



Nutrition Strategy 2009-12

December 2009

ISBN number 978-0-478-33716-7 online

ISSN number 1177-7478 online

IMPORTANT DISCLAIMER

Every effort has been made to ensure the information in this report is accurate.

NZFSA does not accept any responsibility or liability whatsoever for any error of fact, omission, interpretation or opinion that may be present, however it may have occurred.

Further copies

Requests for further copies should be directed to:

New Zealand Food Safety Authority

P O Box 2835

WELLINGTON

Telephone : (04) 894-2500

Fax : (04) 894-2501

Website

A copy of this document can be found at www.nzfsa.govt.nz

Table of Contents

Executive Summary	5
1 Introduction	6
2 NZFSA Nutrition Strategy	8
2.1 Purpose	8
2.2 Objectives.....	8
2.3 Scope	8
2.4 A Risk-based Approach.....	8
2.5 Working with Other Stakeholders.....	10
3 The Nutrition Environment	12
3.1 The New Zealand Situation	12
3.2 International Setting	13
4 Current Nutrition Work Programme	15
4.1 Preliminary Risk Management Activities	15
4.2 Identification and Selection of Risk Management Options.....	16
4.3 Implementation of Control Measures	17
4.4 Monitoring and Review	17
4.5 Risk Communication.....	18
5 Proposed New Work Programmes	20
5.1 Reduction of Sodium (Salt) in the Diet	21
5.2 Management of Essential Nutrients	23
5.3 Nutritional Quality of Fat.....	27
5.4 Resource Allocation for New Work Programmes.....	28
6 Critical Success Factors	30
7 Risk Communication	32
References	33
Glossary of Terms	36
Appendix	37
Completed Work	39
Preliminary Risk Management Activities	39
Identification and Selection of Risk Management Options.....	40
Implementation of Control Measures.....	40
Monitoring and Review	40
Risk Communication.....	41

Figures

Figure 1. Components of the NZFSA Framework for Managing Risks in the Food Chain.	10
Figure 2. Determination of new work programmes for NZFSA.	21
Figure 3. Annual change in fortified foods in the Manufactured Food Database as at December 2008 (Manufactured Food Database 2008).....	26
Figure 4. Total number of fortified foods by category in the Manufactured Food Database as at December 2008 (Manufactured Food Database 2008).	26

Tables

Table 1. NZFSA's Intermediate Outcomes identified within its Statement of Intent, as at July 2009 (New Zealand Food Safety Authority 2009).....	7
Table 2. Attributable mortality for nutrition-related risk factors, New Zealand 1997 (Ministry of Health and the University of Auckland 2003).....	13
Table 3. Top ten global risk factors by attributable Disability Adjusted Life Years (DALYs), 2000 (World Health Organisation 2002).....	14
Table 4. Estimated mean dietary sodium intake (mg/d) for eight age-sex groups of the 2003/04 NZTDS (New Zealand Food Safety Authority 2005).....	22
Table 5. Acceptable Macronutrient Distribution Ranges (AMDR) to reduce chronic disease risk and comparison with existing nutrient intakes of New Zealand adults 15+ years (Russell et al. 1999, National Health and Medical Research Council 2005).	37
Table 6. Suggested Dietary Targets (SDT) to reduce chronic disease risk and comparison with existing nutrient intakes of New Zealand adults 15+ years (Russell et al. 1999, National Health and Medical Research Council 2005).....	38

Executive Summary

With an expanded mandate in nutrition, NZFSA is developing nutrition-related initiatives beyond the work programme of the Australia New Zealand joint food standards system. This Nutrition Strategy (the 'Strategy') describes NZFSA's growing role in the area of nutrition and ensures that this role is complementary with the nutrition role of MoH and builds upon the work of other key nutrition directions in New Zealand and internationally.

NZFSA's focus in nutrition is two-fold:

- to include nutrition components in the work programme of NZFSA that are relevant and build upon the latest scientific and international directions, and
- to increase the collaboration with MoH in nutrition areas directly related to the food supply.

The extent to which the Strategy is implemented is resource dependent but it will contribute significantly to NZFSA's Statement of Intent. Nutritional aspects of food safety will be enhanced and consumers will be provided with information needed for making informed choices. New work will also increase the opportunity for industry innovation in bringing new food products to market. Several potential programmes have been identified and all work embarked on will be underpinned by high quality science and risk assessment.

Reducing sodium (salt) in the diet has been selected as the first new work programme in the Strategy. NZFSA will partner with MoH in the regulatory policy aspects of achieving this goal. Further, NZFSA will actively pursue collaboration with the New South Wales Food Authority which is beginning a five-year project on this issue under a grant from National Health and Medical Research Partnerships for Better Health.

The Strategy is a living document and will be reviewed as needed. Overseas, other national food safety agencies are adopting an increased role in nutrition and have already implemented targeted nutrition activities.

1 Introduction

NZFSA is responsible for evaluating and managing risks to the safety and suitability of all food produced in New Zealand (whether it is sold here or exported) and all food that is imported to New Zealand for sale. To support this NZFSA has maintained an active though limited role in the field of nutrition. This role has encompassed activities in the following areas:

- development of national and international standards
- consumer information
- monitoring of the food supply, and
- scientific research.

Through these activities NZFSA has become recognised as a highly respected source of nutrition science and information. The potential exists now for NZFSA to make a more significant contribution to nutrition issues and progressively develop nutrition work programmes. In 2010, NZFSA will explore an increased focus on nutrition with a well defined approach to the management of nutritional risks within the domestic food supply. In doing so, NZFSA will be following the lead of other national food safety agencies that are already well advanced in developing and implementing nutrition roles.

This Strategy has been developed to broaden the work programme of NZFSA in the area of nutrition as it strives to improve the safety and suitability of the food supply. The Strategy links into all of the intermediate outcomes within the NZFSA Statement of Intent (Table 1) (New Zealand Food Safety Authority 2009). These outcomes address the domestic regulatory environment and the economic importance of domestic regulatory activities that may impact on both imported and exported food. The nutrition-related initiatives described in this document are beyond the work programme of the Australia New Zealand joint food standards system.

The Strategy provides a broad context from which to approach nutrition issues and create transparency in how NZFSA conducts its future work in this area. NZFSA is committed to implementing a more explicit technical and science-based approach to nutrition alongside the existing food safety activities. The basis for this is set out in Section 2, bringing clarity to NZFSA's increasing nutrition focus. The national and international drivers that have given rise to this emerging role for NZFSA are summarised in Section 3.

The core business of nutrition within NZFSA is summarised in Section 4. New work programmes are described in Section 5 and will rely on enhanced partnerships and collaboration with MoH and other stakeholders. Critical success factors associated with the implementation of the Strategy are identified

in Section 6 and finally the importance of risk communication underpinning all aspects of the Strategy are identified in Section 7.

Table 1. NZFSA's Intermediate Outcomes identified within its Statement of Intent, as at July 2009 (New Zealand Food Safety Authority 2009).

<p>Outcome 1 Improved safety and suitability of food</p>	<p>Intermediate Outcomes</p> <ul style="list-style-type: none"> • Effective domestic food regulatory regime at least cost • Streamlined import regime • Effective event and emergency response
<p>Outcome 2 Effective government role in facilitating commerce and market access</p>	<p>Intermediate Outcomes</p> <ul style="list-style-type: none"> • Compliant exports • Maintained and enhanced market access • Enhanced relationship with Australia concerning food and food related matters
<p>Outcome 3 Consumer food practices and choices that support better health</p>	<p>Intermediate Outcome</p> <ul style="list-style-type: none"> • Informed consumers make healthier and safer food choices

2 NZFSA Nutrition Strategy

2.1 Purpose

To present a strategic plan for nutrition within NZFSA and to report on its extended work programme.

