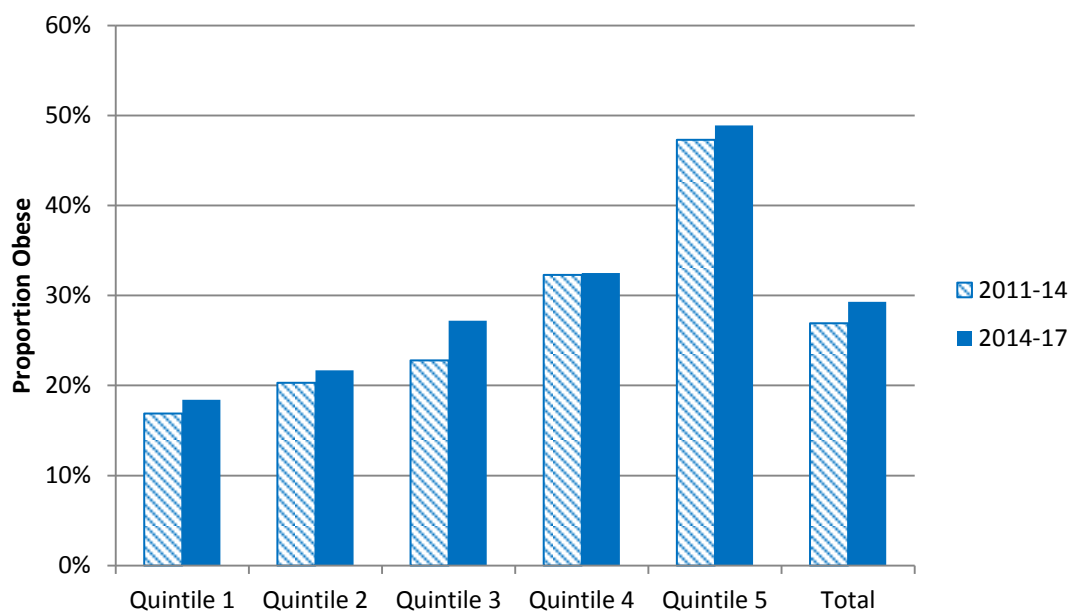
Further data from the New Zealand Health Survey illustrates the large inequities in obesity prevalence. In 2014-2017, as shown in Figure 3, the overall prevalence of obesity in Auckland adults was 28.4% for men and 30.1% for women; however this varies markedly between ethnic groups. Asian people have the lowest rates (14.2% for women and 17.1% for men), rates are higher for Māori (50.5% for women and 46.1% for men) and highest for Pacific peoples (72.0% for women and 68.8% for men). After adjusting for age and gender, the rate for the prevalence of obesity is significantly higher in Māori compared to non-Māori at 1.76; and in Pacific as compared with non-Pacific at 3.08. In contrast, the prevalence of obesity in those with Asian ethnicity is significantly lower – for Asian as compared with non-Asian, the rate is 0.45.

Figure 3: Percentage of Obese Adults by Ethnicity in Auckland



In addition to disparities in the prevalence of obesity between ethnic groups, differences are also observed among groups when considering measures of socioeconomic deprivation. As shown in Figure 4 the prevalence rises progressively from those residing in the least deprived areas (18.4%; quintile 1) to those residing in the most deprived areas (48.9%; quintile 5).

Figure 4: Percentage of Obese Adults by Socioeconomic Deprivation Quintiles in Auckland



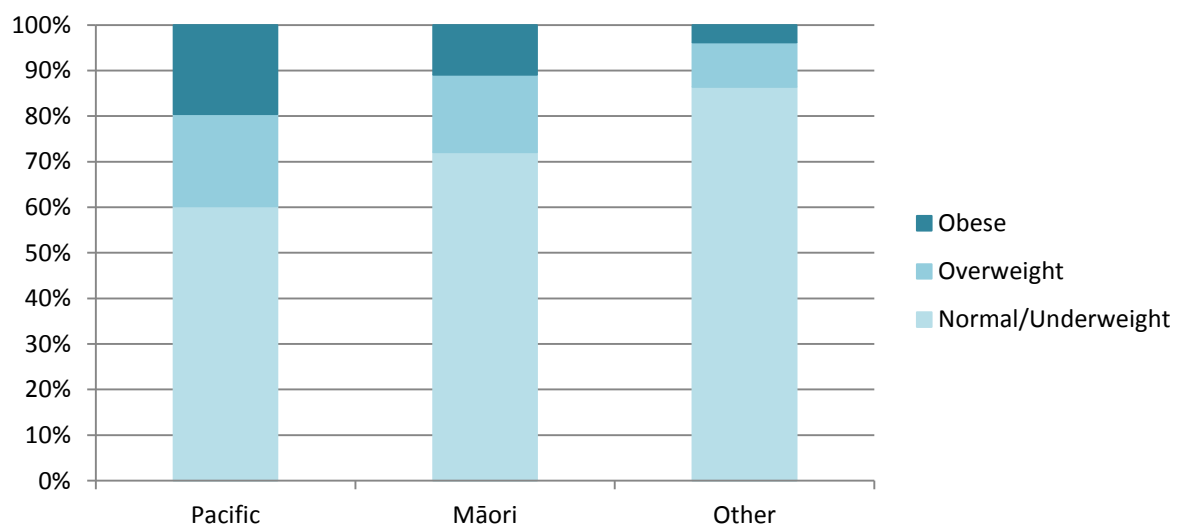
Source: New Zealand Health Survey 2016/2017

1.2 Child (4-year-olds) Obesity

Obesity in children is determined by their nutritional and physical environment. It is a risk factor for obesity in adulthood, and can cause the early onset of diseases not usually seen in childhood, such as type 2 diabetes, hypertension and sleep apnoea.

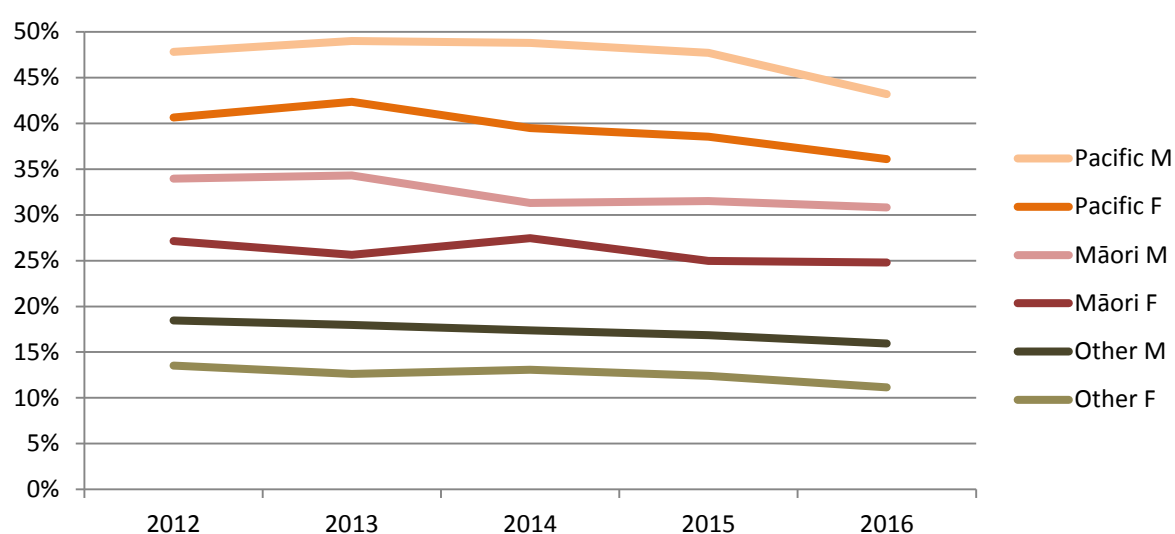
The B4 School Check (B4SC) is a national programme run by the Ministry of Health, which measures a range of health indicators before children begin school. The assessment of BMI in children needs to take into account the age and gender of the child. Instead of using fixed thresholds for BMI as in adults, cut-off points derived from reference populations are used.

Figure 5: BMI Distribution of 4-Year-Olds by Ethnicity in Auckland



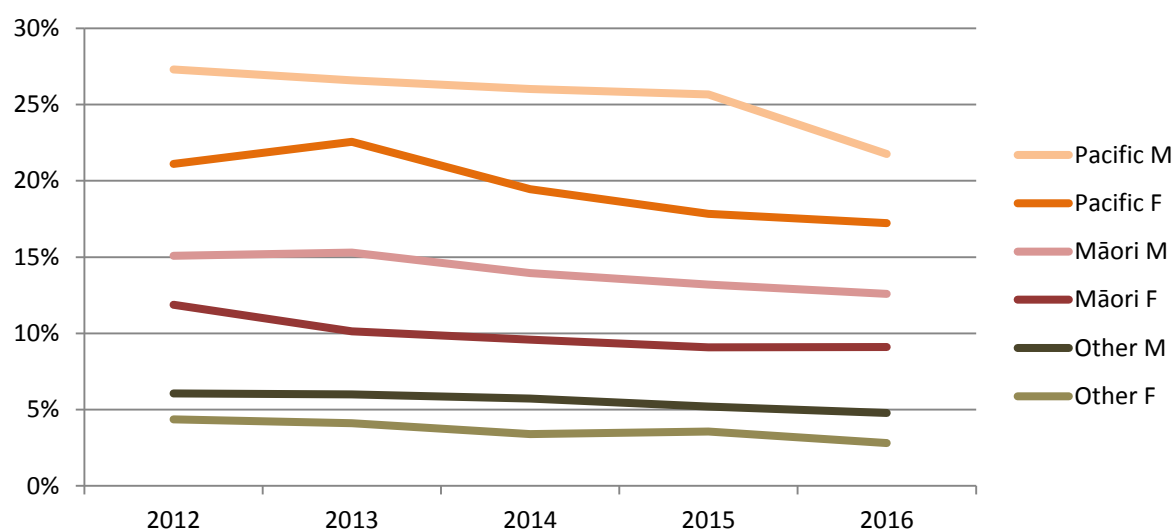
In 2016, the overall percentage of Auckland 4-year-olds who were above a normal weight was 21.2%, with 13.1% overweight and 8.2% obese. In Figure 5, we can see there is a significant difference between ethnic groups, with only 60.2% of Pacific children and 72.1% of Māori children at a normal weight or underweight, compared with 86.4% of all other children.

