Public Health Nutrition Engagement in Food Regulation Policy: A Critical Analysis of Voluntary Food Fortification Policy in Australia

by

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LIST OF ACRONYMS

ACF	Advocacy Coalition Framework
AFGC	Australian Food and Grocery Council
ANZFA	Australia New Zealand Food Authority
ANZFRMC	Australia and New Zealand Food Regulation Ministerial Council
ANZMFFR	Australia and New Zealand Ministerial Forum on Food Regulation
COAG	Council of Australian Governments
Codex	Codex Alimentarius Commission
CP	*Fortification of the Food Supply with Vitamins and Minerals: Consultation Paper on Draft Policy Guidelines*
DOHA	Commonwealth Department of Health and Ageing
DSR 1985	*Dietary Supplements Regulations 1985* (New Zealand)
EU	European Union
FAO	Food and Agriculture Organization
FDA	US Food and Drug Administration
FOI	Freedom of Information
FRS	Food Regulation Secretariat
FRSC	Food Regulation Standing Committee
FSANZ	Food Standards Australia New Zealand
FSANZ Act 1991	*Food Standards Australia New Zealand Act 1991*
FSC	Food Standards Code
FTDS	Food type dietary supplements

GATT	General Agreement on Tariffs and Trade
HSR	Health Star Rating
IDD	Iodine deficiency disorders
ISFR	Implementation Subcommittee for Food Regulation
MF	Mandatory food fortification
NCD	Non-communicable disease
NFA	National Food Authority
NHMRC	National Health and Medical Research Council
NIP	Nutrition Information Panel
NRI	Nutrient Reference Intake
OBPR	Office of Best Practice Regulation
PG	*Policy Guideline: Fortification of Foods and Drinks with Vitamins and Minerals*
PHAA	Public Health Association of Australia
RDI	Recommended Dietary Intake
RIS	Regulatory Impact Statement
SAS	*Fortification of the Food Supply with Vitamins and Minerals: Summary Analysis of Submissions*
SIGNAL	Strategic Inter-Governmental Nutrition Alliance
SPS	Sanitary and Phytosanitary Measures Agreement
TBT	Technical Barriers to Trade Agreement
TPP	Trans-Pacific Partnership

TTMRA 1997	*Trans-Tasman Mutual Recognition Arrangement 1997*
UK	United Kingdom
USA	United States of America
VF	Voluntary food fortification
VFF	Voluntary fortified foods
VFP	Voluntary food fortification policy
WHO	World Health Organization
WHO/FAO	World Health Organization and Food and Agriculture Organization
WPR	"What's the problem represented to be?"
WTO	World Trade Organization

ABSTRACT

Background

This research aimed to understand how the 'problem' was represented in food regulatory policy, and the implications of this for public health nutrition participation in, and engagement with, policy development. The research focussed on food regulation policy developed in Australia between 1 July 2002 and 30 June 2012. It did not include food standards.

Methodology

The research aim was best addressed using qualitative research methods. The investigation used a social constructionist epistemology and borrowed from a contemporary critical inquiry theoretical framework. Within this context, Bacchi's "what's the problem represented to be?" discourse analysis method was applied to a case study of voluntary food fortification policy (VFP) developed by the Australia and New Zealand Food Regulation Ministerial Council (ANZFRMC).

Two sets of data were identified as relevant to the study. Firstly, a set of key documents used in the development of VFP were collected. The analysis of this data set then informed a series of semi-structured, in-depth, telephone interviews, conducted with a purposeful sample of key informants. Key informants were defined as persons with in-depth knowledge and expertise in the development and implementation of VFP.

Results

A total of 57 key documents collected met the selection criteria for inclusion in the study. Four (4) major categories of stakeholder were identified within these key documents. Subsequently, thirteen (13) key informants representing the categories of citizen, government, public health and industry participated in an in-depth telephone interview.

The predominant representations of the policy 'problem' of voluntary food fortification (VF) in the key documents were public health, risk, evidence and commercial benefit. For citizen, public health and government stakeholders, VF was mainly represented as a problem of public health, while for industry it was primarily commercial benefit. However, at both the outset and conclusion of the policy process, the problem was represented as commercial benefit, suggesting the period of 'formal' stakeholder consultation did not alter the outcome.

Interview key informants represented the policy 'problem' of VF in three main ways. All groups

represented VF as a problem of commercial benefit, but for citizen, government and public health stakeholders, VF was also something that should have been, but was not, supportive of public health. Additionally, VF was represented as a problem of power, illustrating the struggle for influence on decision-making, particularly between industry and public health stakeholders. Views differed as to who had the most power, with industry representing public health advocates as most powerful, and other key informants representing the food industry as more influential.