2.2 Objectives

The objectives of the Strategy are to:

- define the scope of NZFSA's nutrition work and the contribution to NZFSA's outcomes
- describe the rationale for an increased focus on nutrition by NZFSA
- describe key nutrition opportunities for NZFSA and present new work programmes for agreement by the NZFSA Board, and
- identify critical success factors to implementing the Strategy.

2.3 Scope

The Strategy describes how NZFSA will:

- continue to provide scientific and technical inputs into the Australia New Zealand joint food standards system
- ensure that any nutrition-related issues that are different to those in Australia are properly addressed under the trans-Tasman food standards development programme
- identify opportunities to positively influence the nutrient content of the food supply beyond traditional regulatory approaches, and
- provide accurate and accessible information on nutrition and food safety to New Zealanders.

2.4 A Risk-based Approach

Food safety risks or hazards can arise from domestic or international sources and can be nutritional in nature. Nutritional risk encompasses two types of risks to health at either end of the nutritional

continuum: deficient or inadequate intake of nutrients and related substances*, and excess intake of nutrients and related substances (Codex Committee on Nutrition and Foods for Special Dietary Uses 2008, FAO/WHO 2006).

Using a science and risk-based approach to nutrition, the Strategy seeks to proactively identify priority nutritional risks and to structure work programmes accordingly. In parallel, nutritional risks may be identified by NZFSA in the course of its routine activities; some will be raised by consumers, and others will come to light through requests from industry. MoH in establishing New Zealand dietary policy and conducting nutrition surveys may also identify nutritional risks. The global scientific community is also helpful in identifying new and emerging nutritional risks, and developments in food standards to address those risks, as are New Zealand's trading partners.

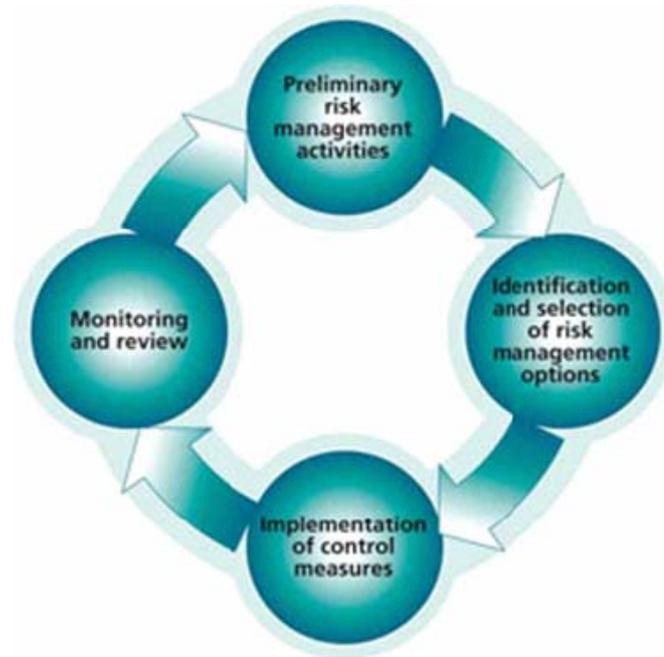
When faced with potential nutritional risks in the food supply, NZFSA will look at the issue from a public health perspective and seek to answer these questions:

- What can go wrong?
- How likely is it to go wrong?
- How serious would it be if it went wrong?
- What can be done to reduce the likelihood and/or seriousness of it going wrong?

The process NZFSA will use to ask and answer these questions, and take necessary action, is called the NZFSA Risk Management Framework (Figure 1).

* A related substance is a constituent of food (other than a nutrient) that has a favourable physiological effect (Codex Committee on Nutrition and Foods for Special Dietary Uses 2008).

Figure 1. Components of the NZFSA Framework for Managing Risks in the Food Chain.



2.5 Working with Other Stakeholders

2.5.1 MoH

When NZFSA was established, responsibilities between it and MoH were carefully separated out and agreed to by Cabinet. This separation was to ensure there was no duplication of effort between the agencies. MoH retained responsibility for matters associated with nutrition, diet and noncommunicable diseases. For its part, NZFSA had some nutrition capability so as to ensure that food standards, particularly standards developed under the Australia New Zealand joint food standards setting system reflected the nutritional interests and concerns of New Zealand. However, NZFSA had no clear and formalised mandate in the area of nutrition.

The Strategy encompasses a broad and effective collaboration between NZFSA and MoH. Under the terms of a memorandum of understanding between the two agencies, areas that have been identified for ongoing discussion include: policy and standards development and their implementation, strategic planning and information sharing, research, monitoring and surveillance, food composition, assessment of nutritional status and food consumption, nutrition related communications and messaging, food labelling, food industry, and international responsibilities (New Zealand Food Safety Authority, Ministry of Health 2008).

2.5.2 Other Stakeholders

NZFSA will work closely with a variety of stakeholders, both in New Zealand and overseas, in implementing the Strategy. Collaborative programmes will be undertaken wherever appropriate. The stakeholder base includes the following:

- organisations representing consumers
- food industry and food industry associations
- FSANZ and Australian jurisdictions
- international regulatory bodies
- non-government nutrition organisations
- NZFSA Academy
- Quadrilateral Food Safety Group
- research organisations and academic institutions (national and international).

3 The Nutrition Environment

3.1 The New Zealand Situation

New Zealand is fortunate to have an excellent quality, plentiful and varied food supply, which can provide an adequate, nutritious, safe and well balanced diet. A detailed discussion of the food supply, dietary patterns and current food and nutrient trends is beyond the scope of this Strategy and has been reviewed in detail in other New Zealand reports (Ministry of Health 2006c, Bremer, Chisholm 2000, Laugeson, Swinburn 2000). In summary, excessive intakes of nutrients associated with noncommunicable diseases e.g. cancer, cardiovascular disease, type 2 diabetes, co-exist alongside deficiencies of other essential nutrients required for normal health and wellness.

A simple comparison of population mean intakes against nutrient reference values for nutrients known to reduce noncommunicable diseases suggests an excess of risk promoting nutrients such as saturated fat and sodium and inadequate intakes of many nutrients associated with risk reduction including dietary fibre, potassium and/or vitamin E. (Appendix: Table 5 and Table 6). A lack of quality food composition information makes it difficult to adequately assess the intake of some other risk reducing nutrients, specifically omega-6 and omega-3 polyunsaturated fats.

This situation means New Zealand faces a number of public health nutrition challenges associated with noncommunicable diseases. These are well documented in health monitoring reports and national dietary surveys (Russell et al. 1999, Ministry of Health 2003b, Ministry of Health and the University of Auckland 2003, Ministry of Health 2004, Ministry of Health 2006a). A study by MoH and the University of Auckland attributed 40 percent of all noncommunicable deaths in New Zealand to nutrition-related risk factors (Table 2) (Ministry of Health and the University of Auckland 2003). These risk factors included blood pressure, total blood cholesterol, inadequate intake of fruits and vegetables and overweight and obesity (represented in Table 2 by the body mass index).