Figure 6: Percentage of Overweight and Obese 4-Year-Olds by Ethnicity and Gender in Auckland



When comparing the B4 School Check data since 2012 in Figure 6, the slight downwards trend in the proportion of overweight and obese children observed in 2014 has been maintained. In fact there is a suggestion in the latest 2016 data that this decline may have accelerated. This is consistent across almost all ethnic and gender groups. However, clear disparities by ethnicity in overweight and obesity rates still exist, with overall Māori rates of 27.9% and Pacific rates of 39.8%. Māori children are 2.1 times more likely to be overweight or obese than European/Other children, and Pacific children are 2.9 times more likely. Since 2012, these disparities have increased slightly from rates of 1.9 and 2.8 respectively.

Figure 7: Percentage of Obese 4-Year-Olds by Ethnicity and Gender in Auckland

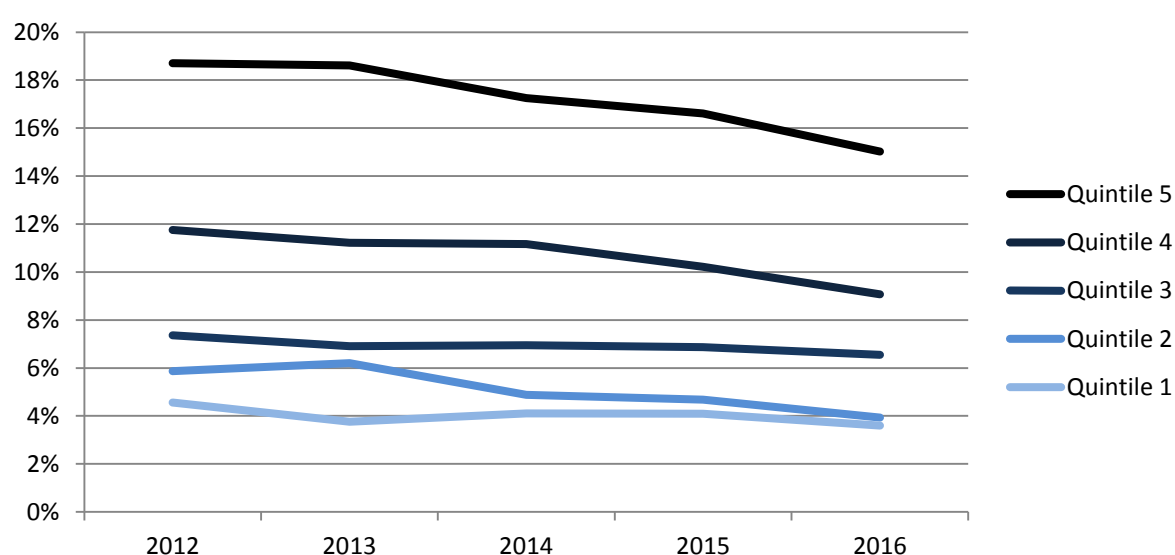


In Figure 7, the proportion of Māori (10.9%) and Pacific (19.6%) children in the heaviest 'obese' BMI category has decreased since 2012 (13.5% and 24.3% respectively). During the same time period, smaller decreases have occurred for European/Other children. Looking at the obese category only, disparities between ethnic groups are even more pronounced than those seen in Figure 3, with Māori 2.9 times more likely and Pacific 5.1 times more likely to be obese than European/Other

children. These disparities have persisted since 2012, and despite a narrowing of the gap in absolute terms, the relative disparities have increased (for Māori from 2.6 to 2.9, and for Pacific from 4.6 to 5.1).

As is seen in adults, in addition to disparities in the prevalence of obesity between ethnic groups, differences are also observed among groups when considering measures of socioeconomic deprivation. As shown in Figure 8, the prevalence of obesity rises progressively from those residing in the least deprived areas (3.6%; Quintile 1) to those living in the most deprived areas (15.0%; Quintile 5). The overall B4SC population has seen a decrease in the prevalence of obesity by around a fifth from 10.4% in 2012 to 8.2% in 2016. While a greater absolute drop has been observed for those in more deprived areas, the relative level of disparity has remained reasonably constant (with a ratio of around 4.1 for each year when comparing quintile 5 with quintile 1).

Figure 8: Percentage of Obese 4-Year-Olds by Socioeconomic Deprivation Quintile in Auckland



The findings from the B4SC Auckland data presented above are consistent with those observed in a study of the B4SC data at a national level⁴. Although different thresholds were used, the same disparities are seen along with the downwards trends for overweight and obesity across all gender, ethnic and socioeconomic groups in the New Zealand data for 2010-2016. The findings are also consistent with a recent systematic review of childhood obesity prevalence in economically advanced countries, which found that most studies performed after 2000 found no change or a decrease in obesity prevalence among both high and low socioeconomic groups⁵.

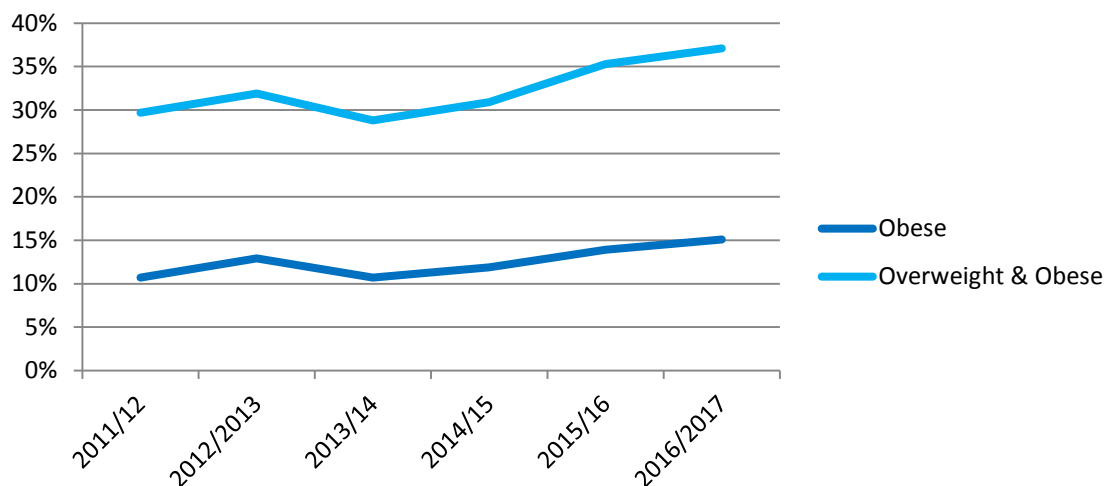
⁴ Shackleton N, Milne BJ, Audas R, Derraik J, Zhu T, Taylor RW, et al. Improving rates of overweight, obesity and extreme obesity in New Zealand 4-year-old children in 2010–2016. *Paediatric Obesity* 2017

⁵ Chung A, Backholer K, Wong E, Palermo C, Keating C, Peeters A. Trends in child and adolescent obesity prevalence in economically advanced countries according to socioeconomic position: a systematic review. *Obesity Reviews* 2016;17(3):276-295

1.3 Child (0 to 14-year-olds) Obesity

Figure 9 shows trends that are consistent with adult obese and overweight trends. From 2011/12 the proportion of obese children, a range of 0 to 14-year-olds increased from 11% to 15% in 2016/2017. This upward trend is greater when combining obese and overweight 0 to 14-year-olds, who accounted for 28% of the total population of that age group in 2011/12 and jumped to 37% in 2016/17.

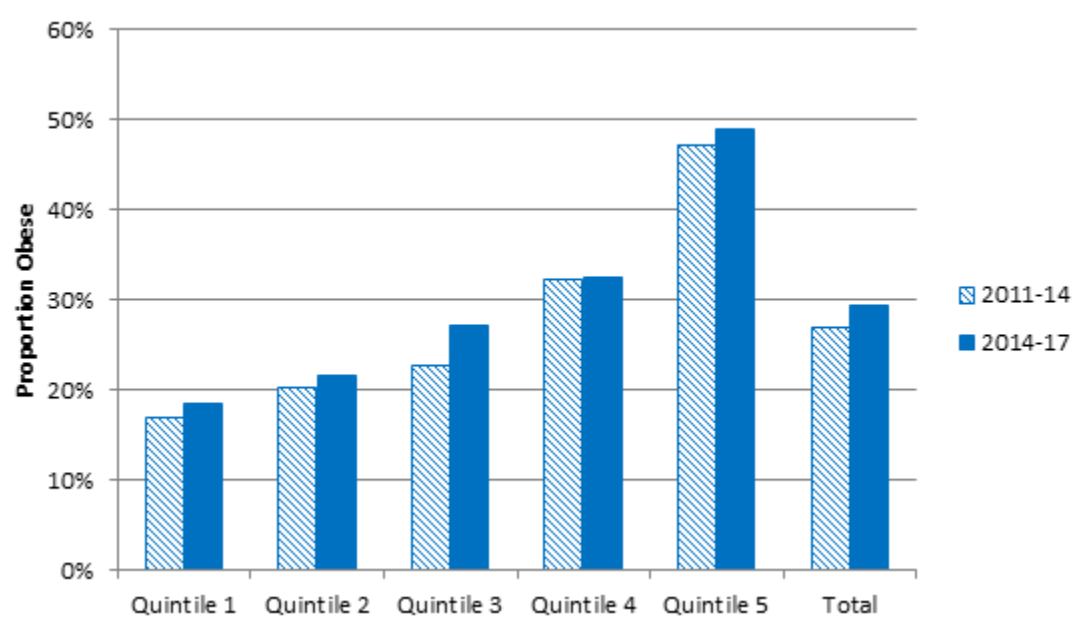
Figure 9: Percentage of Obese and Overweight 0 to 14-Year-Olds



The NZHS data is consistent with previous findings in this report that obesity is overrepresented in more deprived neighbourhoods with 26% of the 0 to 14-year-olds in the most deprived quintile being obese in 2014-2017 pooled years, compared to only 3% in the least deprived quintile, Figure 10. There has been a small increase across all quintiles, except Quintile 4 in the 3-year pooled periods. A recent study of the NZHS data found that the odds of having a higher BMI in children had a directly proportional relationship with deprivation. Children in higher deprivation were more likely to have a higher BMI after adjusting for household income, age, education level and ethnicity⁶.