Discussion and Conclusions

A key finding, and original contribution to research in food regulation, was the similarity in the way in which the policy problem was represented at both the outset and conclusion of the policy process. This suggested public health advocates should not wait until formal consultation stages to engage in the policy process. Rather, they should engage early, at, or before, the agenda setting stage of the policy cycle, in order to influence the initial framing of the policy problem.

An unexpected finding and another original contribution in this study was the representation of public health advocates as having significant power and influence in food regulatory policy by food industry key informants. One identified reason for this power, was the direct access of public health oriented public servants to high-level, food regulatory decision-makers. This indicated significant value in cultivating relationships with relevant committee members and utilising these existing points of power and influence for future advocacy efforts.

Analysis of the data also revealed several underlying, highly influential ideologies that affected VFP development. These included biomedicine, neoliberalism, individual responsibility, 'reductionist' nutrition, and power. Consequently, public health advocates need to challenge such dominant ideologies of key decision-makers as well as open areas of policy silence to critical examination in broader society.

Finally, there was a tendency for public health, citizen and government stakeholders in this study to use discourse that 'drifted' from 'upstream' to 'downstream' public health strategies. These groups also used a wider range of problem representations of VF than industry stakeholders, who were consistent and resolute in their representation of the policy problem. Thus, this research has reinforced the importance of public health advocates working together to limit the representation of the policy problem to one or two significant issues, but also to ensure consistent, clearly articulated discourse that does not suffer from 'downstream drift'.

DECLARATION

I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed: ....Bronwyn Ashton.....

Date: .....08/11/2018.....

DEDICATION

This thesis is dedicated to my much-loved and respected father, John Kingsley Ashton, and his sister, my dearly loved and cherished Aunt, Stephanie Ashton, both of whom passed away during the time taken to complete this work. I am forever grateful for the love, guidance, encouragement and support they gave me throughout the ups and downs of life.

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CHAPTER 1: INTRODUCTION

This research aims to understand food regulation decision-making processes by investigating how the policy 'problem' is represented in a case study of voluntary food fortification policy (VFP). As a consequence, the implications for public health nutrition participation in, and engagement with, future food regulatory policy development are considered.

This chapter outlines background information on the food regulatory system in Australia and New Zealand and public health nutrition involvement in relevant policy development. It delineates the stakeholder groups and other factors that influence food regulation. A summary of previous research in the area is considered, as well as gaps in public health nutrition knowledge and understanding of food regulatory policy. It sets out the research question and the research aim, objectives and parameters of the study. The chapter concludes with an overview of the thesis and content of each chapter.

It is important to note, that the word 'problem', when used to describe a policy problem in this thesis, is often placed in quotation marks. This is because a policy 'problem' can be viewed as a social construction, and something that is very much a part of the policy process, rather than something that previously existed and was waiting to be solved (Colebatch 2006). Thus, attention is focussed on how something became a policy 'problem', and policy analysis adopts a problem questioning rather than problem solving approach (Bacchi 2009; Bacchi 2016).

1.1 Food regulation in Australia and New Zealand

Food law is a term that is generally used to apply to the legislation that regulates food production, distribution, sale and trade, with a view to ensuring that food is safe, unadulterated and adequate in quality (Food and Agriculture Organization of the United Nations 2018). In Australia, food cannot be sold unless it complies with the relevant regulation, and food manufacturers can be prosecuted for non-compliance with the Australia and New Zealand Food Standards Code (FSC) (Food Standards Australia New Zealand 2018).

Food regulation is one of two components of food legislation or food law. The first component, the Act, defines the intentions of Parliament in the form of principles and procedures, and the second component, the regulation, gives details of the practical and operative requirements of the Act (Lawrence 2002). In today's system, the regulation is also comprised of two components: food

regulatory policy, which is determined by a Ministerial Council (the Australia and New Zealand Ministerial Forum on Food Regulation or ANZMFFR) and provides the overarching direction and intent for the second component, food standards, which are developed by a statutory authority (Food Standards Australia New Zealand or FSANZ) and give exact specifications for the industry regarding all aspects of food production, manufacture and supply.

The primary objective of the Australian and New Zealand food regulatory system is the protection of public health and safety (Office of Legislative Drafting 1991). In practice though, its definition, interpretation and application are problematic, with immediate health concerns from food-borne illness traditionally taking precedence over longer term health problems such as diet-related chronic disease (Lawrence 2013). Further, public health nutrition professionals and consumer advocacy groups are concerned that the development and implementation of food regulation policies and standards is more closely aligned with the commercial interests of the food industry, than the health of citizens (Choice 2009; Grimm 2016; Lawrence 2009a)[1].

Recent developments, however, have seen the Ministerial Council establish three food regulation system priorities for 2017 to 2021 (Australia and New Zealand Ministerial Forum on Food Regulation 2017a). These include reducing foodborne illness, supporting public health objectives to reduce chronic disease associated with overweight and obesity, and maintaining a food regulatory system that is strong, agile and robust (Australia and New Zealand Ministerial Forum on Food Regulation 2017a). As part of prioritising the support of public health objectives, the Ministerial Council proposed evaluating any initiatives already existing, and identifying new opportunities that would aid healthy food choices among the community, and influence the food environment in a positive way (Australia and New Zealand Ministerial Forum on Food Regulation 2017a).