Concurrently, deficiencies and/or insufficiencies of several essential nutrients exist across the New Zealand population (e.g. iodine, vitamin D), or within sub-groups of the population (e.g. calcium in males 11-24 years, females ≥ 7 years, zinc in females 11-14 years) (Ministry of Health 2006c).

Table 2. Attributable mortality for nutrition-related risk factors, New Zealand 1997 (Ministry of Health and the University of Auckland 2003).

Risk Factor	Attributable Mortality [^]					
	Coronary Heart Disease	Stroke [*]	Type 2 Diabetes [#]	Cancer ^{^^}	Total ^{**}	Percentage of all deaths
Total blood cholesterol	4,096	625	4,721	17%
Systolic blood pressure	2,542	1,157	3,699	13%
Body mass index	1,561	367	1,231	268	3,154	11%
Vegetable and fruit intake	1,171	179	..	209	1,559	6%

Notes:

[^] Number of deaths

^{*} Ischaemic stroke only for total blood cholesterol, vegetable and fruit intake, and body mass index

[#] Numbers were not adjusted for cardiovascular disease/type 2 diabetes overlap

^{^^} Vegetable and fruit intake – oesophageal, stomach, colorectal and lung cancers; body mass index – post menopausal breast and colorectal cancer

^{**} Estimates do not add across risk factors since disease events can be caused by the joint or sequential actions of two or more risk factors.

3.2 International Setting

The public health nutrition challenges being experienced globally are well documented and compelling. Significant progress has been made towards international goals for the eradication of hunger and malnutrition but now dietary patterns in low and middle income countries appear to be going through a ‘nutrition transition’, shifting toward a diet associated with noncommunicable diseases commonly seen in developed countries such as New Zealand, USA, Canada and Australia (Iyengar, Nair 2000, Popkin 2007, Popkin 2006, Kennedy 2005).

The international statistics mirror the New Zealand situation. In 2001 global noncommunicable diseases accounted for almost 60% of the 56.5 million deaths annually (World Health Organisation 2002). Almost half of this mortality is attributable to cardiovascular diseases, although future trends for obesity and type 2 diabetes are cause for concern (World Health Organisation 2003). In most countries it is a small number of major risk factors that account for much of this mortality. These risk factors again include blood pressure, total blood cholesterol, inadequate intake of fruits and vegetables, and overweight and obesity (Table 3).

Table 3. Top ten global risk factors by attributable Disability Adjusted Life Years (DALYs), 2000 (World Health Organisation 2002).

Rank		Males		Females
	TOTAL DALYs (000)	117, 670		96, 543
		(% total)		(% total)
1	Tobacco	17.1	Blood pressure	10.6
2	Alcohol	14.0	Overweight	8.1
3	Blood Pressure	11.2	Cholesterol	7.0
4	Cholesterol	8.0	Tobacco	6.2
5	Overweight	6.9	Low intake of fruits and vegetables	3.4
6	Low intake of fruits and vegetables	4.3	Alcohol	3.3
7	Physical inactivity	3.3	Physical inactivity	3.2
8	Illicit drugs	2.3	Illicit drugs	1.2
9	Occupational risk factors for injury	1.0	Unsafe sex	1.1
10	Lead exposure	0.8	= Iron deficiency	1.0
			= Childhood sexual abuse	1.0

4 Current Nutrition Work Programme

Nutrition has an increasing profile in the Australia New Zealand Food Standards Code. Activities expected to draw heavily on NZFSA's nutrition expertise in the immediate future include specific standards work on mandatory and voluntary fortification; nutrition, health and related claims; a review of infant formula policy, infant formula applications, novel food applications; and broader aspects of nutrition labelling including leading and contributing to international standards development work that reflects the interests of New Zealand's food producers and/or consumers.

The ongoing work programme contains a number of activities that are at different stages in progressing through the NZFSA RMF. As technical capability improves, work programmes will more completely reflect full implementation of all stages of the RMF.

4.1 Preliminary Risk Management Activities

4.1.1 Objective

Provide nutrition inputs to the New Zealand standards development process and to the ongoing development of the joint Australia New Zealand Food Standards Code.

4.1.2 Workplan

NZFSA will continue to undertake the following activities:

- use existing information sources such as the Manufactured Foods Database to review the composition of food and beverages, including energy density, fat, saturated fat, sodium and other micronutrients for the purpose of informing risk management options
- project manage a risk profile on vitamin D and consult on risk management options
- update risk assessment policy for the Fortification Overages Project and commission the appropriate risk assessment
- project manage a risk profile on caffeine and caffeinated beverages and consult on risk management options
- continue to link with international regulatory bodies involved in scientific inputs to food standards and guidelines, and

- identify gaps in data sets that may be required to be filled for adequate nutritional risk assessment.

4.2 Identification and Selection of Risk Management Options

4.2.1 Objectives

Provide risk management nutrition inputs to the New Zealand standards development process and to the ongoing development of the joint Australia New Zealand Food Standards Code.

Contribute risk management nutrition inputs to Codex standards and guidelines so that they reflect New Zealand interests.[†]

4.2.2 Workplan

NZFSA will continue to undertake the following activities:

- provide nutrition inputs to the Food Regulation Standing Committee (FRSC) working group on Infant Formula Products
- provide nutrition inputs to Applications and Proposals forwarded from FSANZ
- lead New Zealand's nutrition position on standards and guidelines development at the CCNFSDU and among the Quadrilateral countries and other regulatory agencies that have a relationship with New Zealand food producers and/or consumers
- provide nutrition inputs as needed to CCFL, especially in the development of new work in the area of food labelling, and
- provide nutrition inputs as needed to other Codex Committees, including the Codex Committee on Methods of Analysis and Sampling (CCMAS) and the Coordinating Committee for North America and the South West Pacific (CCNASWP).

[†] As agreed by the NZFSA Codex Strategy.

4.3 Implementation of Control Measures

4.3.1 Objective

Implement control measures at relevant points in the food chain as appropriate to NZFSA regulatory activities.

Provide implementation tools for stakeholder groups where needed.

4.3.2 Workplan

NZFSA will continue to undertake the following activities:

- assist the implementation of the joint Australia New Zealand modified Standard 2.1.1 - Cereals and Cereal Products and Standard 2.10.2 - Salt and Salt Products
- provide technical inputs to the development of User Guides for the Supplemented Food Standards and other New Zealand Standards as required
- support the Chip Group by providing technical inputs to the development of New Zealand industry standards and training tools for deep-fat frying, and
- provide nutrition expertise as needed to the joint communications strategy in cooperation with MoH and FSANZ for impending iodine and folic acid initiatives, including communications on healthy eating for pregnant and breastfeeding mothers, appropriate supplementation, and the promotion of voluntary and mandatory fortification activities.

4.4 Monitoring and Review

4.4.1 Objectives

In cooperation with MoH and other stakeholders, contribute to an effective nutrition monitoring of the New Zealand food supply.

4.4.2 Workplan

NZFSA will continue to undertake the following activities:

- derive food composition information on the iodine and sodium content of retail breads to assist with the monitoring and review of Standard 2.1.1 - Cereals and Cereal Products and Standard 2.10.2 - Salt and Salt Products
- in partnership with MoH, FSANZ, academia and the food industry contribute to the monitoring and review of mandatory iodine fortification in New Zealand
- in partnership with MoH, FSANZ, academia and the food industry contribute to the monitoring and review of voluntary folic acid fortification in New Zealand
- contract manage the Manufactured Food Database for monitoring voluntary fortification of the New Zealand food supply and continue to investigate further uses for this data
- provide nutrition inputs to the changing food and nutrient monitoring requirements of the New Zealand Total Diet Survey on an ongoing basis
- review the simulated diets and food lists for use in the New Zealand Total Diet Survey as required, and
- contribute nutrition inputs to the wider labelling review requested by the Council of Australian Governments and coordinated by the FRSC.

