

Key Foods and Nutrients for Good Health in Aotearoa



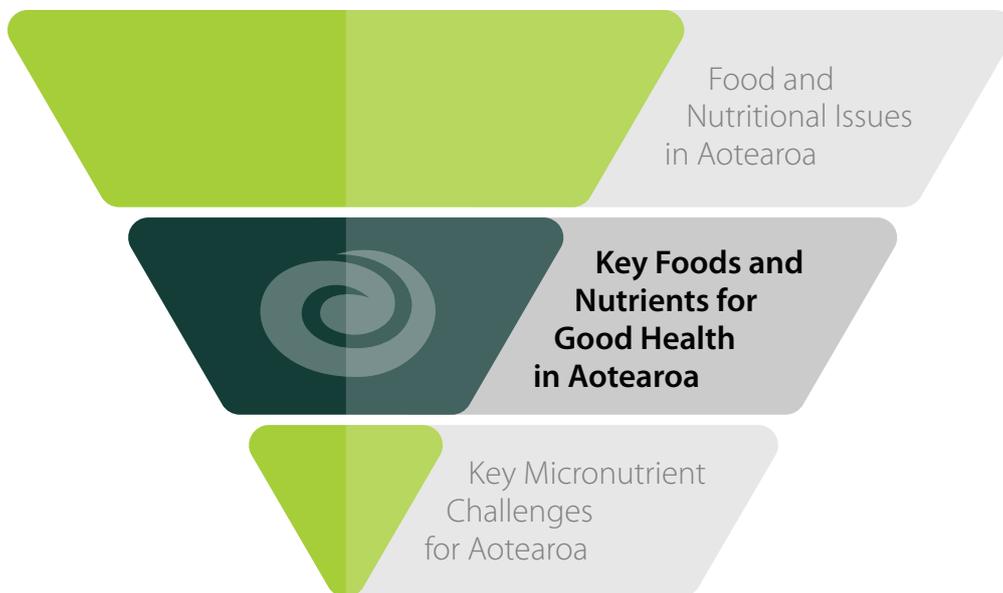
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Everyone in Aotearoa New Zealand has a right to live, grow, learn, and work in an environment that provides access to healthy, affordable, and safe food.

Activity and Nutrition Aotearoa (ANA) is a national organisation with a vision that everyone in Aotearoa can and does eat well and leads an active life.

ANA is often asked, what is the current nutritional status of people living in Aotearoa?

These issues papers, for the first time, collate the latest research in one place. Together they give an integrated picture covering selected nutritional issues in three papers. Key Foods and Nutrients for Good Health in Aotearoa is the second paper:



CALL TO ACTION

ANA urgently demands the regular, robust collection of data to monitor food and nutrition trends and identify emerging nutritional issues and ways to address them.

In addition, a national nutrition strategy is needed to underpin research, interventions, policies, evaluations and future strategies.

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1. Introduction

In this paper ANA has identified some of the key diet-related risk factors for long-term conditions (LTCs) in New Zealand and provides information on some of the relevant foods and macronutrients to prevent ill-health. The purpose of this paper is to generate discussion and raise awareness of the lack of data collection related to food and nutrition issues for Aotearoa.

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2. Monitoring food consumption and health

The regular monitoring of food consumption provides quantitative information about the amount and types of foods consumed, and when and where these foods are consumed. This information is essential when it comes to developing, monitoring and informing health and nutrition policies, guidelines and services and designing appropriate interventions.

The New Zealand Health Survey⁽¹⁾ provides regular information on LTCs, also known as non-communicable diseases (NCDs). It is a continuous annual survey that collects information on some diet-related risk factors and limited dietary habits. The following information is collected:

- Overweight and obesity: measured height and weight (2+ years), waist circumference (5+ years).
- LTCs and risk factors (15+ years): measured blood pressure; self-reported high cholesterol, high blood pressure, heart disease, stroke, diabetes, arthritis, asthma, mental health conditions, chronic pain, physical activity, smoking, alcohol consumption, sleep (from 2017/18).
- Biomedical module (15+ years): biomarkers of cardiovascular disease (total and HDL cholesterol), diabetes (glycated haemoglobin), kidney and liver function; and nutrition intake/status (blood folate, urinary iodine, sodium and potassium). The data were collected in 2014/15 but not released until five years later in early 2020.
- The 2018/19 and 2019/20 survey included a module on dietary habits for adults and children to be published in 2021.
- A Child Nutrition Survey took place in 2002 and an Adult Nutrition Survey in 2008/09.