To achieve this, consultation with the public health community was proposed (Australia and New Zealand Ministerial Forum on Food Regulation 2017b). While a *Policy Think Tank* was held on 22 March 2018 in Melbourne, no publicly available information on attendees or outcomes of discussions has been released (Food Regulation Secretariat 2018a). Despite this, some initiatives have been considered or implemented by the Ministerial Council in support of public health objectives. However, they largely relate to food labelling, such as the Health Star Rating (HSR)

[1] For technological reasons that were not able to be resolved by Clarivate Analytics, it may be the case that citation 'b', 'c' or 'd' from the same author and year precedes citation 'a'. For example, 'Lawrence 2009b' may come in the text before 'Lawrence 2009a'.

system, 'fast food' nutrition labelling, and added sugar and fat labelling (Australia and New Zealand Ministerial Forum on Food Regulation 2018). All these initiatives put the onus on citizens to make healthy food choices but do little to positively influence the shape of the food supply more broadly.

The food regulatory system will be described in more detail in Chapter 2, however at this point it is important to note that since the establishment of the segregated system for developing food regulatory policy and standards, the process for creating Ministerial Council food regulatory policy has been developed and refined. The most recent iteration configured in 2016 is under trial (Australia and New Zealand Ministerial Forum on Food Regulation 2016a). However, the basic policy development process involves the identification of the need for a policy, consideration of a range of policy options, consultation with stakeholders that may or may not include a formal policy options paper, providing a recommendation to the Food Regulation Standing Committee (FRSC) and then submitting the preferred policy option to the Ministerial Council for endorsement (Australia and New Zealand Food Regulation Ministerial Council 2008b; Australia and New Zealand Ministerial Forum on Food Regulation 2016a). In developing a policy, a regulatory impact statement must also be prepared and submitted to the Office of Best Practice Regulation (OBPR) and the New Zealand Treasury Regulatory Impact Assessment for approval (Australia and New Zealand Ministerial Forum on Food Regulation 2016a).

Several policies relevant to public health nutrition and the prevention of chronic disease, including nutrition and health claims, fortification, adding substances other than vitamins and minerals to food, caffeine, and front-of-pack labelling, have been developed by the Ministerial Council in the 21st century (Australia and New Zealand Food Regulation Ministerial Council 2003a; Australia and New Zealand Food Regulation Ministerial Council 2003b; Australia and New Zealand Food Regulation Ministerial Council 2004; Australia and New Zealand Food Regulation Ministerial Council 2008a; Australia and New Zealand Food Regulation Ministerial Council 2009a; Australia and New Zealand Food Regulation Ministerial Council 2009b; Australia and New Zealand Food Regulation Ministerial Council 2014). However, despite the number of policies developed and implemented, as well as the modifications to the process for developing Ministerial Council food regulatory policy over the last couple of decades, only the mandatory iodine and folate fortification policies have ever been evaluated (Australian Institute of Health and Welfare 2016b; Food Standards Australia New Zealand 2016a; Food Standards Australia New Zealand 2016b). None of the other policies or the policy development process, have ever been evaluated or

critically analysed. Such analysis is necessary though, to determine the outcome or impact of implemented policies on citizens, industry, government and public health. Similarly, such analysis would aid in understanding factors including how food regulatory decisions are made, why stakeholders are engaged (or not engaged) in the policy development process, whether all stakeholders' views of the policy problem are considered equally, the influence of any underlying values, beliefs or assumptions and contextual factors on policy decisions, or whether policies are consistent with overarching food regulatory system objectives. Despite the 2016 iteration of the policy development process allocating one third of effort and time on implementation and evaluation of policies, there is no "formal, resource intensive process" (Australia and New Zealand Ministerial Forum on Food Regulation 2016b, step i) for doing so. Additionally, there is no planned system of review to enable change, should such internal evaluation or external critical analysis reveal it was required.

1.2 Food regulation and public health nutrition

Food regulation is an example of an 'upstream' public health issue that not many nutritionists have traditionally sought to focus on in order to promote the nutrition related health and well-being of the population (Caraher and Coveney 2004). However, there is no doubt food regulation plays a key role in shaping the food supply, particularly steering it toward increased numbers and quantities of highly processed foods high in fat, sugar and salt, which are then often promoted with tenuous food and health information (Al-Ani, Devi et al. 2016; Christoforou, Dachner et al. 2017; Devi, Eyles et al. 2014; Lawrence 2009a; Lawrence, Dickie et al. 2018; Nestle 2013; Pollard, McStay et al. 2015; Pulker, Scott et al. 2017; Stanton and Pollard 2014) . The consequence of an increasingly processed food supply, is escalating morbidity and mortality from diet-related chronic disease and other poor public health nutrition outcomes (Australian Institute of Health and Welfare 2016a).