⁶ Halim AA. 2017. The Effect of Area Level Deprivation on Obesity in New Zealand: Analysis of The New Zealand Health Surveys. Unpublished Master's Thesis. University of Otago. Wellington.

Figure 10: Proportion of Obese 0 to14-year-olds by Socioeconomic Deprivation Quintiles in Auckland

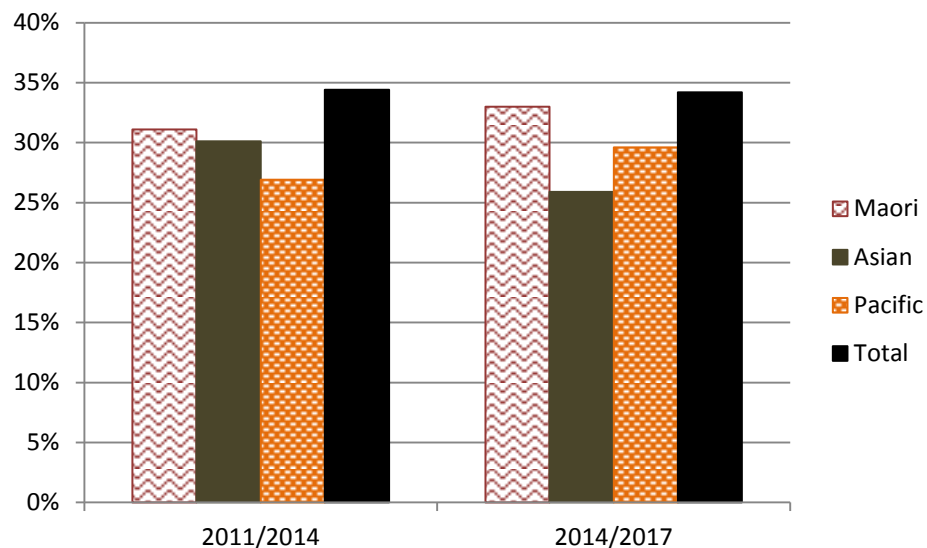


1.4 Adult Nutrition

Fruit and Vegetable Intake

The Eating and Activity Guidelines for New Zealand Adults recommend that New Zealand adults have at least two serves of fruit per day, and three serves of vegetables. Serving sizes are generally between 50-150g of cooked or raw food⁷. The New Zealand Health Survey asks participants how many servings of fruit and how many servings of vegetables they consume per day.

Figure 11: Percentage of Auckland Adults Meeting Fruit and Vegetable Intake Guidelines by Ethnicity

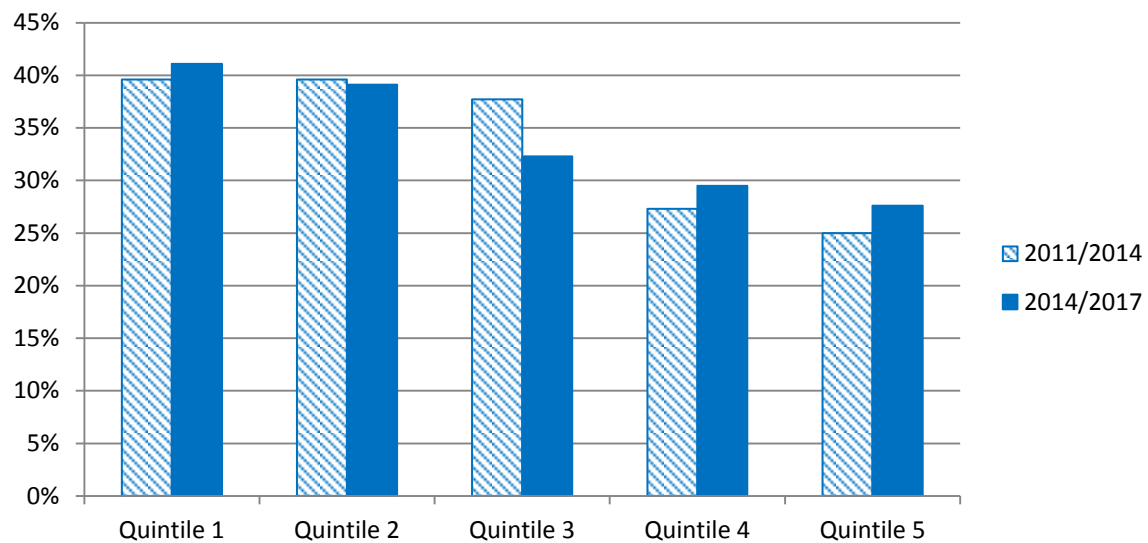


In Figure 11, the total percentage of Auckland adults meeting both fruit and vegetable intake guidelines is 34%. This has stayed stable over the 2011/14 pooled years. Men as a whole are less likely than women to consume fruit and vegetables at a rate of 0.75.

Asian men are the least likely to consume enough fruit and vegetables with a rate of 0.62 compared to non-Asian men. Both Māori and Pacific ethnic groups have seen a slight increase in their intake from 31% and 27% in 2011/14 to 33% and 30% respectively in 2014/17.

⁷ Ministry of Health. Eating and Activity Guidelines for New Zealand Adults 2015. - <http://www.health.govt.nz/publication/eating-and-activity-guidelines-new-zealand-adults>

Figure 12: Percentage of Auckland Adults Meeting Fruit and Vegetable Intake Guidelines by Quintiles



In Figure 12, a marked difference is noted when comparing fruit and vegetable intakes across quintiles. Just 28% of those in the most deprived quintile (Quintile 5) eat the recommended daily servings of fruit and vegetables compared to 41% of those in the least deprived quintile (Quintile 1). These differences have stayed relatively stable over the three-pooled-year data of 2011/14 and 2014/17. As we have reported previously, there is a notable increase in the number of fast food outlets compared to grocery stores in most deprived neighbourhoods⁸.

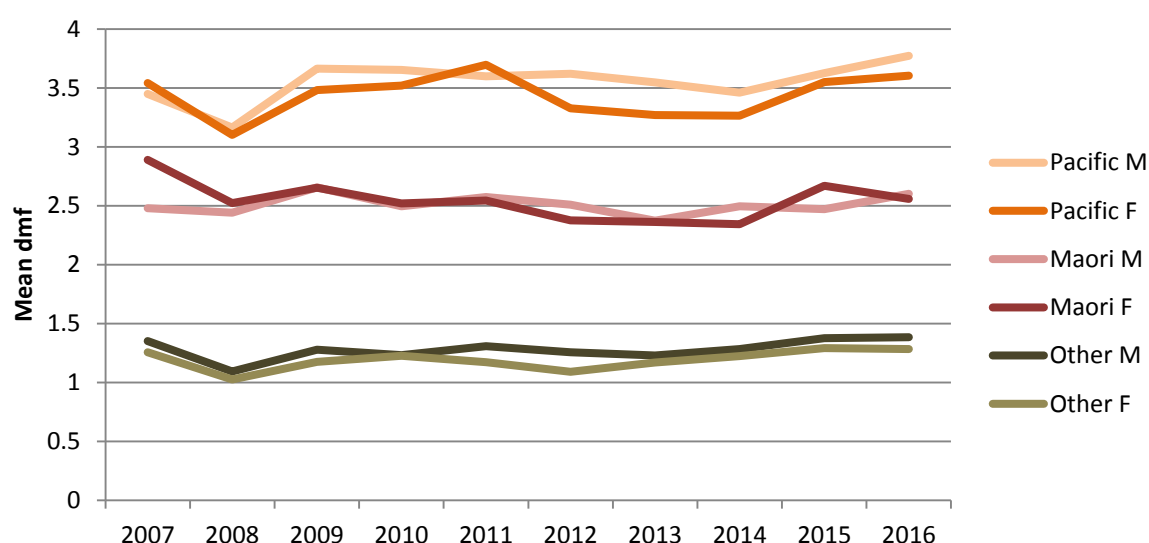
⁸ Healthy Auckland Together. Monitoring Report 2017
<http://www.healthyaucklandtogether.org.nz/assets/Summary-Reports/HAT-Monitoring-Report-2017.pdf>

1.5 Child Nutrition

Dental Caries

Dental caries in children are a direct reflection of their sugar intake. Reducing sugar intake reduces caries in children⁹. Data on dental caries are collected through the school dentist system and recorded in the Auckland Regional Dental Service's Titanium database. Only the first visit for each child in the 2016 school year has been counted in this analysis. The 'decayed, missing due to decay, or have a filling' (dmf) score gives the total number of primary (childhood) teeth that are affected by, or missing due to, dental decay.

Figure 13: Mean 5-Year-Old DMF Score in Auckland



Source: Auckland Regional Dental Service.

Figure 13 shows that there has been no improvement in the rates of tooth decay in the past decade, with persistently high rates especially for Pacific and Māori children. Māori children have *dmf* scores 1.9 times higher than European/Other children, while Pacific children have *dmf* scores 2.8 times higher. The average *dmf* score across all children is 2.0. There have been slight increases in *dmf* scores for all groups since 2007, other than for Māori girls.