Limited nutrition data is collected in the survey (e.g. frequency of fruit and vegetable intake) but this is inadequate considering the high health burden of diet related LTCs in New Zealand.

ANA calls for food and nutrition surveys to be prioritised and reinstated, for both children and adults, to provide necessary evidence for policy and research decision making.

3. Long-term conditions (LTCs)

In New Zealand, LTCs and the related non-communicable diseases (NCDs) are the foremost cause of health loss ⁽²⁾, collectively representing over four-fifths (80%) of health loss ⁽³⁾. It is estimated that over one-third of the health loss is preventable ⁽³⁾. After tobacco, the leading risk factor (9.7% of total health loss), the next five ranked risk factors are related to diet and physical activity: dietary risks 8.6%, high body mass index (BMI) 8.2%, high systolic blood pressure 7.3%, high fasting blood glucose 6.4%, and alcohol use 5.3%⁽³⁾.

This paper includes key facts related to LTCs that have nutrition as a common risk factor, such as cardiovascular disease, diabetes, cancer, obesity and mental health.

Māori and Pacific and those living in more deprived areas experience higher rates of LTCs and obesity ⁽¹⁾, are likely to develop LTCs earlier in life and spend more time living in poor health ⁽³⁾. Populations including Māori and Pacific, experience socioeconomic inequities and unhealthier food environments which make it difficult to make healthy choices and achieve good health ⁽⁴⁾. Therefore, to improve health, socioeconomic determinants of health and food and alcohol environments must be to be addressed.

3.1 Coronary heart disease

The prevalence of heart disease was 4.3% among adults (≥15 years) (168,000 adults) in 2018/2019 and has declined significantly since 2011/2012 ⁽¹⁾. Fatal and non-fatal heart disease rates are declining in all population groups although rates are higher for Māori and Pacific ⁽⁵⁾.

3.2 High blood pressure

High blood pressure increases the risk of heart attack and stroke. Annual New Zealand Health Survey data shows approximately 22% of the population, 842,000 adults, have a raised blood pressure and 16%, 632,000 adults, take medication for hypertension ⁽¹⁾.

3.3 Diabetes

New Zealand Health Survey data from 2018/19 show that the prevalence of Type 2 diabetes is 6.4% (210,000 adults) ⁽¹⁾. The risk factors for diabetes include family history, excess body weight, unhealthy eating, and a lack of physical activity. Ethnicity can also increase risk: Māori, Pacific and South Asian populations are more commonly affected by diabetes. Among children who have diabetes most have Type 1 diabetes. However, of concern, Type 2 diabetes is now being diagnosed in children ⁽⁶⁾. Research shows the incidence of Type 2 diabetes in children younger than 15 years of age in New Zealand has increased progressively at five percent per year, particularly in children from high-risk ethnic groups.

Pre-diabetes is a condition where blood sugars are above normal but below the range for a diabetes diagnosis and signals that the risk of developing diabetes is high ⁽⁷⁾. Increasing rates of prediabetes is thought to be due to the rising prevalence of overweight and obesity in the population.

The rising prevalence of diabetes is predicted to have a major influence on the health system in terms of need for ongoing health treatment. It is also costly to provide services to manage the complications that develop as a result of diabetes such as increased risk of stroke, heart attack, nerve, kidney and eye damage.

Data collected in the New Zealand Health survey in 2013/14 ⁽⁸⁾ indicates the prevalence of diabetes using self-reported data is about twice that of non-Māori and higher disparities between Māori and non-Māori for diabetes complications including rates of renal failure more than five times greater than non-Māori.

3.4 Cancers

Dietary factors contribute to at least 12 cancers. Cancer is a leading contributor to health loss in New Zealand and is the single biggest cause of death ⁽³⁾. Lung, bowel and breast are the cancers most commonly causing early death in New Zealand. The incidence of cancer is 30% higher for Māori and cancer-related mortality almost twice that of non-Māori ^(9,10).

The latest report from the World Cancer Research Fund ⁽¹¹⁾ indicates that healthy dietary patterns, a healthy bodyweight together with physical activity are protective and of more benefit against cancer than specific foods or food components ⁽¹¹⁾.

3.5 Obesity

Obesity is a modifiable risk factor influenced by excess food intake and reduced energy expenditure over time. Reaching and maintaining a healthy body weight has been a focus of public health in the past two decades yet, despite the raised public awareness of the population being overweight and obese, Aotearoa continues to see growing rates of obesity. Children growing up here are the second most obese children in the OECD. Much of this is attributed to unhealthy environments which increases accessibility to poor food and drink intakes and a lack of physical activity.