Food regulation policy and standards influence the types of foods available for purchase and consumption, by regulating factors such as the composition of foods, the addition of nutrients, medicinal herbs and other substances (including additives and preservatives) to foods and drinks, labelling requirements incorporating claims allowable both on packaging and in advertising, definitions of various ingredients and foodstuffs, and so on. These factors in turn influence what foods are manufactured, how they are marketed, what people are drawn to and choose to purchase and eat, and hence their nutritional status and health outcomes.

Scholarly work regarding the impact of food regulation policy and standards on the shape of the food supply and therefore nutrition and health outcomes is limited. Some work has considered the consequence of regulations indirectly. For example, research examining specific types of food categories such as functional foods and formulated caffeinated beverages ('energy drinks') and their effect on the food supply and selected aspects of public health, has been conducted (Pollard, McStay et al. 2015; Pomeranz, Munsell et al. 2013; Scrinis 2008; Scrinis 2016), but the link with relevant legislation is not always made. However, other work investigating the impact of front-of-pack food labelling schemes and health claims regulations on the food supply, customer behaviour and hence public health, is more likely to make a direct linkage with the relevant legislation and is being carried out with increasing frequency (Al-Ani, Devi et al. 2016; Christoforou, Dachner et al. 2017; Devi, Eyles et al. 2014; Hughes, Wellard et al. 2013; Machín, Arrúa et al. 2017; Ni Mhurchu, Eyles et al. 2017; Pulker, Scott et al. 2017; Talati, Pettigrew et al. 2016).

The highly political nature of food regulation means the impact of policies and standards on the food supply and public health nutrition outcomes is often covert and difficult to assess. Further, its effect is rarely immediate. Consequently, the significance of food regulations is often judged from observation over a period of time, rather than empirical evidence alone. For example, in 2005 an application to broaden the definition of 'wholegrains' in the FSC was approved by the FSANZ Board and the Ministerial Council (then known as the Australia and New Zealand Food Regulation Ministerial Council or ANZFRMC) (Commonwealth of Australia Gazette 2005). This meant the term wholegrains no longer referred to the intact whole cereal grain but included a range of more processed cereal grains. Whilst superficially this seemed to be a relatively insignificant change, it resulted in a proliferation of products such as highly processed, fortified and sweetened breakfast cereals and cereal bars that are promoted as being abundant in wholegrains. As a consequence, such products are represented as being a 'healthier' food choice than they really are.

This observation has recently been supported by research that indicates almost 25% of a sample of ultra-processed food products in the Australian market carried a claim relating to wholegrains (Pulker, Scott et al. 2017). Unfortunately, this work does not indicate if these claims are more likely on specific food categories (such as breakfast cereals), but evidence is provided that about one quarter of foods sampled using a wholegrain nutrition claim on the front of the packet, were non-compliant with regulations regarding nutrition claims in the FSC (Pulker, Scott et al. 2017). Further, none of the products investigated that were promoted as a 'high' or 'very high source of wholegrains', were consistent with relevant industry initiated voluntary codes of practice for such

claims. Consequently, this example highlights the public health problems that can arise from some food standards, as well as issues of limited enforcement capacity, a reliance on voluntary industry codes of practice, and the lack of evaluation or critical analysis of food regulatory policies and standards.

1.3 Public health nutrition involvement in food regulation

Despite the importance of the impact of food regulatory policy and standards on the food supply and public health, there is limited training, and few employment opportunities for public health nutritionists to work in the area (Adam and Vidgen 2013; Hughes 2003; Hughes 2006; Hughes, Begley et al. 2015; Lawrence 2009a; Lawrence 2013). Some public health nutritionists choose to participate on behalf of professional or non-government organisations but do so in their own time and with minimal resources. Consequently, public health nutrition involvement in the food regulatory system is limited.

It is possible that this situation is due to the nominal recognition of the significant influence food regulation has on the food supply and chronic health outcomes. However, it is also likely to be because few public health nutritionists fully understand the complex process by which food regulation policy and standards are developed (Lawrence 2009b). In addition, food regulation is very time consuming, contentious and extremely political, with many powerful and highly vested interests involved, and public health nutritionists are not necessarily trained to have the skills in lobbying, advocacy, networking and persuasion required to work in the development of such policy (Cullerton, Donnet et al. 2016b; Lawrence 2007).