Lift the Lip

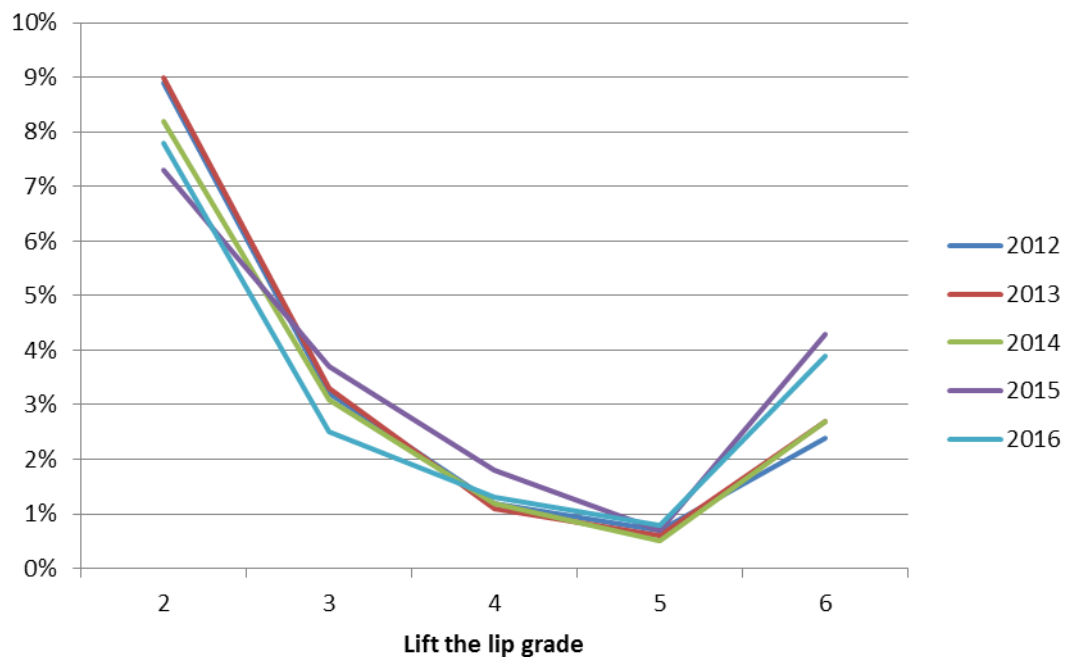
A component of the Before School Check (B4SC) 'lift the lip' is an assessment of oral health carried out by registered nurses or nurse practitioners¹⁰. This categorises oral health according to a visual assessment against descriptions graded 1 to 6, with 1 representing healthy teeth and gums with no signs of decay, and 2 to 6 being increasingly severe manifestations of poor dentition progressing from mild enamel breakdown to deep decay in the lower molars.

⁹ Moynihan PJ, Kelly SA. Effect on caries of restricting sugar intake: systematic review to inform WHO guidelines. J Dent Research. 2013 Dec 9:0022034513508954.

¹⁰ New Zealand Dental Association. Healthy Smile, Healthy Child: Oral Health Guide for Well Child Providers. 2008 http://www.healthysmiles.org.nz/assets/pdf/HealthySmilesBooklet-3rdEdition_sml.pdf

With very good coverage across the country and for all gender and ethnic groups, as well as near universal documentation of findings, the 'lift the lip' data provides an excellent assessment of the state of oral health for the region's 4-year-olds¹¹. Figure 14 shows the percentage of children with each of the 'lift the lip' grades denoting some degree of dental caries (2 to 6) for the last five years of reported data.

Figure 14: Lift the Lip Grades by Years in Auckland



Between 2012 and 2016, the percentage of children assessed as having no signs of decay was very consistent (83.8% in 2012, 83.7% in 2016). The percentage of children with any signs of decay (grades 2 to 6) has also remained consistent at around 17%. However, there has been an increase in the proportion of children observed to have the higher 'lift the lip' grades representing more severe dental decay; particularly grade 6, which has had an absolute increase of 1.5% over the five-year period (this is a relative increase of 62.5%).

¹¹ Ministry of Health. B4 School Check Information for the health sector 2016. <http://www.health.govt.nz/our-work/life-stages/child-health/b4-school-check/b4-school-check-information-health-sector>

Figure 15: Lift the Lip by Ethnicity

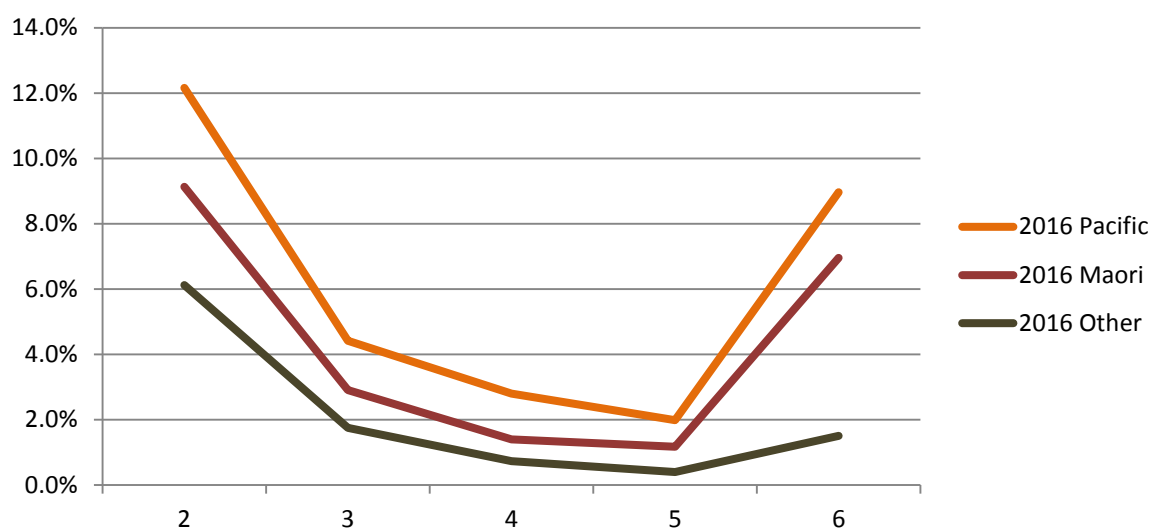
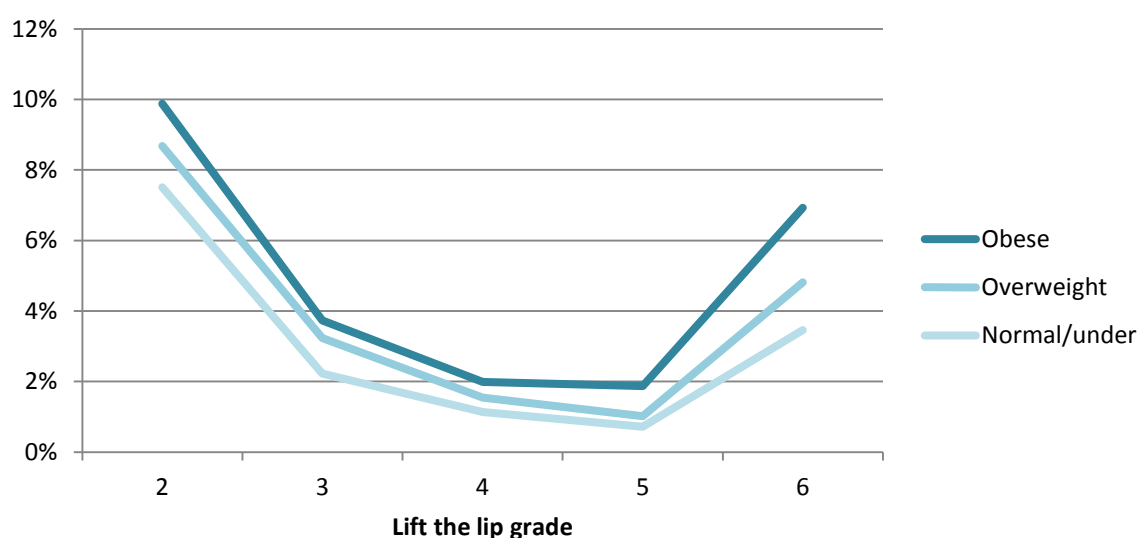


Figure 15 shows the significant disparities in oral health observed between ethnic groups, with lower proportions of Māori and Pacific children with healthy teeth and gums as compared with New Zealand/Other children. In 2016, Māori children were 12% less likely than New Zealand/Other children to have healthy teeth and gums (rate 0.88; absolute numbers 78.4% versus 89.5%). Māori children were also almost five times more likely to have the worst level of decay (rate 4.61; 7.0% versus 1.5%). The disparities in Pacific children's oral health were even greater. They were 22% less likely to have no decay (rate 0.78; 69.7% versus 89.5%), and nearly six times more likely to have the worst category of dental decay (rate 5.94; 9.0% versus 1.5%).

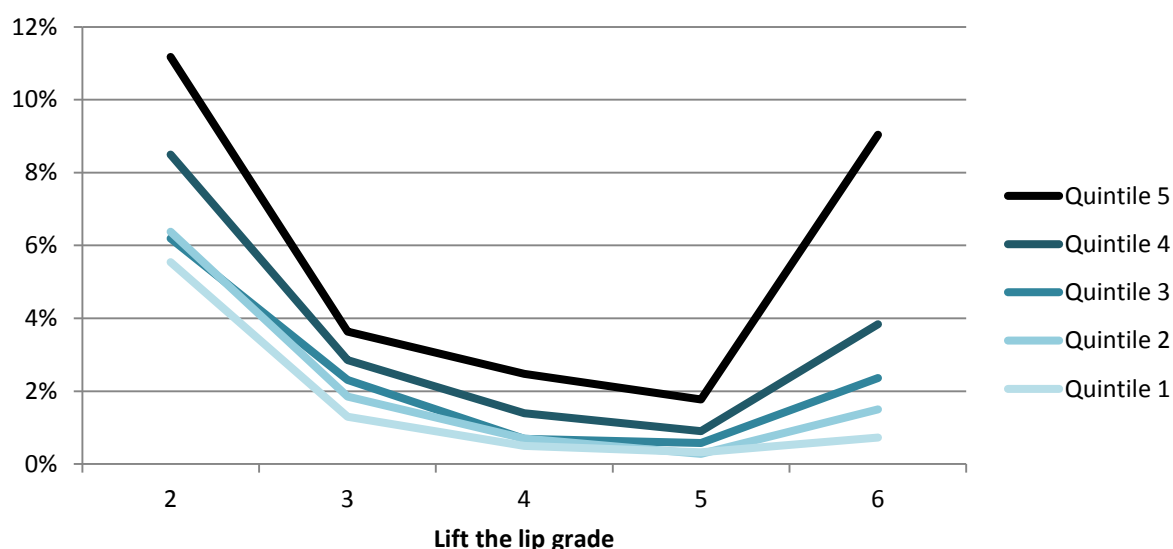
Figure 16: Lift the Lip by BMI



Significant disparities in oral health are also observed when comparing children based on their weight categories. There is a correlation between increased dental decay and increased weight, seen in Figure 16. In 2016, children in the obese category were 11% less likely than those in the

normal/underweight category to have healthy teeth and gums (rate 0.89; absolute numbers of 75.6% versus 85.0%), and were twice as likely to have the worst category of decay (rate 2.1; 6.9% versus 3.5%).