4.5 Risk Communication

Risk communication is a generic component of all steps in the NZFSA RMF. NZFSA will continue to engage with stakeholders in a two-way dialogue on food standards and nutrition issues (including standard development) and provide appropriate and accurate information to consumers and other stakeholders.

NZFSA will continue to undertake the following activities:

- proactively inform interested stakeholders of major developments, milestones and decisions (and the reasons for those decisions) associated with the Strategy
- communicate using appropriate methods, to ensure that interested stakeholders have every opportunity to get the information they need, in the way they need it, in a timely manner
- provide technical and science-based nutrition inputs to NZFSA and other organisations' risk communications materials
- integrate nutrition inputs into new and existing food safety communications where appropriate

- ensure NZFSA's nutrition inputs are consistent with the Ministry of Health's Food and Nutrition Guidelines wherever appropriate, and
- continue to proactively scan the international environment for emerging nutrition issues.

5 Proposed New Work Programmes

This Strategy, while focused on improving nutrition has identified essential themes that include:

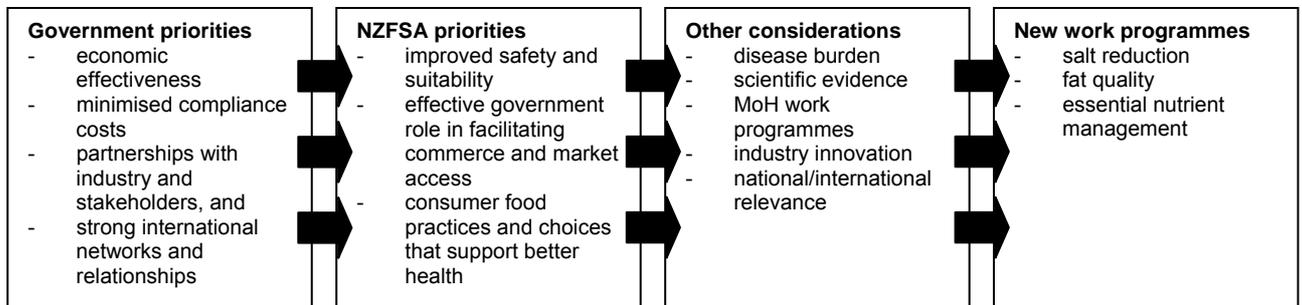
- economic effectiveness
- minimised compliance costs
- partnerships with industry and stakeholders, and
- strong international networks and relationships.

The NZFSA Statement of Intent has also identified a number of external influences that inform the current operating environment, including heightened expectations for efficient regulation and a constantly changing global trading environment (New Zealand Food Safety Authority 2009).

The Strategy has identified several new programme areas of work that directly impact the safety and suitability of the food supply. These work programmes link into all of the intermediate outcomes within the NZFSA Statement of Intent and were identified after consideration of public health nutrition risk, scientific assessment, national and international relevance, potential for food industry innovation and their complementary nature to MoH work programmes in nutrition (Figure 2).

Contributing to a reduction in sodium (salt) in the diet has been identified as the first priority for new work. The Strategy identifies two further work areas, the risk management of essential nutrients and the nutritional quality of fat. Considerable work is already being done in the essential nutrients area and it is important to extend this work in collaboration with other stakeholders. New work on fats in the diet is seen as a valuable future work area but not an immediate priority for focus beyond maintaining current commitments and activities.

Figure 2. Determination of new work programmes for NZFSA.



5.1 Reduction of Sodium (Salt) in the Diet

5.1.1 Objective

NZFSA will collaborate with the Ministry of Health, food producers and other stakeholders to minimise the exposure of New Zealanders to sodium (salt) in the food supply.

5.1.2 Rationale

Despite the essential role of sodium in the diet there is strong evidence that the general population would benefit from consuming less sodium (Ministry of Health 2003a, Ministry of Health 1996, Ministry of Health 2007). Higher sodium intakes can adversely affect blood pressure which is a risk factor for cardiovascular disease (World Health Organisation 2003, Chobanian, Hill 2000).

MoH and the Australia Department of Health and Ageing have endorsed an upper level of intake for sodium based on the adverse effect of sodium intake on blood pressure levels (National Health and Medical Research Council 2005). The New Zealand Total Diet Survey 2003/04 has reported that mean daily sodium intakes could exceed this upper level of intake for most age-sex groups by 25-57% (Table 4) (New Zealand Food Safety Authority 2005). For a high consumer, sodium intake may exceed the upper level of intake by a factor of three. These estimates do not account for discretionary salt use by the consumer and thus likely underestimate total dietary sodium intake.

MoH and the University of Auckland have estimated that targeted efforts to reduce sodium intakes could reduce population blood pressure by ≈ 0.5 mmHg and save approximately 280 lives from blood pressure related diseases (Ministry of Health and the University of Auckland 2003).

Sodium is found in most foods as sodium chloride, commonly known as salt. Salt may account for up to 90% of sodium intake but it is also present in the diet as sodium bicarbonate, and in processed foods as monosodium glutamate, sodium phosphate, sodium carbonate, and sodium benzoate (National Health and Medical Research Council 2005). Salt is added to foods for a variety of reasons including preservation, flavouring and other technological purposes.

Generally, processed foods have much higher concentrations of sodium than unprocessed foods. Key food sources of sodium in the New Zealand diet include breads, takeaways, dairy products, cereals and pasta, biscuits and cake and meat and meat products (New Zealand Food Safety Authority 2005).

Internationally a number of regulatory bodies have addressed salt reduction as a key strategy for reducing the burden of nutrition-related disease including the UK Food Standards Agency and Health Canada (Food Standards Agency 2009, Health Canada 2009).

Table 4. Estimated mean dietary sodium intake (mg/d) for eight age-sex groups of the 2003/04 NZTDS (New Zealand Food Safety Authority 2005).

Sodium Intake (mg/d)	25+ yr Male	25+ yr Female	19-24 yr Young Male	11-14 yr Boy	11-14 yr Girl	5-6 yr Child	1-3 yr Toddler	6-12 mth Infant
2003/04 NZTDS	3047	2150	3603	3108	2496	2031	1384	845
UL	2300	2300	2300	2000	2000	1400	1000	..
Intake as % of UL	132%	93%	157%	155%	125%	145%	138%	..

Notes:

- mg/d Milligrams per day
- UL Upper intake limit
- mth Month
- yr Year

5.1.3 Proposed Workplan 2010 - 2012

NZFSA will undertake the following activities:

- collaborate with key stakeholders to develop an integrated approach to sodium reduction in the foods supply including effective monitoring
- update the estimates of daily intake of sodium among age-sex groups and report on key food contributors to intake within the New Zealand Total Diet Survey 2009
- use food composition information from the NZTDS to report on variability of sodium within key food categories
- undertake appropriate risk assessment activities
- identify other nutrition inputs that will complement or add value to existing risk management initiatives, and
- apply social research to determine consumer use and understanding of salt and sodium on food labels, and apply these findings to risk communication strategies.