Much has already been documented on obesity therefore ANA doesn't aim to reproduce the facts here. It is however important to note that obesity is an important common factor for multiple LTCs. Obesity is a wicked/ complex issue and multiple solutions are needed. In the companion paper *Food and Nutritional Issues in Aotearoa* we explore some of the social determinants of health and barriers to the population achieving a healthy weight.

Obesity is strongly linked to lower life expectancy and to several health conditions including coronary heart disease, high blood pressure, some cancers (e.g. breast and bowel), stroke, Type 2 diabetes, and arthritis/musculoskeletal conditions ⁽²⁾. Around one third of New Zealand adults are in the obese category (30.9%) (48% Māori, 66.5% Pacific) and one third are overweight (34.3%) ⁽¹⁾. There has been little change since the 2014/15 New Zealand Health Survey ⁽¹⁾. Among children, obesity rates are unchanged since 2011/12, however, approximately 20% of children (2-14 years) are overweight and 11.3% are obese ⁽¹⁾ (15.5% of Māori children, 28.4% of Pacific children).

When the body's energy intake is balanced with energy expenditure body weight remains stable. But when intake exceeds or is less than expenditure, a person will gain or lose weight, respectively. Research shows changes in body weight are likely to be related to food intake rather than energy expenditure ⁽¹²⁾. The Eating and Activity Guidelines advise populations to make healthy food and drink choices while being physically active to achieve and maintain a healthy body weight ⁽¹³⁾. This energy balance equation appears straightforward however there are multiple factors that impact on the population's ability to follow the guidelines. Energy is needed for the body to function. At times of growth energy needs are higher, such as in childhood, pregnancy and breastfeeding. Carbohydrates, proteins, fats and, if consumed, alcohol, provide varying amounts of energy.

Contribution To Energy Of Macronutrients	
Macronutrient	kJ/g
Fat	37
Protein	17
Carbohydrate	17
Alcohol	29

3.6 Mental health

Emotional, spiritual, family and whānau health are significant facets of wellbeing. Evidence supports the notion that diet has a significant impact on mental health, especially in depression where evidence suggests a causal relationship. Experimental trials have shown dietary interventions are effective in improving mental health outcomes. Within the last decade, there has been a growing interest and body of research on the role of diet and nutrition in mental health. The New Zealand Health Survey found 19.9% of adults have been diagnosed with a common mental health disorder, with reported mental health issues rising steadily since 2006 ⁽¹⁴⁾.

[Click here](#) to read more about the role of nutrition in brain health.

<https://ana.org.nz/wp-content/uploads/2020/08/ANA-Healthy-Brains-2020-Article-final.pdf>

Much of the high health loss due to long-term conditions among those living in Aotearoa is preventable with lifestyle behaviours such as healthier dietary patterns. Improving the socioeconomic determinants of health will have the greatest impact on reducing inequities for our most vulnerable populations.

4. Common food issues that impact on population health and LTCs

There are several factors related to food and nutrient intakes that impact on population health. This is a complex area and ANA has chosen to highlight five areas of concern in this paper:

4.1 High sodium (salt)

4.2 Lack of fruit, vegetables, whole-grains and legumes

4.3 High levels of saturated fat

4.4 Alcohol intake

4.5 High Sugar

4.1 High Sodium (salt)

Diets high in sodium raise blood pressure which is a major risk factor for heart disease and stroke ⁽¹⁵⁾. Sodium is an essential nutrient in the body to regulate water balance and body temperature, maintain blood volume and help muscles and nerves to function ⁽¹²⁾. The recommended upper level of intake is not more than 6 grams of salt (2,000mg sodium) per day ⁽¹⁶⁾.

The World Health Organization (WHO) set a target for countries to lower population salt intake by 30% towards 5g per day by 2025 ⁽¹⁷⁾. Despite New Zealand signing up to achieve this, inaction to date suggests we will not meet this commitment ⁽¹⁸⁾. Moreover, New Zealand lacks a government-led national salt reduction strategy including reformulation targets for packaged foods – unlike 75 other countries who have this in place ⁽¹⁸⁾.

New Zealand situation

- Most people consume more sodium than the body needs, approximately 9 grams of salt per day. Sodium intake has not reduced between the 2008/2009 National Nutrition Survey and the 2014/15 New Zealand Health Survey, overall or by any population sub-groups ⁽¹⁹⁾.
- The main source of sodium is processed foods (75%) with only 15% from salt added to foods (at the table or in cooking) and 10% occurs naturally in food ⁽²⁰⁾.
- Adults living in the most deprived areas had a salt intake twice as high as those living in the least deprived areas ⁽¹⁹⁾.