Figure 17: Lift the Lip by Socioeconomic Deprivation Quintiles



Significant disparities in oral health are also observed when comparing children based on measures of socioeconomic deprivation, with increasing proportions of children having dental decay as deprivation index increases (and, as with ethnicity and weight, the proportions with the more severe dental decay also increases); Figure 17. In 2016, children residing in the most deprived areas were 22% less likely than those in the least deprived areas to have healthy teeth and gums (rate 0.78; absolute numbers of 75.6% versus 85.0%), and were over 12 times as likely to have the worst category of decay (rate 12.48; 9.0% versus 0.7%).

The findings from the B4SC 'lift the lip' Auckland data presented above are broadly similar to those recently reported in a study of the B4SC 'lift the lip' data at the national level¹². In that study looking at New Zealand data for 2010-2016, the same disparities between ethnic and socioeconomic groups are seen, alongside time trends of increases in reports of severe caries. A limitation of the 'lift the lip' data is the absence of studies directly comparing it with findings at a clinical examination by a dental therapist or dentist. The finding of socioeconomic and ethnic inequalities in dental caries, however, is consistent with other literature¹³, moreover, it suggests that the design and implementation of interventions to reduce dental caries should also take into account socioeconomic factors.

¹² Shackleton N, Broadbent JM, Thornley S, Milne BJ, Crengle S, Exeter DJ. Inequalities in dental caries experience among 4-year-old New Zealand children. *Community Dent Oral Epidemiol* 2018

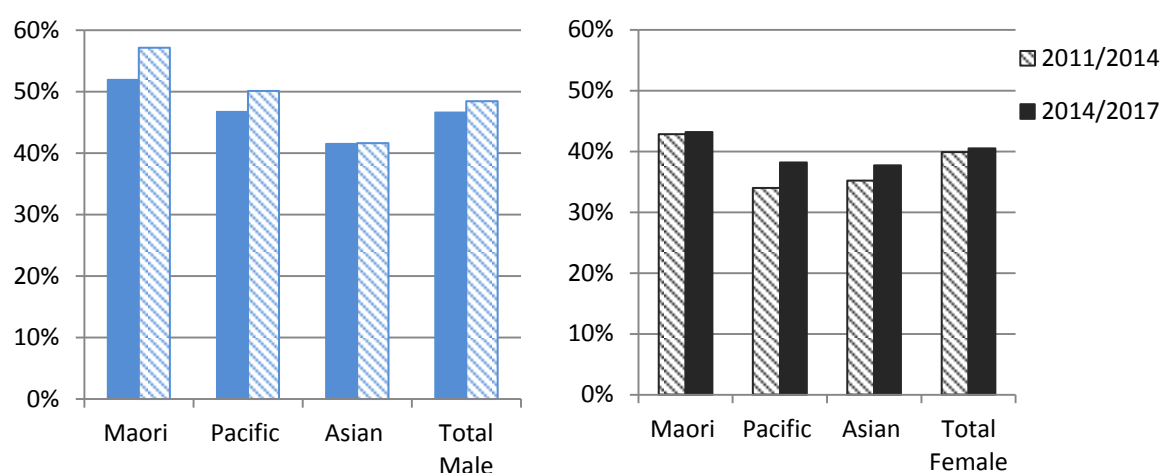
¹³ Schwendicke F, Dörfer CE, Schlattmann P, Page LF, Thomson WM, Paris S. Socioeconomic inequality and caries: a systematic review and meta-analysis. *J Dent Res* 2015;94(1):10-18

1.6 Physical Activity Indicators

Adult Physical Activity

The Eating and Activity Guidelines state that adults should do at least 2½ hours of moderate or 1¼ hours of vigorous physical activity spread throughout the week. The New Zealand Health Survey asks participants whether or not they have met these recommendations.

Figure 18: Percentage of Auckland Adults Meeting Physical Activity Guidelines



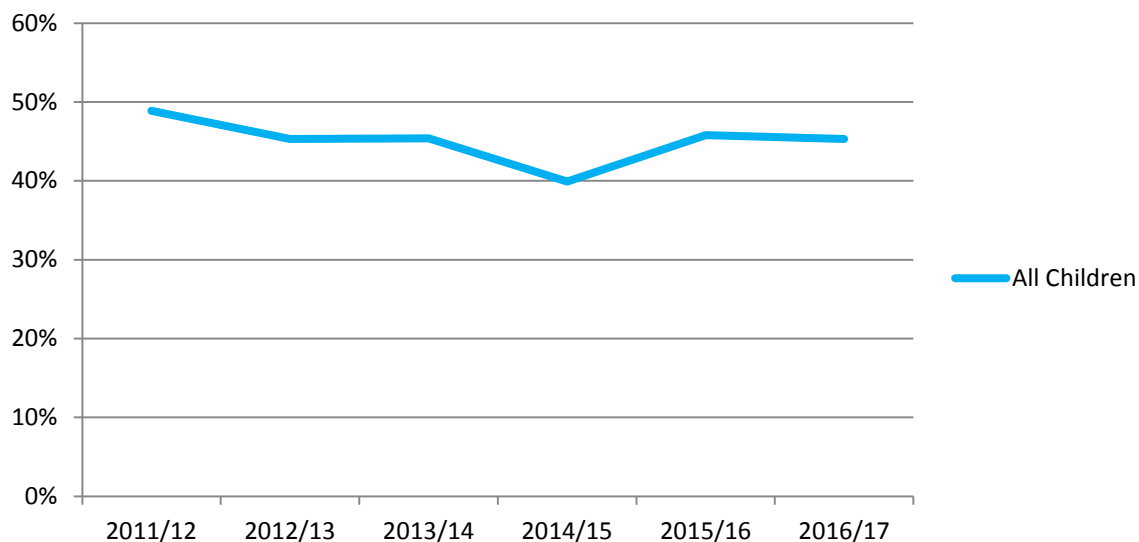
As per Figure 18, there has been very little change in the percentage of Auckland adults meeting the physical activity guidelines between 11/14 and 14/17 pooled periods. Women generally are less likely to meet the physical activity recommendations than men, who are 1.19 times more likely to be physically active.

Māori as a whole are the most physically active ethnic group (50%) in the region. Māori males (57%) meet the physical activity guidelines, well ahead of Asian men, of whom only 42% meet the weekly recommended guidelines. Across men of all ethnic groups, there has been a slight rise in the number reaching the recommended physical activity levels.

Child Physical Activity

Active transport to school presents an opportunity to build physical activity into the normal daily routine. The New Zealand Health Survey asks whether children aged 5-14 years in the household usually use active modes of transport (walking, cycling, scooter, skating etc.) to get to school. Children who do not use active transport to get to school could be either using public transport or being driven to school by adults.

Figure 19: Auckland Children using Active Transport to School



As per Figure 19, the prevalence of all Auckland children using active transport has seen a sustained downward trend from 2011 (49%) to 2017 (45%). The survey question does probe for issues of distance, safety and convenience, which may be factors contributing to this trend. When looking at active transport by socioeconomic quintiles, we observe a similar downward trend across the pooled years of 11/14 and 14/17. The previously higher proportion of active transport (11/14; 56%) seen in the most deprived group of children has now decreased, matching the levels of the total population (14/17; 43.3%) as per Figure 20.

Figure 20: Auckland Children using Active Transport to School by Socioeconomic Quintiles

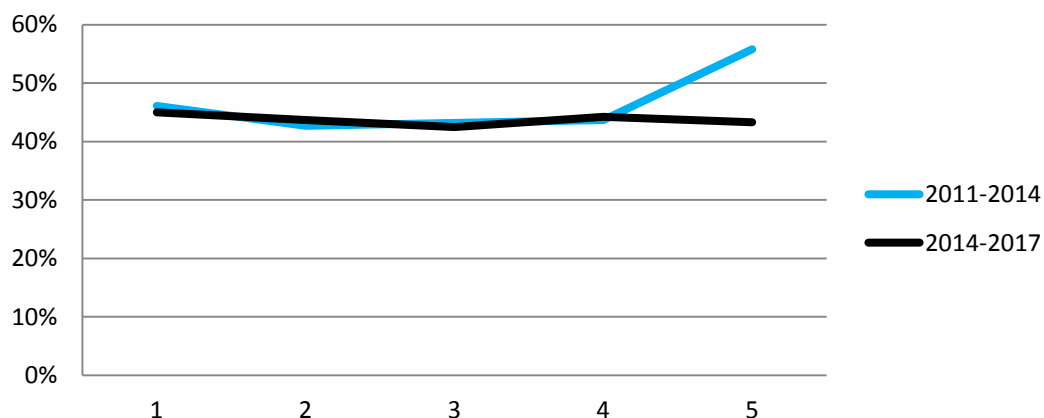
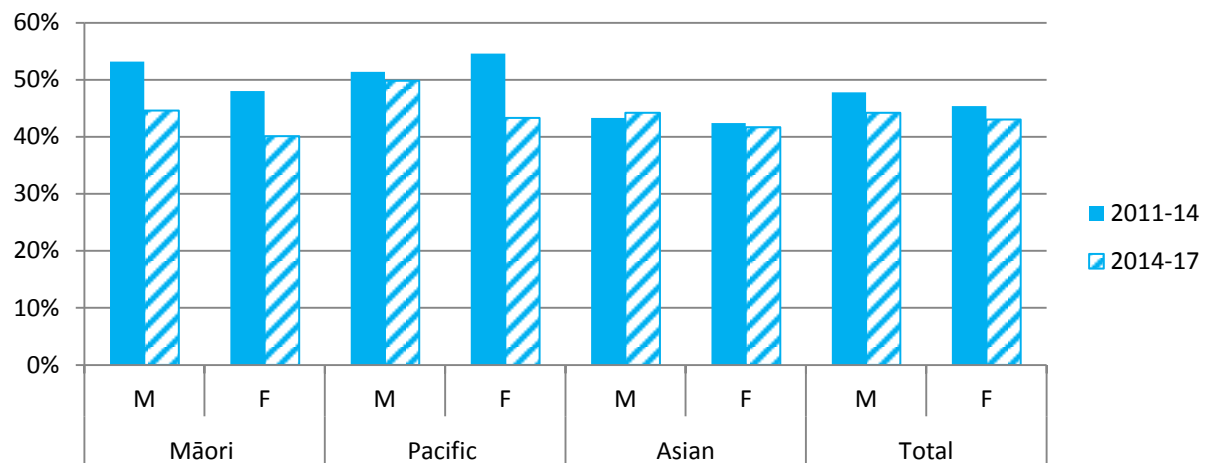