According to Coveney (2010) an understanding or analysis of policy is an important pre-requisite for participation in the highly political process of policy development. Maddison and Denniss (2013) concur that an understanding of how policy and political decisions are made enables a greater capacity to participate in the policy process, to have one's voice heard and to influence decisions. Yet, even if opportunities were available, and public health nutritionists had the skills to participate, the significant influence the food industry and issues of international trade have on food regulatory decisions, means the public health nutrition voice has a limited chance of being heard in policy debates. Given the significance of food regulation for the food supply and for public health nutrition outcomes, this situation has concerned both public health and consumer groups for some time (Australian Consumers' Association 2004; Cullerton, Donnet et al. 2016a; Lawrence 2009a; Nestle 2013; Sacks 2014; Stanton and Pollard 2014).

1.4 Research in food regulation

As indicated earlier, the amount of scholarly work and research in the area of food regulation, particularly from a public health nutrition perspective, is limited. One of the earlier examples in Australia was that of Lawrence (2002) who completed his PhD thesis investigating the role of scientific evidence in the development of food regulation policy. This work examined as a case study the 1995 revised Food Standard A9, which allowed folic acid to be added to staple foods in Australia for the first time. Since that time, Lawrence has conducted extensive work in the area of food regulation policy development, particularly on mandatory folate fortification, both in Australia and overseas (Lawrence 2005a; Lawrence 2005b; Lawrence 2009a; Lawrence 2013).

Food labelling is one area that has received greater attention than most. The introduction of a compulsory Nutrition Information Panel (NIP) on most package products in Australia and New Zealand at the end of 2002, sparked a range of investigations on the need for, and then impact of, nutrition labelling (Curran 2002; Ni Mhurchu and Gorton 2007; Stanton 2001; Williams, Yeatman et al. 2003). More recently, investigators have begun to consider the introduction of the voluntary HSR front-of-pack labelling system introduced in Australia and New Zealand in 2014 (Legislative and Governance Forum on Food Regulation 2014). As the scheme is in its infancy, research consensus is limited. Some authors have found the scheme to be generally supportive of nutrition and dietary guidelines (Carrad, Louie et al. 2015; Jones, Rådholm et al. 2018) while others disagree, finding it to undermine healthy eating advice (Hamlin and McNeill 2016; Lawrence, Dickie et al. 2018; Lawrence and Pollard 2015; Lawrence and Woods 2018). Some scholars have considered the politics involved in the development and establishment of the scheme (Lawrence and Pollard 2014; Sacks 2014), but at this stage it seems only one study has empirically investigated factors that shaped the policy development, including the influence of stakeholders (Kumar, Gleeson et al. 2018).

Internationally, there has been some work testing the impact and effectiveness of various aspects of food regulatory policies and standards, such as food fortification, functional foods and 'energy drinks' (Environmental Working Group 2014; Fletcher, Bell et al. 2004; Hannon, Kieley et al. 2007; Institute of Medicine 2014; Meltzer, Aro et al. 2003; Pomeranz, Munsell et al. 2013; Scrinis 2008), as well as health claims and other nutrition labelling (Al-Ani, Devi et al. 2016; Brownell and Koplan 2011; Christoforou, Dachner et al. 2017; Devi, Eyles et al. 2014; Institute of Medicine 2012; Machín, Arrúa et al. 2017; Sütterlin and Siegrist 2015). However, consideration of the policy process and the decision-making behind it, has been rare. Nestle (2013) devoted a few chapters of

her seminal book *Food Politics* to the deliberations behind the development of food regulatory policy on health claims, fortification, functional foods and dietary supplements in the USA. She clearly demonstrated the political nature of such policy, and the power and influence of multinational food industries in attaining commercially favourable outcomes. Besides Lawrence's (2013) work on the politics, evidence and ethics of the policy development process for several international mandatory food fortification (MF) case studies, other examples have been difficult to locate.

These observations seem to support Lawrence's (2002; 2013) suggestion that most research in the food regulation setting has been <u>for</u> policy; that is, considering technical aspects such as food safety, toxicology, and other aspects of risk assessment necessary for solving particular policy 'problems' and helping policy-makers make decisions. Analysis <u>of</u> policy, with respect to explaining the how and why of policy decisions and illuminating the hidden aspects of policy-making, has been much less common. However, this sort of research is crucial for understanding the food regulatory policy development process and enabling public health professionals to effectively contribute to, and ultimately shape policy decisions. As Lawrence writes:

> …for public health nutritionists, maintaining the status quo in relation to how they develop and implement food policy interventions across the food regulatory system is not an option if they aim to successfully tackle the epidemic of diet-related chronic diseases and address related social and environmental considerations (2009b, p399).

1.5 Problem statement

Since the implementation of the split system for the development of food regulatory policy and standards in Australia and New Zealand in 2002, there has been virtually no critical examination of the policy development process, and only limited analysis of finalised or implemented food regulatory policies. Yet such investigation is vital if public health professionals are to fully understand food regulatory decision-making processes and strengthen their capacity to have their voice heard in policy debates, and shape outcomes that promote and protect the health and nutrition of the Australian population.