4.2 Lack of fruit, vegetables, whole-grains and legumes

Diets high in fruit and vegetables, whole-grains and legumes provide dietary fibre and important vitamins and minerals. Dietary fibre is found in all plants and the main sources of fibre in the diet are cereals, legumes, vegetable and fruit. Fibre is important for healthy bowel function and prevention of LTCs. High fibre diets have a beneficial effect on blood lipids, blood glucose control, body weight and reduce inflammation, therefore they have a role in reducing risk from cardiovascular disease and diabetes ⁽²¹⁾. A high intake of fibre, particularly fibre from cereals and whole grains, reduces the risk of colorectal cancer ⁽¹¹⁾. Higher fibre foods may help reduce energy intake and consequently contribute to maintaining a healthy body weight and preventing obesity ⁽¹³⁾. High potassium diets, of which vegetables and fruit are major sources in the New Zealand diet ⁽²²⁾, can help with blood pressure control ⁽²³⁾.

Diets that have shown a positive benefit on prevention of heart disease include the Mediterranean diet, vegetarian diets and diets that are mainly plant-based ⁽²⁴⁾. Vegetarian diets and plant-based diets appear to also reduce risk of ischaemic heart disease compared to diets that include meat. Similar benefits have also been shown for cardiovascular risk factors, blood pressure, obesity, LDL cholesterol and diabetes ⁽²³⁾.

Diet is an essential part of the treatment of prediabetes and Type 2 diabetes to keep blood glucose levels within the normal range. Lifestyle recommendations include losing weight if overweight, healthy eating – plenty of fruit and vegetables, lean meats, low-fat milk and milk products and healthy oils and nuts.

The evidence that fruit and vegetables reduce cancer risk is not clear ⁽²⁵⁾ however, the World Cancer Research Fund ⁽¹¹⁾ recommends consumption of vegetables and fruit as well as legumes and wholegrains as protective factors.

New Zealand situation

- Fibre intakes (median intake for adults is 19.6g) ⁽²²⁾ were below the Recommended Adequate Intake (RAI) for men (30g) and women (25g) however, higher amounts are recommended (38g for men and 28g for women) to prevent non-communicable diseases ⁽¹⁶⁾.
- Bread, vegetables, potatoes, kumara and taro, and fruit were the main sources of fibre in the diet of New Zealanders. Grains and pasta, breakfast cereals and bread-based dishes were less prominent sources ⁽²²⁾.
- Around one-third of New Zealanders ate white bread, with Māori, Pacific and adults living in socio-economically deprived areas more likely to eat white bread ⁽²²⁾.

4.3 High levels of saturated fat

The type of fat in the diet is important for cardiovascular disease (CVD) risk. Research indicates that populations consuming diets low in saturated fats have lower rates of CVD. Conversely, diets high in saturated fat are associated with increased risk through raised blood cholesterol levels ⁽²⁶⁾. Replacement of saturated fat with unsaturated fat in the diet also lowers CVD risk. Furthermore, replacement of saturated fat with wholegrain carbohydrates in preference to refined carbohydrates has also been shown to be beneficial to CVD risk. New Zealand adults consume over the recommended intake ($\leq 10\%$) of saturated fats (13% of total energy from fat) ⁽²²⁾. Between the 1997 and 2008/09 nutrition surveys, the percentage energy obtained from saturated fat decreased by 1-2 % ⁽²²⁾.

4.4 Alcohol intake

While alcohol is not an essential item it does however contribute to the total energy intake of the population therefore that is why it has been included in this paper.

Alcoholic beverages can provide significant amounts of energy in the diet, yet few nutrients. Alcohol intake may also affect food intake ⁽²³⁾. Alcohol and obesity are the nutritional factors that contribute to the highest burden of cancer globally ⁽¹¹⁾. There is convincing evidence that alcohol is associated with at least seven types of cancer including cancers of the upper gastro-intestinal tract, liver and breast ⁽¹¹⁾. Drinking even low levels of alcohol regularly can increase cancer risk ⁽²⁷⁾.

As well as cancer, alcohol is a risk factor for many health issues including poor mental health, heart disease and stroke ⁽²⁸⁾.

In addition, reducing alcohol consumption reduces blood pressure ⁽²⁹⁾. The risk of harm from alcohol can be lowered by limiting intake to no more than two standard drinks per day for women and three for men (and no more than ten per week, with at least two alcohol-free days) ⁽³⁰⁾.