Figure 21: Auckland Children using Active Transport to School by Ethnicity and Gender



When looking at active transport by ethnicity and gender in Figure 21, we observe similar reductions in active transport to schools. Māori boys and Pacific girls have seen drops in their prevalence from 53% and 55% respectively in 2011/14 to 45% and 43% in 2014/17. Asian boys and girls have the lowest prevalence of active travel to school in Auckland at 43%.

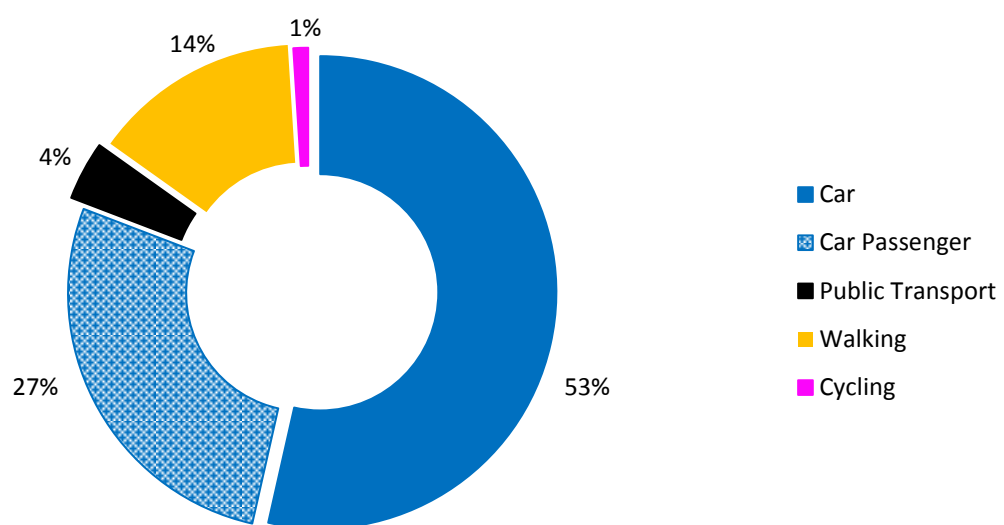
2 Environmental Indicators

2.1 Streets, Parks and Places

Adult Journeys to Work

Making daily trips via active transport is an effective way to increase physical activity. The New Zealand Household Travel Survey is an ongoing survey conducted for the Ministry of Transport. From 2015 onwards, each member in selected households is asked to record all their travel over a seven-day period. Each person in the household is then interviewed about their travel and other related information.

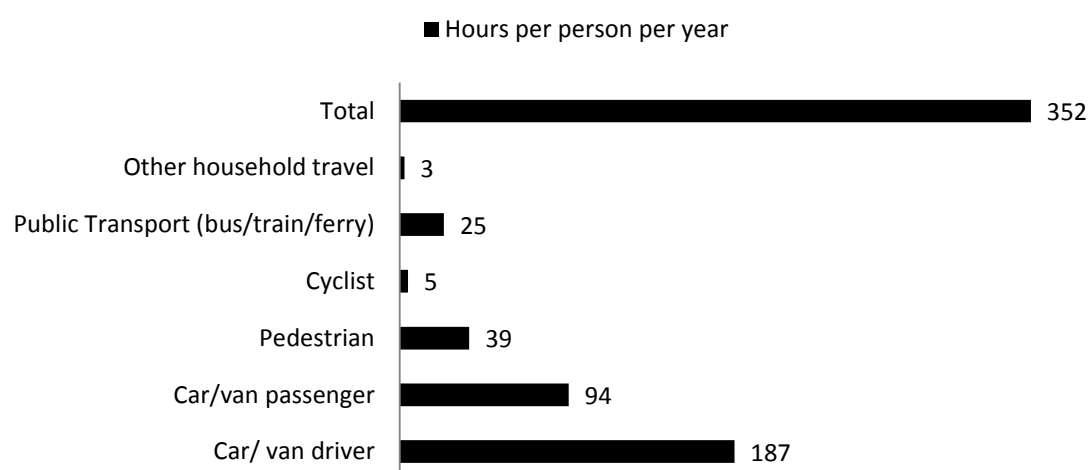
Figure 22: Mode Share of Trip Legs 2015-2017



The chart in Figure 22 looks at mode share of trip legs. A 'trip leg' is a non-stop leg of travel by a single mode. For example, driving to a friend's house with a stop at the shops on the way would be two trip legs. Catching a bus to work could involve at least three trip legs: the walk to the bus stop, the bus leg to town and the walk from the bus stop to work.

Walking makes up 14% of trip legs in Auckland, compared to Wellington where 24% of trip legs are by walking. Public transport represents a tiny share of trip legs (4%) when compared to the combined mode share from car use at 80%. When looking at travel and modes through time spent, we observe similar trends, with 281 hours per person per year in Auckland spent travelling in cars compared to 25 hours on public transport and a combined 44 hours in active modes of cycling and walking, as in Figure 23. An increase in hours spent using active modes directly correlates to time spent being physically active.

Figure 23: Hours per Person per Year 2015-2017



Public Transport Patronage

When people switch to public transport from driving, they increase their physical activity levels and decrease their BMI by an average of 0.3 points¹⁴. While on an individual basis this change is small, even a small decrease in BMI across a large proportion of Aucklanders has the potential to prevent a significant number of obesity-related health complications. Auckland has had a renewed interest and investment in its public transportation system, embodied by the introduction of electric trains and the commencement of work on the City Rail Link.

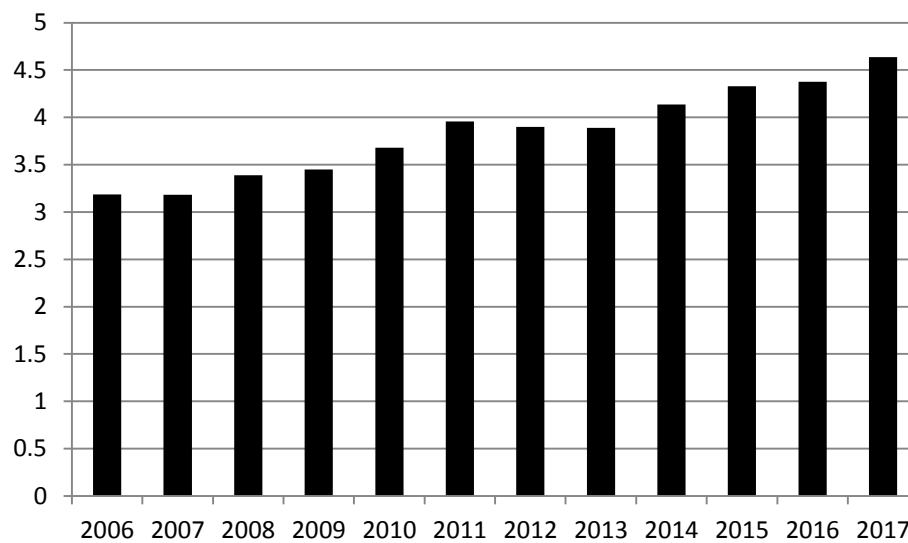
Comparing per capita public transport trips allows us to account for the influence of Auckland's increasing population. As children under five travel free on Auckland's public transport and are thus not counted, we have used the total resident population of Auckland (derived from Statistics NZ data tables¹⁵), minus children under five, as the denominator. The numerator comes from data published on the Auckland Transport website¹⁶, with the total number of trips in each year averaged across 12 months.

¹⁴ Flint E, Webb E, Cummins S. Change in commute mode and body-mass index: prospective, longitudinal evidence from UK Biobank. *Lancet Public Health*. 2016 Oct 28:30006-8.

¹⁵ Statistics New Zealand . Population Estimates – Sub National Projection Tables http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/subnational-pop-estimates-tables.aspx

¹⁶ Auckland Transport. AT Metro Patronage <https://at.govt.nz/about-us/reports-publications/at-metro-patronage-report/>

Figure 24: Monthly Public Transport Trips per Capita in Auckland, >5 years age



There is a sustained increase in the monthly per capita rate of public transport trips over the past decade, with a current rate of 4.7 per person per month. This increased patronage is potentially reflecting the increased investment in services and ongoing disincentives associated with car use – congestion, parking costs and stress.