Programme linkages: MoH, NSW FA, UK FSA, The National Heart Foundation of New Zealand, University of Otago, FGC.

5.2 Management of Essential Nutrients

5.2.1 Objective

NZFSA will evaluate essential nutrients in the New Zealand food supply and prioritise any nutritional risks for regulatory and non-regulatory action.

5.2.2 Rationale

A range of essential nutrients that include protein, fatty acids (omega-6 and omega-3 PUFA), dietary fibre, vitamins, minerals and various trace elements should be obtainable from the food supply to maintain good health.

NZFSA and MoH monitor the food supply and food intakes respectively and have identified a number of essential nutrients that might present a risk to human health. Inadequate intakes of essential micronutrients are known to exist in the New Zealand population or sub-groups of the population. For

example, across the population there is re-emergence of iodine deficiency disorders which has required the introduction of mandatory fortification of bread with iodine. This has probably resulted from changes in the iodine concentration of the food supply as well as changes in food intake.

In sub-groups of the population estimated prevalence of inadequate intake exceeds 10% for riboflavin (females 11-18 years), folate (females 11-44 years), calcium (males 11-24 years, females ≥ 7 years), iron (menstruating females 11-14 years, females 15-44 years) and zinc (females 11-14 years) (Ministry of Health 2006c). These findings can largely be explained by poor adherence to dietary patterns reflected in MoH's Food and Nutrition Guidelines rather than changes to the nutrient concentration of the food supply *per se* (Ministry of Health 2003a, Ministry of Health 1996, Ministry of Health 1998, Ministry of Health 2006b).

Concurrently, there are examples of essential nutrient intakes in excess of recommended intakes in the New Zealand population, particularly among high energy consumers, e.g. calcium, zinc (males 19-65+ years) (New Zealand Food Safety Authority 2008). Globally, the increased use of fortified foods, food-type dietary supplements, specifically formulated foods, and so-called 'functional foods' has been put forward as one reason for the increased intakes of nutrient substances (FAO/WHO 2006).

NZFSA is aware that the number of fortified food products available to New Zealanders is increasing. In 1998 the number of fortified food products on the New Zealand market was approximately 287, by 2008 this had increased to 650 food products (Figure 3) (Manufactured Food Database 2008). The single largest food category is food and fruit drinks which accounts for 43% of all fortified foods. Other significant food categories include breakfast cereals (12%), yoghurts (11%) and baby foods (7%) (Figure 4). It is unclear what contribution these fortified products make to the total nutrient intake of individuals or populations.

Expert groups have considered the safety of some essential nutrients and acknowledge that the risk of potential harm for inadequacy or excess differs for each nutrient and depends on the amount and form of the substance consumed, as well as the period of time over which it is consumed and the susceptibility of the individual (Expert Group on Vitamins and Minerals 2003).

Accurate information on the intakes of some essential nutrients such as vitamin D is difficult to obtain due to measurement issues or a lack of comprehensive compositional data. Further, estimates of inadequate intake are not possible for some other essential nutrients such as selenium because there are no internationally agreed reference values for serum levels (Ministry of Health 2006c).

5.2.3 Proposed Workplan 2010 - 2012

NZFSA will undertake the following activities:

- develop a strategy for managing essential nutrients in the food supply
- collaborate with other stakeholders to the greatest extent practicable
- ensure appropriate monitoring is undertaken to identify emerging nutrient issues including,
 - use of current data sets to identify essential nutrients and populations at risk
 - development of a monitoring programme to examine essential nutrient additions to the food supply through voluntary fortification
- undertake appropriate risk assessment activities, and
- collaborate with the international science and regulatory community on refining approaches to the nutritional risk analysis of nutrients.

Programme linkages: MoH, Health Canada, University of Auckland, ESR, MFD, FSANZ.

Figure 3. Annual change in fortified foods in the Manufactured Food Database as at December 2008 (Manufactured Food Database 2008).

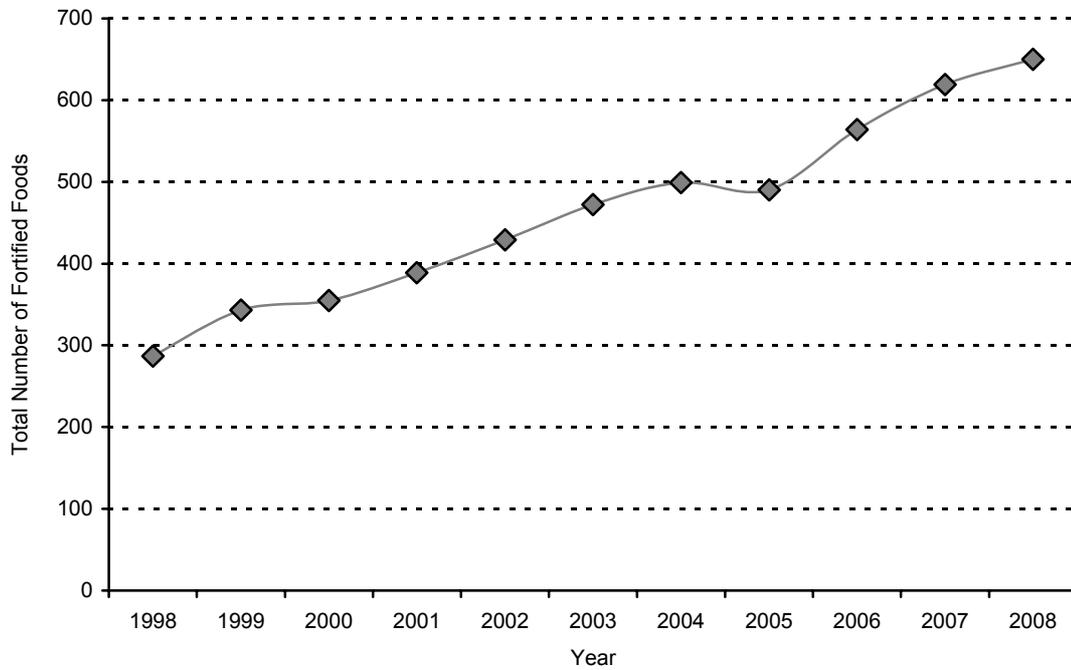
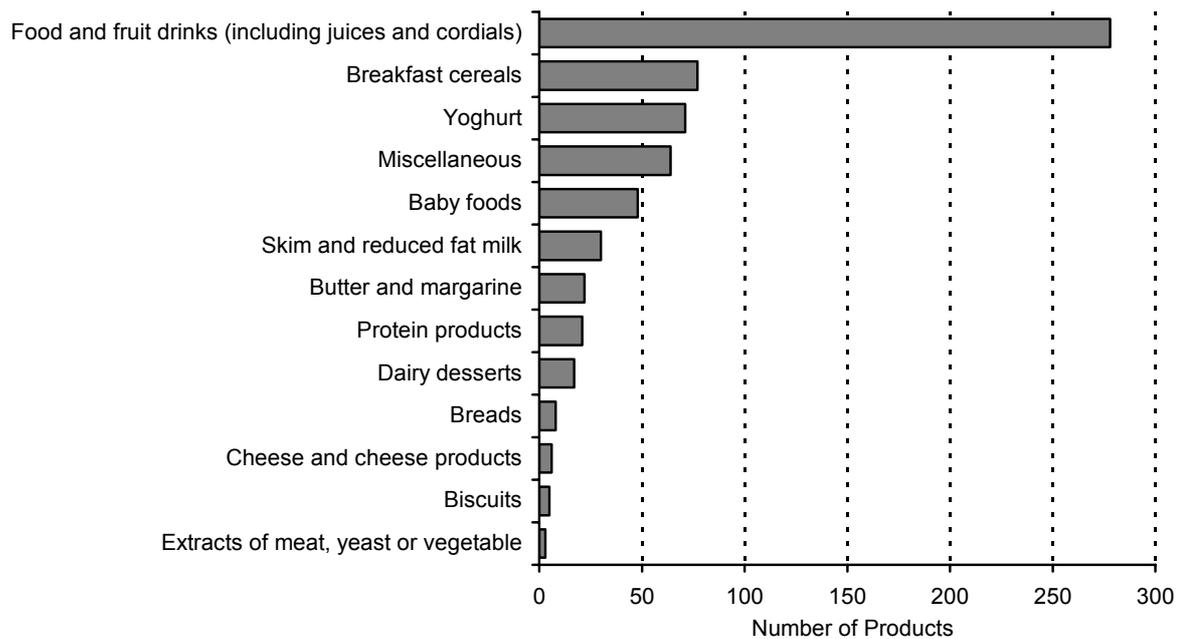