Therefore, there is a gap in the public health nutrition knowledge and understanding of food regulatory decision-making, and the best means of effectively engaging, and playing an influential role, in policy development. This research will investigate that gap using VFP as a case study.

1.6 Research question, aim and objectives

1.6.1 Research Question

What are the implications of how the policy 'problem' is represented in food regulation decision-making processes for public health nutrition participation in, and engagement with, policy development?

In order to answer this research question, it was considered necessary to answer the following sub-questions:

1. How do stakeholders represent the policy 'problem' in food regulatory processes?
2. Are stakeholder representations of the policy 'problem' reflected in resultant food regulatory policy?
3. How do contextual factors impact on food regulatory processes and decisions?
4. Are there opportunities to advance public health nutrition representations of the policy 'problem' in food regulatory policy processes?

1.6.2 Research Aim

This research aims to understand how the policy 'problem' is represented in food regulation policy decision-making processes, and with what implications for public health nutrition participation in, and engagement with, policy development.

1.6.3 Objectives

1. To examine how the policy 'problem' is represented in food regulatory decision-making processes.
2. To determine how stakeholder views are reflected in the resultant food regulatory policy.
3. To explore how contextual factors impact on food regulatory processes and decisions.
4. To identify opportunities to advance public health nutrition priorities in food regulatory processes and policies.

1.7 Research parameters

This research is limited to an examination of food regulatory policy and the policy development process and does not include the process for food standards and food standards development. This is because they are quite separate procedures, and because the policy provides an overarching direction from which standards are developed. However, as food regulation policy

and standards are inextricably linked, food standards are still referred to, and examples used to make specific points about policy. The specific analysis conducted in this research though, is on food regulatory policy and the process by which it is developed.

As food regulatory policy development is an ongoing process with additions and clarifications in response to new, or variations to existing, food standards, it was necessary to specify a time period for this research. Given the limited scholarly analysis of food regulation in Australia from a public health perspective, it was considered important to examine processes instigated after the Ministerial Council took over policy responsibilities in mid-2002. While policies were developed by FSANZ prior to this time, this became a foundational period of 'new' policy development as Ministers established their managerial role in the system. Therefore, this study has limited its consideration of food regulation policy to that developed between 1 July 2002 and 30 June 2012 (i.e., one decade).

1.8 Thesis outline

The remainder of this thesis is organised into another five chapters. Chapter 2 provides further background to the research topic. The food regulatory system is described and discussed in Section 2.1, followed by discussion of its relevance to public health nutrition in Section 2.2. Section 2.3 considers the issue of food fortification, with a particular emphasis on voluntary food fortification (VF). This is followed by a discussion of relevant models, theories and frameworks of public policy in Section 2.4.

Chapter 3 provides an overview of the research design. It outlines the methodological framework used to support the qualitative research process and details the Bacchi (2009; 1999) "What's the problem represented to be?" (WPR) method of policy analysis. This is followed by a description of the data sampling, collection and analysis as well as ethical issues of the research.

The results of the key document data are presented in Chapter 4 and key informant interview results are presented in Chapter 5. Both sets of results are then compared and contrasted with relevant literature in the discussion in Chapter 6, which also includes the conclusions of the research. This chapter ends with a consideration of the strengths and limitations of the study as well as researcher reflexivity.

CHAPTER 2: LITERATURE REVIEW

This chapter provides a review of the literature regarding food regulation, public health nutrition and public policy. It begins with a section (2.1) outlining the food regulatory system in Australia and New Zealand, considering its origins, objectives, procedures, key stakeholder groups and other influences on policy decisions. This is followed by a section (2.2) describing the relevance of public health nutrition for food regulation and the challenges of being involved in decision-making processes. The third section (2.3) considers the fortification of foods and drinks with vitamins and minerals, with a particular emphasis on VF and its impact on public health. The chapter concludes with a discussion of public policy models, theories and frameworks that assist with understanding and analysing food regulatory policies (Section 2.4).

2.1 The food regulatory system

This section outlines the origins, objectives, structures and procedures of the food regulatory system in Australia and New Zealand. It then considers the range of policies that have been developed, including those relevant to public health nutrition. This is followed by sections on the stakeholder groups involved in food regulation, and the influence they have on policies. The section concludes by discussing other influences on food regulation as well as the international context.

2.1.1 Definitions

The word regulate originates from the Latin 'regula' or rule (Oxford Dictionaries 2018a) . To regulate, therefore, is to "control (something, especially business activity) by means of rules and regulations" (Oxford Dictionaries 2018a, pt 1.1) and regulation is "a rule or directive made and maintained by an authority" (Oxford Dictionaries 2018b, pt 1). It follows then that food regulation is the set of rules and directives made and maintained by the government for the purpose of controlling the production, manufacture and supply of food that is sold to, and consumed by, the public.