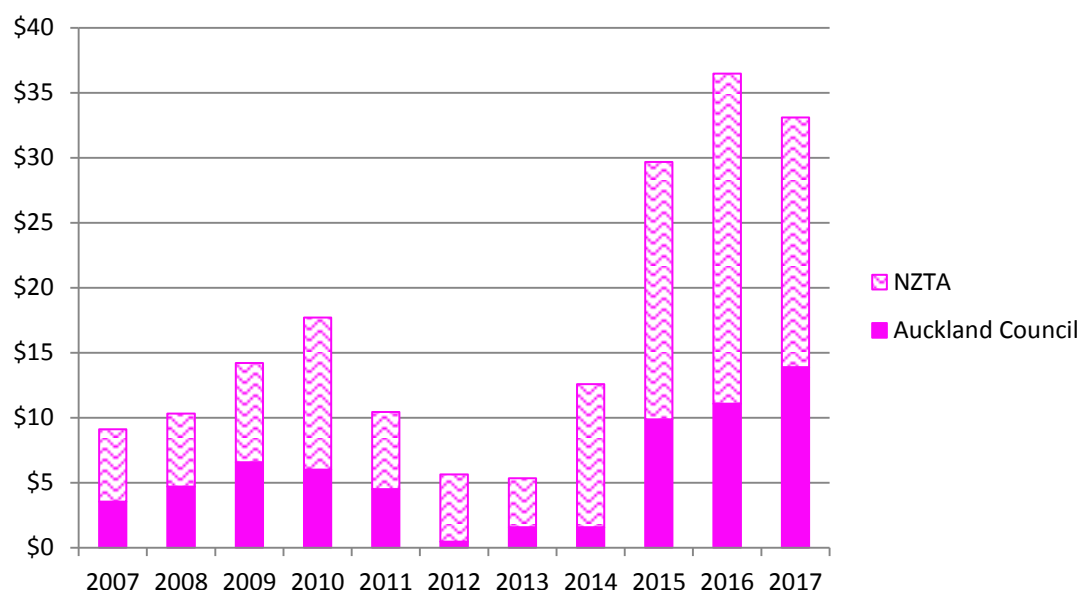
Active Transport Infrastructure

Active transport builds physical activity into people's daily routines and tasks. Footpaths and cycleways make people feel safe when travelling through the city. Safety is a prime concern for people who might consider using methods of active transport rather than driving, especially for potential cyclists¹⁷. Auckland Council and the New Zealand Transport Agency (NZTA) have made significant investments in cycle infrastructure in the past few years in an effort to increase mode share by separating bikes from cars and improving navigability of the city¹⁸.

¹⁷ Auckland Transport. Auckland Cycling Account Book 2018 <https://at.govt.nz/media/1873018/akl-cycling-account-book.pdf>

¹⁸ NZTA. Transport Funding All Activities <http://www.nzta.govt.nz/assets/userfiles/transport-data/FundAllActivities.html>

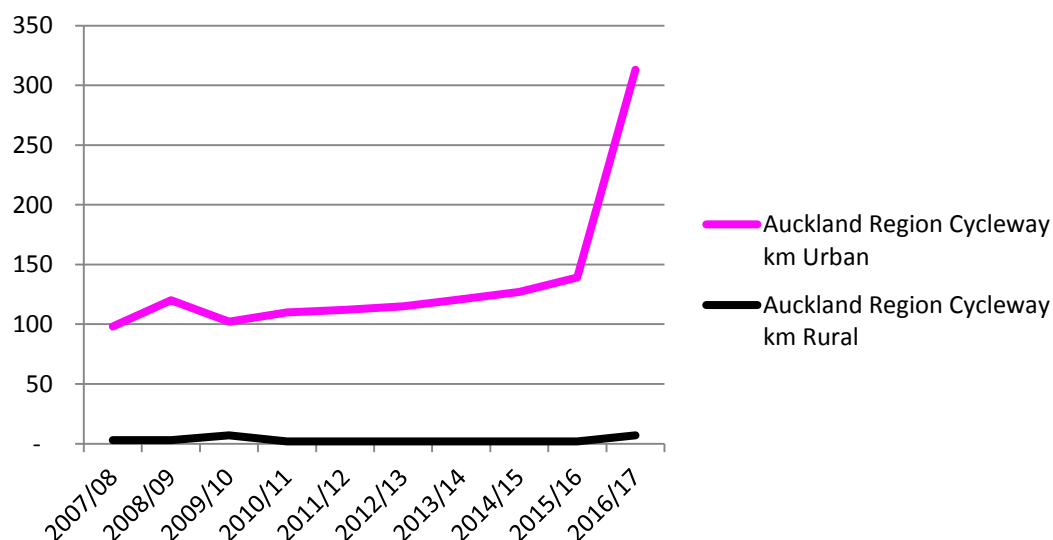
Figure 25: Expenditure on Walking and Cycling in Auckland, \$Millions



The combined spending of Auckland Council and NZTA on walking and cycling infrastructure has significantly increased in Auckland in the past few years, from just over \$5 million in 2013 to \$33 million in 2017.

Auckland Transport's 2015–2018 Asset Management Plan¹⁹ reports the total kilometres of roads, footpaths and cycleways in Auckland, excluding roads administered by NZTA i.e. the state highway network.

Figure 26: Active Transport Infrastructure, Thousands of Kilometres



¹⁹ Auckland Transport. Assets Management Plan - <https://at.govt.nz/about-us/transport-plans-strategies/asset-management-plans/>

Ridership numbers in Figure 27 show largely positive increases in numbers of daily trips across key locations around Auckland. Investment in dedicated active transport infrastructure, traffic management, and protected cycleways all contribute to safety and can encourage people to cycle.

Figure 27: Ridership Numbers and Change for Cycling Trips

Site	Daily trips	Change from 2016
Tamaki Drive	1,250	6.3% ↑
Northwestern Cycleway (Kingsland)	752	14.5% ↑
Grafton Bridge	520	0.4% ↑
Mangere Bridge	423	11.3% ↑
Nelson St Cycleway	372	10.4% ↑
Grafton Gully	365	6.5% ↑
Orewa	309	-3.0% ↓
Southwestern shared path, Mt Roskill	134	24.2% ↑
Twin Streams, Henderson	117	3.1% ↑

3 Schools and ECEs

Heart Healthy Schools

The Heart Foundation works with schools and early learning services to improve their nutrition and physical activity environments. Schools and early learning services in lower socioeconomic areas are prioritised. During 2017, in the Auckland region there were 271 of 1460 (18.6%) early learning services working towards a Heart Foundation Healthy Heart Award, and 64 of 570 (11.2%) schools working towards improving their nutrition environment. While this represents an increase since 2014 for schools (from 8.7%), there has been a slight percentage decrease for early learning services (from 20.6%) partly due to the high number of new early learning services opened during this time (237 additional services).

Figure 28: Healthy Heart Awards

	2014	2016	2017
Early learning services (total)	1200	1414	1460
Early learning service (Healthy Heart Award)	247	287	271
Early learning service (Healthy Heart Award %)	20.6%	20.3%	18.6%
Schools Total	540	544	570
Schools (supported by Heart Foundation)	47	58	64
Schools (supported by Heart Foundation %)	8.7%	10.7%	11.2%

Recent New Zealand research has found that participating in the Healthy Heart Award programme was the best indication of a centre providing a healthy menu²⁰. In order to increase reach and better respond to customer needs, the Heart Foundation has recently changed its approach to working with schools and now provides tailored support for each school's individual needs.

²⁰ Gerritsen S, Dean B, Morton S, Wall CR. Do childcare menus meet nutrition guidelines? Quantity, variety and quality of food provided in New Zealand Early Childhood Education services. Aust N Z J Public Health 2017; 41(4):345-351.

4 Food Environment

School Nutritional Policy

The School Environment Review and Support Tool (School-FERST) national study was conducted in 2016 with data collection via an online survey. Results of those Auckland schools that responded are shown in Figure 29.

Figure 29: School Nutrition Policy

Type of school	# schools that responded to survey	Have a policy	% with policy	Don't know	No nutrition policy	% no policy
Composite School	4	0	0%	1	3	75%
Contributing Primary School	70	32	46%	3	35	50%
Full Primary School	67	23	34%	7	37	55%
Intermediate School	12	2	17%	3	7	58%
Secondary School with Intermediate (Year 7-13)	10	5	50%	3	2	20%
Secondary School without Intermediate (Year 9-13)	18	8	44%	1	9	50%
TOTAL SCHOOLS	181	70	39%	18	93	51%

While the low response rate (34%) to the survey is a major limitation when interpreting the results, the overall scores for the comprehensiveness and strength of the policies reviewed were extremely low across all school types. Policy statements were suggestive, lacked authority and were more guidelines rather than mandates. It is also likely that those schools that did have a policy would be more likely to respond to the survey request and therefore the overall figure of 39% with a school nutrition policy could well be an overestimation. Survey responses to questioning around some specific food policies revealed that around half of all schools reported having a sugary-drink-free policy, Figure 30.

Figure 30: SSBs and Unhealthy Foods in Schools

	n	Number of Schools that are Sugary Drink Free (plain milk and water only)	%	Number of Schools with NO Unhealthy Food used for Fundraising	%
Composite School	4	2	50%	1	25%
Contributing Primary School	70	38	54%	17	24%
Full Primary School	67	39	58%	12	18%
Intermediate School	12	3	25%	3	25%
Secondary School with Intermediate (Year 7-13)	10	1	10%	3	30%
Secondary School without Intermediate (Year 9-13)	18	2	11%	2	11%
TOTAL	181	85	47%	38	21%

Community Sports Clubs Selling Sugar-Sweetened Beverages

In a 2016 survey of Auckland Council's sport and recreation centres, just over three quarters were found to be selling sugar-sweetened beverages (SSBs), with little variation observed between those in each DHB area. See Figure 31.

Figure 31: SSBs in Auckland Council Sports and Recreation Centres

DHB	Number of Sports & Recreation Centres	# selling SSB	% selling SSBs
Auckland	15	12	80%
Counties Manukau	16	12	75%
Waitemata	8	6	75%
TOTAL	39	30	77%

Nutrition and Health Claims

Nutrition labelling is recognised as an important component of a healthy food environment. A particular focus is the use of front-of-pack signposting of nutrition and health claims to influence consumers' purchasing decisions²¹. The results of the national research from the INFORMAS group are shown in Figure 32. Of particular note is that approximately seven out of 10 foods in supermarkets surveyed in 2014 did not meet criteria for marketing to children, and that a quarter of foods deemed to be 'less healthy' had front-of-pack nutritional claims despite this.