New Zealand situation

- Four in five (80%) of adults drank alcohol in the past 12 months with men more likely than women⁽¹⁾.
- One in five adults have a hazardous drinking pattern (defined as an 'established drinking pattern that carries a risk of causing harm to physical or mental health or having social effects on the drinker or others') ⁽¹⁾.
- Alcohol is one of the six major risk factors for health loss accounting for 5% of total health loss in New Zealand between 1990 and 2017 ⁽³⁾.

4.5 High Sugar

Sugar is a carbohydrate intrinsic in a few foods (e.g. fruit, honey, milk) but added to many foods as a sweetener (e.g. biscuits, beverages). Other functions in food include preservation (e.g. jams), and to add texture and palatability. The Eating and Activity Guidelines recommend New Zealanders limit drink and food with added sugar and highly processed food that contains sugar (and refined grains, saturated fat and salt) ⁽¹³⁾. Large amounts of added sugar

in foods greatly increases the energy content but contains little other nutritional value. Eating and drinking foods high in sugar (e.g. soft drinks) may limit intake of foods containing nutrients, especially for children and adolescents when nutrients needs are high.

The WHO recommends that free sugar intake should be reduced to 10% of total energy intake, with additional benefits for oral health if reduced further to 5% of total energy intake⁽³¹⁾. Sugars have been classified by the World Health Organization as intrinsic sugars, free sugars and added sugars⁽³¹⁾. Free sugars refer to all sugars added to foods by the manufacturer, cook or consumer, plus the sugars that are naturally present in honey, syrups and fruit juices. Added sugars are the sugars linked to poor health, including dental health, cardiovascular disease, and obesity⁽³²⁾. In contrast, foods with intrinsic sugars, those naturally occurring in foods such as milk and fruit, contain other nutrients such as protein and minerals in the case of milk, and fibre, vitamins, and minerals in fruit.

In addition, ANA is concerned about the dental health of New Zealanders. Poor dental health impacts on people's food choices and the ability to chew foods such as fruits, vegetables and wholegrains. Dental health has not been explored in this paper.

The dietary patterns of people living in Aotearoa are generally too high in energy, salt, saturated fat, added sugar, and for some, alcohol; and too low in wholegrains and fruit and vegetables, and therefore low in fibre.

5. Dietary patterns

While the situation summarising LTCs in New Zealand is of concern, the good news is there is evidence showing a range of dietary patterns have been found to be beneficial to health, wellbeing and prevention of chronic disease.

The Mediterranean-style diet, Dietary Approach to Stop Hypertension (DASH) and Dietary Guidelines-related patterns have been shown to be associated with better health outcomes ⁽³³⁾. While there are differences in fat, carbohydrate and protein content between dietary patterns, there are commonalities that are transferable to the New Zealand diet and are incorporated in the Eating and Activity Guidelines.

These shared qualities include increased consumptions of fruit and vegetables, wholegrains, nuts, legumes, healthy plant oils and fish; and reduced consumption of red meat, processed meat and added sugars. In contrast, highly processed foods contain large amounts of undesirable nutrients, saturated fat, sugar and salt; and low amounts of positive nutrients and food components, vitamins, minerals and dietary fibre and other phytonutrients important for good health.

The dietary patterns of New Zealanders are generally too high in energy, salt, saturated fat and added sugar; and too low in wholegrains and fruit and vegetables, and therefore low in fibre ⁽²²⁾. The number of people meeting the fruit and vegetable guidelines has significantly declined by almost 10% since 2006/07 ⁽¹⁾.

ANA calls for co-ordinated action into addressing and improving the common nutrition risk factors associated with key long-term conditions. Improving the socioeconomic determinants of health and food and alcohol environments will have the greatest impact on reducing inequities for our most vulnerable populations. ANA advocates for actions to be equity-based and multi-sectorial ⁽³⁴⁾.

6. Recommendations

ANA calls all stakeholders including government to come together to improve access to healthy food for everyone living in Aotearoa.

Together we must:

Develop a National Nutrition Strategy to include:

- addressing the food and alcohol environments and socioeconomic conditions to address nutrition risk factors associated with long-term conditions
- action on improving dietary patterns to significantly reduce the burden of disease from long-term conditions.

CALL TO ACTION

ANA urgently demands the regular, robust collection of data to monitor food and nutrition trends and identify emerging nutritional issues and ways to address them.

In addition, a national nutrition strategy is needed to underpin research, interventions, policies, evaluations and future strategies.

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