According to Banks (2004) regulation is important for improving social, environmental and economic standards of a population. It is also important for dealing with the undesirable effects of uninhibited markets and market failure, such as environmental degradation, health hazards, excessive prices and other unreasonable practices. When at their best, regulations can create order, preserve norms and provide a basis for stable progress. However, Banks (2004) admits that

regulations are rarely at their perfect, and that not all regulation is intended to serve the public interest. Regulation is also costly for both government and those who are regulated, and it can have unintended impacts that in some cases undermine the intention of the regulation.

In Australia, as in many other countries, food cannot be sold unless it complies with the relevant regulation. It is a criminal offence to supply food that does not comply with the Australia and New Zealand FSC, and companies can be prosecuted for breaching the regulation (Lawrence 2002). As outlined earlier, food regulation is comprised of both food policy and food standards which are developed by the Ministerial Council (ANZMFFR) and FSANZ respectively. Once approved, food standards are gazetted into the Australian Government Federal Register of Legislation, and then State and Territory jurisdictions are responsible for enforcing the relevant specifications for food production, manufacture, supply and sale (Food Standards Australia New Zealand 2018).

2.1.2 Origins

Although food laws can be traced to mediaeval times with the *Assize of Bread Act* providing price controls for a commodity that was often in short supply, modern food law is believed to have commenced in the 1800s in response to the growing practice of adulterating food (Reynolds and Howse 2004). The increasing demand for food produced by others during the Industrial Revolution saw the birth of the food processing industry. Demand for such food created competition, which created the very profitable business of food adulteration, especially given the absence of legal restraint and little risk of detection (Stanhope 1993).

In Britain, the practice of adulteration was first addressed with the passing of the *Adulteration of Food and Drink Act* in 1860 (Reynolds and Howse 2004). The Act provided for the appointment of analysts with the powers to have food tested and to penalise persons who sold food or drink knowing it to be injurious to health. Unfortunately, the Act did not achieve its objectives because at the time there was limited knowledge of the composition of food and analytical chemistry (Stanhope 1993).

In the USA, the Government did not act on the problem of food adulteration until the early 1900s, when the *Pure Food and Drugs Act* and the *Meat Inspection Act* were passed in 1906. However, in the late 1800s the Association of Official Agricultural Chemists began developing reliable methods of enforcing laws that were dependent on the chemical composition of foods (Stanhope 1993).

The first law to address food adulteration in Australia was in 1838 when New South Wales (NSW)

passed the *Adulteration of Bread Act* (Nelson 1992; Reynolds and Howse 2004). Broader legislation covering a wider range of foods followed over the ensuing decades with Acts including the *Public Health Act* in Victoria in 1854 enabling central or local health boards to inspect, seize and destroy 'unwholesome' food, followed by the more specific *Act to Prevent the Adulteration of Articles of Food and Drink* in 1863 (Stanhope 1993), the *Adulteration of Food Prevention Act* in NSW in 1879 (Reynolds and Howse 2004), and the *Sale of Foods and Drugs Act* in Queensland in 1881, which also provided for the inspection of foods and drugs (Thearle 2002).

When the division of powers between State and Federal Governments was agreed to at Federation in 1901, food regulation was one of many areas the States and Territories were not prepared to relinquish control to the Commonwealth (Lawrence 2002; Reuter 1997). This meant each jurisdiction set separate and often fragmented regulatory arrangements, largely aimed at protecting local producers. In turn, this set the scene for almost a century of activity aimed at trying to get uniform food laws across Australia (Reuter 1997; Reynolds and Howse 2004). Between 1908 and 1991, this activity included three Royal Commissions, more than a dozen Conferences of Premiers and/or Health Ministers, as well as many Conferences of Government officials, industry and citizen representatives, and more than half a dozen enquiries into, or reviews of, both the food processing and beverage industry, and the system of regulation (Nelson 1992; Reuter 1997; Stanhope 1993). Even when uniformity was finally achieved with the establishment of a statutory authority to oversee the development of national food standards under the *1991 National Food Authority Act*, the reviews and enquiries into food regulation continued. Indeed, over the next two decades, four significant changes to the Act, with accompanying changes to the food regulatory system, were made. As Reynolds and Howse (2004) suggest, it is possible that the system of food regulation in Australia is one of the most reviewed legislative systems in the country.

Prior to 1991, the National Health and Medical Research Council (NHMRC) developed food standards, although their adoption by jurisdictions was voluntary and inconsistent (Food Regulation Secretariat 2016b; Slater 1995). However, after this time, the role was taken over by the National Food Authority (NFA), as part of the formation of the national food regulatory system. In 1996, a treaty between Australia and New Zealand allowed for the establishment of a joint system, and the Food Authority was renamed the Australia New Zealand Food Authority (ANZFA) (Food Regulation Secretariat 2016b).