Figure 4. Total number of fortified foods by category in the Manufactured Food Database as at December 2008 (Manufactured Food Database 2008).



5.3 Nutritional Quality of Fat

5.3.1 Objective

NZFSA will collaborate with the MoH and other stakeholders to improve the nutritional quality of fat in the food supply.

5.3.2 Rationale

Some dietary fats are essential for human health and should be obtainable from the food supply. Dietary fats are also one of the most important nutritional determinants of blood cholesterol concentrations.

Dietary fats are categorised according to the number of double bonds on the hydrocarbon chain: saturated fats (SFA) have no double bonds, monounsaturated fats (MUFA) have one double bond, and polyunsaturated fats (PUFA) have more than one double bond.

When combined, saturated fat (and *trans* fatty acid) intakes in New Zealand remain higher than proposed reference values for the reduction of noncommunicable risk (Russell et al. 1999)(National Health and Medical Research Council 2005). Saturated fats make the larger contribution to total daily dietary energy, while it appears that *trans* fatty acid intake falls within proposed limits (Food Standards Australia New Zealand 2007). As such, NZFSA proposes a more active approach to reducing saturated fat whilst maintaining a monitoring role with *trans* fatty acid.

MoH and the University of Auckland have estimated that targeted efforts to modify dietary fat intake could reduce population blood cholesterol by ≈ 0.1 mmol/L and save approximately 300 lives from blood cholesterol related diseases (Ministry of Health and the University of Auckland 2003).

New Zealanders exposure to healthy unsaturated fats such omega-6 and omega-3 remains less clear as food composition information is not sufficiently detailed and large-scale nutrition surveys have failed to report on intakes. It is generally assumed however that New Zealanders would benefit from some replacement of SFA with MUFA and/or PUFA (omega-6 and omega-3).

5.3.3 Proposed Workplan 2010 - 2012

NZFSA will undertake the following activities:

- collaborate with the Chip Group and other stakeholders to the greatest extent practicable,
- explore opportunities to develop more robust food composition information for essential fats (omega-6 and omega-3 PUFA)
- use food composition information to report on variability of SFA, MUFA and PUFA (omega-6 and omega-3) within key food categories
- undertake appropriate risk assessment activities
- consult on risk management options for the control of salt across the food supply and collaborate with key industries
- use qualitative research methods to determine consumer knowledge, attitudes, understanding and use of saturated fat on the nutrition information panel, and
- progress to implementation of risk mitigation measures, including development of a communication plan.

Programme linkages: MoH, FSANZ, The Chip Group.

5.4 Resource Allocation for New Work Programmes

Contributing to a reduction in sodium (salt) in the diet has been identified as the first priority for new work. This work programme can be managed using existing resources and through the establishment of formal and informal collaborations. A number of organisations domestically and internationally including the Food and Grocery Council, the National Heart Foundation of New Zealand, MoH, NSW FA, and UK FSA are already underway with work programmes in this area. The domestic work programmes are not exhaustive. NZFSA can implement a programme of work using current FTE resources (≈ 0.5 FTE) available within the Science Group (including limited redefinition of individual work plans) and with contributions from the operational research fund. NZFSA has engaged in discussions with the Department of Human Nutrition at the University of Otago, supporting an application for a Clinical Research Training Fellowship aimed at investigating *“Sodium in New Zealand, intake, consumer perceptions, and implications for chronic disease.”* NZFSA is also actively pursuing collaboration with the NSW FA which is beginning a five-year project on this issue under a grant from National Health and Medical Research Partnerships for Better Health.

The management of essential nutrients is considered an extension of existing work and must be continued. NZFSA already has commitments specific to iodine and folic acid underway and selenium is monitored through the NZTDS. NZFSA contracts the Auckland District Health Board to manage the Manufactured Food Database. This monitors fortificants in foods such as vitamin C, iron and zinc. Again, NZFSA can implement this programme using current FTE resources (≈ 0.5 FTE) available within the Science Group and with contributions from the operational research fund. In addition to this, NZFSA has engaged in discussions with the Department of Human Nutrition at the University of Otago with the view to supporting postgraduate work on folic acid status. Preliminary discussions are also being held with the School of Population Health at the University of Auckland, MoH and FSANZ on vitamin D as a potential nutrient of interest. As resources allow, the Science Group will expand nutrition work in this area.

As stated earlier, new work on fats in the diet is seen as a valuable future work area as fat is recognised as a major contributor to some noncommunicable diseases, however, it is not an immediate priority for focus beyond maintaining current commitments and activities.

6 Critical Success Factors

In taking up proposed new work programmes NZFSA is presented with a number of opportunities and challenges that it will need to address. For example, NZFSA can build upon its reputation as a highly regarded source of nutrition science and information by playing a key role in commissioning and evaluating nutrition-related research under the work programmes. There will be an increasing need for high quality technical and scientific inputs to all aspects of this Strategy.

NZFSA proposes formation of Nutrition Working Groups (the 'working groups') as required to promote and advance nutrition-related research, provide advice to NZFSA, assist with and facilitate the transfer of results of research to end-users and other stakeholders, and thus maximise the impact of research and policy innovation on nutrition work programmes. It is envisaged that these work groups would be coordinated by the NZFSA Science Academy and co-opt expertise appropriate to the specific nutrition issue. This will further support NZFSA's position as a science-based organisation and ensure that NZFSA's nutrition work programmes are well served by credible internationally renowned nutritional science.

Consistent and systematic application of all steps in the NZFSA RMF to identify, evaluate and manage nutritional risks in the food supply is critical to the success of this Strategy. NZFSA has well developed risk management capabilities for food safety in the areas of chemistry, microbiology and toxicology. However, the emerging role of nutritional risk management is still relatively new to NZFSA and more complex in terms of benefit cost analysis. NZFSA will need to develop its technical and scientific competency in nutritional risk analysis, specifically risk assessment and risk management, and strengthen its linkages with other agencies undertaking nutritional risk analysis.

The successful implementation of the work programmes will also require building up effective collaborations with stakeholders already engaged in these work areas. Efforts are already underway in several research areas such as folic acid fortification, vitamin D, fat modification and sodium reduction.