Figure 32: Nutritional Labelling and Processed Food Availability

Summary Indicators	%
% of packaged foods not permitted to be marketed to children * 2014	71
% of less healthy packaged foods with health claims on the front of pack ** 2014	7
% of less healthy packaged foods with nutrition claims on the front of pack ** 2014	26
% of packaged foods that are ultra-processed 2013	83

*Determined by the World Health Organization Europe nutrient profiling model to restrict unhealthy food marketing to children

** Defined as per the Nutrient Profiling Scoring Criterion (NPSC) from Food Standards Australia New Zealand

²¹ Al-Ani HH, Devi A, Eyles H, Swinburn B, Vandevijvere S. Nutrition and health claims on healthy and less-healthy packaged food products in New Zealand. Br J Nutr 2016; 116(6):1087-1094

Appendix

Definitions

Obesity is defined as abnormal or excessive fat accumulation that presents a risk to health. A population measure of obesity is the body mass index (BMI). This is calculated by dividing an individual's weight (in kilograms) with the square of their height (in metres)²².

For adults, obesity is defined as having a BMI of 30 or greater. For children, obesity is defined as having a BMI in the 98th percentile – that is, they have a weight that is greater than 98% of all children in their age category.

Methodology

Indicators

Setting indicators and monitoring targets allows us to measure progress towards goals and to learn where the coalition of Healthy Auckland Together partners could improve performance, individually and collectively. It also provides a framework for accountability by benchmarking progress.

We can now use this local and relevant evidence to identify areas that are underperforming and ensure that policies and actions are improved where needed²³.

The indicators in this Monitoring Report are chosen in relation to our three main objectives. The two main types of indicators used are population indicators, and environmental indicators. Population indicators outline changes in population health and behaviour related to the development of obesity-related health outcomes. This includes, for example, improved nutrition and increased physical activity. Environmental indicators measure changes in health-related environmental factors. These include indicators such as accessibility of public transport or opportunities for physical activity.

There are five overarching action areas that contribute towards the three overall goals of improving nutrition, increasing physical activity and reducing obesity. The indicators are organised under the five action areas:

1. Schools and Early Childhood Education Services
2. Communities and Community Services
3. Workplaces
4. Streets, Parks and Places
5. Food Environment and Marketing

The indicators were selected based on the following criteria:

- Data is currently being collected.
- Availability of Auckland-specific regional data.
- Ability to determine impact on priority populations.

²² World Health Organisation <http://www.who.int/topics/obesity/en/>

²³ Swinburn B et al. Strengthening of accountability systems to create healthy food environments and reduce global obesity. Lancet 2015. [http://dx.doi.org/10.1016/S0140-6736\(14\)61747-5](http://dx.doi.org/10.1016/S0140-6736(14)61747-5)

The indicator framework has developed from the 2015 Baseline Report and is organised into indicator areas based on the above action areas. Where possible, more robust quantitative data sources have replaced previous survey and qualitative data sources. Also, new indicators or sources that better represent and cover the entire Auckland population have been added to the report. Some indicators now reflect changes in data sources. For example, the mode share indicator has changed to use the survey reported yearly by the Ministry of Transport, rather than the less frequent Census. Where possible, demographic variables are shown by deprivation first, then by ethnicity and gender.

Indicator	Status	Source
Population Indicators		
Adult Obesity	New	NZHS
Child Obesity	Updated	B4SC
Child Obesity (0 to 14yearolds)	New	NZHS
Adult Fruit and Vege Intake	Updated	NZHS
Child Dental Health	Updated	ARDS, B4SC
Physical Activity Indicators		
Adult Physical Activity	Updated	NZHS
Child Active Transport to School	Updated	NZHS
Street, Parks and Places		
Adult Active/Public Transport Mode Share to Work	New Data Source	NZHTS
Public Transport Patronage	Updated	AT
Active Transport Infrastructure	New	AT
Schools and ECEs		
Heart Foundation Schools	Updated	Heart Foundation
Food Environment		
INFORMAS	New	University of Auckland, INFORMAS

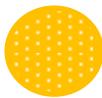
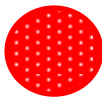
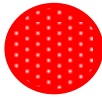
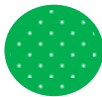
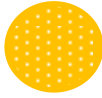
NZHS = New Zealand Health Survey. B4SC = B4 School Check. ARDS = Auckland Regional Dental Service. AT = Auckland Transport. ARPHS = Auckland Regional Public Health Service. AC = Auckland Council. INFORMAS = International Network for Food and Obesity/non-Communicable Disease Research, Monitoring and Action Support. HAT = Healthy Auckland Together.

Indicators without 2018 Updates

1. 'Perception of Walking and Cycling as suitable for Trips to Work or Study' – from *Community Perceptions of Personal Transport Choices Report* (Auckland Council) has not been repeated. This has been replaced by 'Perceptions of Safety while Walking,' as the *Quality of Life Project* study will be repeated.
2. 'Neighbourhood Walkability' – as this indicator will be slow to change, this analysis will only be run every five years. Last year the same model was used to present 'Access to Open Space.'
3. 'Supply of Fast Food Outlets' – as this indicator will be slow to change, this analysis will only be run every three years.
4. Healthy Auckland Together member organisations with Workplace Wellbeing programmes in place – no survey method yet established

Monitoring Data

This section pertains to the access and use of data in order to conduct monitoring. The data is gathered and analysed on the basis that it has attributes of: quality, reliability, availability, generalisability to Auckland's population, and annualised collection over time.

Schools and Early Childhood Education	Overall we have satisfactory data on schools and early childhood education services (ECEs). We currently have gaps in nutrition and physical activity data from schools and ECEs in the areas of policies, habits of students and overall environment that are captured regularly over a long period of time.	
Communities and community services	Overall we have poor data on communities and community services. We have limited information of snapshot surveys but no long-term data sources for monitoring community services.	
Workplaces	Overall we have poor data on workplaces. There are no comprehensive formal evaluations of the nutrition and physical environment within workplaces or an assessment of the population health of workers in various industries across Auckland.	
Streets, Parks and Places	We have good data on streets, parks and places. We will grow monitoring in this area for quality of facilities and recreation centres, usage statistics of cycleways, facility types of cycleways and geographic spread of AT infrastructure.	
Food environment and marketing	We have satisfactory data on the food environment and marketing. We have gathered information on fast food density and have proxies through dental data. We have gaps in food marketing, drinking water fountains coverage and school food environments.	

Green = Good coverage, **Orange** = satisfactory coverage, **Red** = Poor coverage

Data Sources

The New Zealand Health Survey (NZHS) is a nationally representative survey conducted by the Ministry of Health (MoH) that questions participants on a wide range of health-related factors. It is a continuously administered survey and reports national level results annually and regional results periodically in three-year blocks. Specific results for the Auckland region were used for this report, for the periods 2011-2014 and 2014-2017. Prior to this time, the survey was conducted as a one-off every four to six years. The NZHS contributes data to the indicators on adult obesity, child-active transport, and fruit and vegetable intake. The New Zealand Health Survey data on the Body Mass Index (BMI) of its adult and child (0 to 14-year-olds) participants is in large enough numbers to gauge the prevalence of obesity in Auckland and provide comparisons nationally and between population subgroups. The MoH has recently moved to make regional data available online and this is used in this monitoring report; at first publication, however, the MoH has prioritised making ethnicity data available for Māori, Pacific and Asian groups and has not released data for a New Zealand European/Other ethnic group.

The B4 School Check (B4SC) is a nationwide programme that carries out broad health screening of all 4-year-olds in New Zealand whose families consent to participate. The check involves a questionnaire, physical measurements, hearing, vision and oral health screening as well as other elements. As it covers nearly every child in New Zealand, it is a quality indicator of population child health. The B4SC contributes the data for the child obesity indicator, and the results of the 'lift the lip' visual assessment of oral health contribute to the child nutrition indicator. For this report the data from the B4SC program has been used to classify children's BMI based on World Health Organization – New Zealand standard cut-offs. This methodology has been adopted for consistency of reporting, particularly with District Health Board data. It is important to note that there are alternative standards for classifying BMI in children including those published by the World Obesity Federation²⁴. Data should only be compared when the same standard and thresholds have been applied.

The Ministry of Transport conducts the NZ Household Travel Survey (NZHTS) on a continuous basis, reporting four-year rolling averages. Up until 2015, this involved an interviewer meeting participants face-to-face and taking a detailed account of all travel they had recently undertaken, as well as answering a range of survey questions. Data included in this report from the NZHTS includes GPS-based recording of travel, and participants complete survey questions online or via a phone interview. All data in this report has been taken from the face-to-face data. The NZHTS contributes data for the adult active and public transport indicator.

The Auckland Regional Dental Service (ARDS) is responsible for delivering dental services to children in Auckland through school dental services as well as some hospital-based clinics. Dentists record diagnoses and procedures into the Titanium database. This contributes data toward the child dental health (caries) indicator of children between five and six years of age.

Auckland Transport (AT) regularly publishes public transport boarding data on its website. This includes buses, trains and ferries in the Auckland region. This data is used in the public transport

²⁴ World Obesity Federation - <http://www.worldobesity.org/resources/child-obesity/newchildcutoffs/>

patronage indicator. Cycleway infrastructure and transport funding investment data has also been used as key indicators.

INFORMAS (International Network for Food and Obesity / non-communicable diseases Research, Monitoring and Action Support) is a global network of public-interest organisations and researchers that aims to monitor, benchmark and support public and private sector actions to create healthy food environments and reduce obesity and non-communicable diseases and their related inequalities. INFORMAS in New Zealand is run from the University of Auckland Faculty of Medical and Health Sciences. The INFORMAS group has developed and built relationships with the majority of District Health Boards that are interested in mapping the healthiness of their local food environments, and have worked with them to collect data in the regions across New Zealand. Data reporting on various food environments in Auckland is presented in this monitoring report.