To address these challenges and expand upon the opportunities over the next three years NZFSA will undertake the following activities:

- ensure NZFSA has capability to undertake nutritional risk assessment by appropriate training and staff development opportunities in:
 - identifying food and nutrition data gaps and producing credible data for NZFSA to inform nutritional risk analysis activities
 - use the FSANZ Dietary Modelling of Nutritional Data computer program for dietary modelling, dietary intake assessments or other activities as appropriate and work with

FSANZ to maintain the computer program with relevant New Zealand food intake and food composition data

- ensure NZFSA has the necessary skills in food composition and dietary intake surveillance that is critical in performing nutritional risk assessment
- work with other dietary modellers in New Zealand to ensure consistency in approach and utility of outcomes
- continue to contribute to CCNFSDU and other international activities in the area of nutrition risk analysis
- consult with key stakeholders to foster effective collaboration on work programmes and formalise these arrangements where appropriate, and
- develop nutrition research priorities for nutrition work programmes and link these wherever possible with the research priorities of other stakeholders to maximise the utility of the results.

7 Risk Communication

A successful risk-based approach to nutrition will require coordinated participation by all stakeholders including relevant government agencies, FSANZ, international regulatory authorities, the food industry, the health sector, academia and consumers.

Mechanisms for establishing dialogue need to be fostered so that parties are consulted as appropriate and contribute to risk management decisions. As risk management decisions made by international organisations increasingly influence the NZFSA regulatory environment and impact directly on the domestic marketplace, NZFSA will also need effective relationships in this area.

Over the next three years NZFSA will undertake the following activities:

- develop specific implementation plans that engage with internal and external stakeholders on nutrition issues identified under the proposed new work programmes
- communicate using appropriate methods, to ensure that interested stakeholders have every opportunity to get the information they need, in the way they need it, in a timely manner
- inform interested stakeholders of major developments, milestones and decisions (and the reasons for those decisions) associated with the Strategy, and
- scan the international environment for nutrition issues of significance to New Zealand and ensure an appropriate risk communication approach is established.

References

- Bremer, J. & Chisholm, A. 2000, *Dietary Patterns: An evidence-based statement from the National Heart Foundation of New Zealand's Nutrition Advisory Committee*, The National Heart Foundation of New Zealand, Auckland, New Zealand.
- Chobanian, A.V. & Hill, M. 2000, "National Heart, Lung, and Blood Institute Workshop on Sodium and Blood Pressure : A Critical Review of Current Scientific Evidence", *Hypertension*, vol. 35, no. 4, pp. 858-863.
- Codex Committee on Nutrition and Foods for Special Dietary Uses 2008, "Draft Nutritional Risk Analysis Principles and Guidelines for Application to the Work of the Committee on Nutrition and Foods for Special Dietary Uses (at Step 8 of the Procedure)", *Codex Committee on Nutrition and Foods for Special Dietary Uses 30th Session*, ed. Codex Committee on Nutrition and Foods for Special Dietary Uses, Codex Alimentarius Commission, pp. 48.
- Expert Group on Vitamins and Minerals 2003, *Safe Upper Levels for Vitamins and Minerals*, Food Standards Agency, United Kingdom.
- FAO/WHO 2006, *A model for establishing upper levels of intake for nutrients and related substances. Report of a Joint FAO/WHO Technical Workshop on Food Nutrient Risk Assessment*, WHO, Geneva, Switzerland.
- Food Standards Agency 2009, 18 May 2009-last update, *Salt reduction targets* [Homepage of Food Standards Agency], [Online]. Available: <http://www.food.gov.uk/healthiereating/salt/saltreduction> [2009, September 21] .
- Food Standards Australia New Zealand 2007, *Review Report. Trans Fatty Acids in the New Zealand and Australian Food Supply*, FSANZ, Canberra, Australia. Wellington, New Zealand.
- Health Canada 2009, 31 August 2009-last update, *Food and Nutrition. The Issue of Sodium* [Homepage of Health Canada], [Online]. Available: <http://www.hc-sc.gc.ca/fn-an/nutrition/sodium/index-eng.php> [2009, 21 September] .
- Iyengar, G.V. & Nair, P.P. 2000, "Global outlook on nutrition and the environment: meeting the challenges of the next millennium", *The Science of the total environment*, vol. 249, no. 1-3, pp. 331-346.
- Kennedy, E.T. 2005, "The Global Face of Nutrition: What Can Governments and Industry Do?", *Journal of Nutrition*, vol. 135, no. 4, pp. 913-915.
- Laugeson, M. & Swinburn, B. 2000, "The New Zealand food supply and diet - trends 1961-95 and comparison with other OECD countries", *NZMJ*, vol. 113, pp. 311.
- Leth, T., Jensen, H.G., Mikkelsen, A.Æ. & Bysted, A. 2006, "The effect of the regulation on trans fatty acid content in Danish food", *Atherosclerosis Supplements*, vol. 7, no. 2, pp. 53-56.
- Manufactured Food Database 2008, *Fortified Foods available in New Zealand*, Nutrition Services, Auckland City Hospital, Auckland.
- Ministry of Health 2007, *Healthy Eating - Healthy Action Oranga Kai - Oranga Pumau: Progress on Implementing the HEHA Strategy 2007*, Ministry of Health, Wellington, New Zealand.

- Ministry of Health 2006a, *A Comparison of Selected Findings from the 1996/97 and 2002/03 New Zealand Health Surveys*, Ministry of Health, Wellington.
- Ministry of Health 2006b, *Food and Nutrition Guidelines for Healthy Children Aged 2-12 Years: A Background Paper*, Ministry of Health, Wellington, New Zealand.
- Ministry of Health 2006c, *Food and Nutrition Monitoring Report 2006*, Ministry of Health, Wellington, New Zealand.
- Ministry of Health 2004, *Tracking the Obesity Epidemic: New Zealand 1977–2003*, Ministry of Health, Wellington, New Zealand.
- Ministry of Health 2003a, *Food and Nutrition Guidelines for Healthy Adults: A Background Paper*, Ministry of Health, Wellington, New Zealand.
- Ministry of Health 2003b, *NZ Food NZ Children: Key results of the 2002 National Children's Nutrition Survey*, Ministry of Health, Wellington, New Zealand.
- Ministry of Health 1998, *Food and Nutrition Guidelines for Healthy Adolescents: A Background paper*, Ministry of Health, Wellington, New Zealand.
- Ministry of Health 1996, *Food and Nutrition Guidelines for Healthy Older People: A Background Paper*, Ministry of Health, Wellington, New Zealand.
- Ministry of Health and the University of Auckland 2003, *Nutrition and the Burden of Disease: New Zealand 1997-2011*, Ministry of Health, Wellington, New Zealand.
- National Health and Medical Research Council 2005, *Nutrient Reference Values for Australia and New Zealand Including Recommended Dietary Intakes*, NHMRC, Canberra, Australia.
- New Zealand Food Safety Authority 2009, *Statement of Intent 2009-2012*, New Zealand Food Safety Authority, Wellington.
- New Zealand Food Safety Authority 2008, *The addition of vitamins and minerals to food-type dietary supplements*.
- New Zealand Food Safety Authority 2005, *2003/04 New Zealand Total Diet Survey. Agricultural Compound Residues, Selected Contaminants and Nutrients*, NZFSA, Wellington, New Zealand.
- New Zealand Food Safety Authority & Ministry of Health 2008, *Memorandum of Understanding between the New Zealand Food Safety Authority and the Ministry of Health*, Wellington, New Zealand.
- Popkin, B.M. 2007, "Understanding global nutrition dynamics as a step towards controlling cancer incidence", *Nature reviews.Cancer*, vol. 7, no. 1, pp. 61-67.
- Popkin, B.M. 2006, "Global nutrition dynamics: the world is shifting rapidly toward a diet linked with noncommunicable diseases", *American Journal of Clinical Nutrition*, vol. 84, no. 2, pp. 289-298.
- Russell, D.G., Parnell, W.R., Wilson, N., Faed, J., Ferguson, E., Herbison, P., Horwarth, C., Nye, T., Reid, P., Walker, R., Wilson, B. & Tukuitonga, C. 1999, *NZ Food: NZ People: Key results of the 1997 National Nutrition Survey*, Ministry of Health, Wellington, New Zealand.
- World Health Organisation 2004, *Global Strategy on Diet, Physical Activity and Health*.

World Health Organisation 2003, *Diet, Nutrition and the Prevention of Chronic Diseases: Report of a Joint WHO/FAO Expert Consultation*, World Health Organisation, Geneva.

World Health Organisation 2002, *The World Health Report 2002. Reducing risks, promoting healthy life.*, World Health Organisation, Geneva.

Glossary of Terms

CCFL	Codex Committee on Food Labelling
CCMAS	Codex Committee on Methods of Analysis and Sampling
CCNFSDU	Codex Committee on Nutrition and Foods for Special Dietary Uses
Codex	Codex Alimentarius Commission or the 'Commission'
FRSC	Food Regulation Standing Committee
Quadrilateral countries	Quadrilateral group; comprising New Zealand, Australia, USA and Canada
Risk Profile	The systematic accumulation of scientific information and evidence relating to likely risks attributable to a hazard (or class of hazard)/food (or class of food) combination
RMF	Risk Management Framework
Safety	A condition in which food, in terms of its intended use, is unlikely to cause or lead to illness or injury to human life or public health; and includes a condition in which hazards are identified, controlled, managed, eliminated, or minimised
Suitability	A condition in which the composition, labelling and identification are appropriate to a food in terms of its intended use.
WHO	World Health Organisation

Appendix

Table 5. Acceptable Macronutrient Distribution Ranges (AMDR) to reduce chronic disease risk and comparison with existing nutrient intakes of New Zealand adults 15+ years (Russell et al. 1999, National Health and Medical Research Council 2005).

Nutrients	Current Intake (Adults 15+ years)	AMDR	Difference (AMDR – Intake)
	<i>Percent energy per day (% en/d)</i>		
Protein	15.5	15-25	-9.5 to +0.5
Fat	35	20-30	+5 to +15
SFA (+ <i>trans</i> fatty acid)	15 (+0.7)	≤ 10	+5.7
Omega-6 PUFA	ND	4-10	ND
Omega-3 PUFA	ND	0.4-1	ND
Carbohydrate	46	45-65	-19 to +1

Notes:

% en/d Percent of total energy per day

SFA Saturated Fat

PUFA Polyunsaturated Fat

ND Not Determined.

Table 6. Suggested Dietary Targets (SDT) to reduce chronic disease risk and comparison with existing nutrient intakes of New Zealand adults 15+ years (Russell et al. 1999, National Health and Medical Research Council 2005).

Nutrient	Current Intake (Adults 15+ years)	SDT	Difference (SDT – Intake)
Vitamin A	M 1233 µg	M 1500 µg	M -267 µg
	F 900 µg	F 1220 µg	F -320 µg
Carotenes	M 3745 µg	M 5800 µg	M -2055 µg
	F 3033 µg	F 5000 µg	F -1967 µg
Vitamin C	M 122 mg	M 200 mg	M -78 mg
	F 105 mg	F 190 mg	F -85 mg
Vitamin E	M 11.7 mg	M 19 mg	M -7.3 mg
	F 8.8 mg	F 14 mg	F -5.2 mg
Folate	M 286 µg	300 to 600 µg DFE	M ND
	F 220 µg		F ND
Sodium	M 3047 mg (+15-20%)*	M 1600 mg	M +1447 mg
	F 2150 mg (+15-20%)	F 1600 mg	F +550 mg
Potassium	M 3978 mg	M 4700 mg	M -722 mg
	F 3000 mg	F 4700 mg	F -1700 mg
Dietary Fibre	M 24 g	M 38 g	M -14 g
	F 18 g	F 28 g	F -10 g
Long chain omega-3 PUFA	ND	M 610 mg	M ND
		F 430 mg	F ND

Notes:

DFE Dietary Folate Equivalents

* Percent variation to account for discretionary salt use

PUFA Polyunsaturated Fat

ND Not Determined.

Completed Work

Preliminary Risk Management Activities

Preparation of powdered infant formula in New Zealand

A series of focus groups were run to examine aspects of the preparation of powdered infant formula. Participants in the focus groups were caregivers currently engaged in the preparation of infant formula.

Fortification overages of the food supply: Folate and Iron

The purpose of the research was to measure the actual levels of folate and iron in a selection of fortified foods, and to compare actual levels to levels claimed on product labels.

Fortification overages of the food supply: Vitamin A, Vitamin D and Calcium

The purpose of the research was to measure the actual levels of vitamin A, vitamin D and calcium in a selection of fortified foods, and to compare actual levels to levels claimed on product labels.

Fortification overages of the food supply: Vitamin C, Zinc and Selenium

The purpose of the research was to measure the actual levels of vitamin C and zinc in a selection of fortified foods and actual levels of selenium in infant formulae, and to compare actual levels to levels claimed on product labels.

Level of Trans Fatty Acids in the New Zealand Food Supply

The principle objective of this project was to provide data on the *trans* fatty acid content of selected New Zealand foods. These data were used to support decisions relating to the risk management of the level of *trans* fatty acid in foods.

Survey of Salt in Processed Foods

The purpose of this survey was to provide data on the sodium concentration of processed foods available in New Zealand. These data were used in the Food Standard setting process for Proposal P230 Iodine Fortification.

Vitamin D

This review considered research published up to and including 2007 and was funded jointly by the NZFSA and MoH. Topic areas included vitamin D metabolism and its determinants, the current areas of research into the impacts of vitamin D on health, the means of defining vitamin D status, a summary of findings from major national surveys on vitamin D status and international experiences for improving vitamin D.

SIGNposting Nutrition Study

The aim of this work was to determine the potential for front-of-pack labels in New Zealand and the feasibility of a supermarket-based trial to determine their impact on consumer purchasing behaviour in a real-life setting. Both MoH and NZFSA contributed funding to help develop this body of evidence on New Zealanders' understanding and use of front-of-pack labelling in New Zealand.

Identification and Selection of Risk Management Options

Front-of-Pack Labelling: Perspectives of the New Zealand Food Industry

A qualitative analysis on information and opinions collected from the food industry in relation to front-of-pack labelling on packaged foods and beverages.

Technological Issues with Iodine Fortification of Foods

This report looked at the stability and retention of iodine in a number of food matrices when varying levels of iodine are added, and the reactivity and possible interactions of iodine with other food components. The report also summarised international experience relating to the addition of iodine and its salts to processed foods. The results of the research informed Proposal P230 'Iodine Fortification'.

Implementation of Control Measures

NIL

Monitoring and Review

NIL

Risk Communication

Consumer fact sheet – folic acid, iodine, trans fatty acids

Food Safety and Pregnancy – folic acid and iodine

Food Industry User Guide – folic acid and iodine requirements