Another review of the food regulatory system in 1998 (Food Regulation Review Committee 1998), along with the *Trans-Tasman Mutual Recognition Arrangement 1997* (*TTMRA 1997*) coming into effect, created further change, so that in 2001-02, the development of food policy and food standards was split between the newly formed ANZFRMC and the renamed FSANZ respectively (Food Regulation Secretariat 2016b). Further modifications were made to the system in 2007 with the passing of the *FSANZ Amendment Act 2007* (Standing Committee on Community Affairs 2007). Then in 2011, the Council of Australian Governments (COAG) implemented a revised system of Ministerial Councils, and the ANZFRMC was replaced with the Legislative and Governance Forum on Food Regulation (the Forum) (Food Regulation Secretariat 2012a). In 2013, COAG made additional changes to the Council system and the Forum was relocated to operate outside of COAG (Food Regulation Secretariat 2016b). Another name change was instigated in 2015, and the Forum became the ANZMFFR (Food Regulation Secretariat 2016b).

2.1.3 Objectives and priorities

The objectives for food regulation in Australia and New Zealand are legislated in the *Food Standards Australia New Zealand Act 1991* (*FSANZ Act 1991*), and place significant emphasis on ensuring a high standard of public health protection (Office of Legislative Drafting 1991). Thus, the Act requires FSANZ to meet the following objectives (in descending priority order) when developing, reviewing or varying food regulatory measures:

a. the protection of public health and safety; and
b. the provision of adequate information relating to food to enable consumers to make informed choices; and
c. the prevention of misleading or deceptive conduct (Office of Legislative Drafting 1991, p14).

However, FSANZ must also have regard to:

a. the need for standards to be based on risk analysis using the best available scientific evidence;
b. the promotion of consistency between domestic and international food standards;
c. the desirability of an efficient and internationally competitive food industry;
d. the promotion of fair trading in food;
e. any written policy guidelines formulated by the Council for the purposes of this paragraph and notified to the Authority (Office of Legislative Drafting 1991, p14).

The ANZMFFR are required to develop food regulatory policy guidelines that are consistent with

the objectives of the *FSANZ Act 1991* (Office of Legislative Drafting 1991). However, while the protection of public health and safety is clearly stated as the first priority for food regulation, a clear definition and understanding of what public health and safety encompasses, has been elusive (Lawrence 2009a; Lawrence 2013). The main point of contention is whether the objective includes both short and long-term public health; that is, the prevention of food-borne illness and chronic disease. This has created a considerable source of conflict between stakeholders in the food regulatory system (Lawrence 2013).

In 2008, FRSC prepared an *Overarching Strategic Statement for the Food Regulatory System* for the purpose of providing context and clarifying the objectives of the food regulatory system (Food Regulation Standing Committee 2008). This document indicated that the prevention of food-borne illness was the priority aspect of the public health and safety objective, and the prevention of chronic disease was something to be supported but was mainly the responsibility of individuals. Support for individuals to enact this responsibility, would be offered by the provision of adequate labelling. Where appropriate though, the prevention of chronic disease would also be upheld by ensuring the nutritional integrity of the food supply or addressing specific public health issues. However, the only examples of these situations given, were voluntary and mandatory food fortification (Food Regulation Standing Committee 2008). Thus, as with many government plans, while there is mention of 'upstream' determinants of public health, the strategic statement suffers from significant 'downstream drift' in recommended actions (Baum and Fisher 2014; Salas, Forhan et al. 2017).

In 2011, an independent expert panel conducted a review of food labelling law and indicated that the ambiguity regarding the public health and safety objective remained (Department of Health and Ageing 2011). The first recommendation of the review was that the *FSANZ Act 1991* be amended to include a definition of public health. The suggested definition was that provided by the National Public Health Partnership in 2006, and used by FRSC in 2008, which stated that public health is the "organised response by society to protect and promote health, and to prevent illness, injury and disability" (National Public Health Partnership 2006, p5).

In their response to the food labelling review report, the Ministerial Council supported this recommendation in principle, but suggested the proposed definition was not necessary from a legal point of view (Legislative and Governance Forum on Food Regulation 2011). Consequently, it was decided that the first response to the recommendation would be the development of a policy

guideline on the role of food regulation in supporting public health objectives. This was completed in 2013, and essentially reiterated the work that had been done by FRSC in 2008 (Legislative and Governance Forum on Food Regulation 2013). Whilst this policy statement was to be reviewed for its effectiveness after two years, no such work seems to have been undertaken.

Nevertheless, in 2017, the *Overarching Strategic Statement for the Food Regulatory System* was updated by the Ministerial Council (Australia and New Zealand Ministerial Forum on Food Regulation 2017c). Apart from a few minor changes/, the statement was essentially the same as the 2008 version. Thus, food regulatory system support for public health objectives remained 'downstream' at the level of individual responsibility, and both government and corporate responsibility continue to be unproblematic.

While, as previously mentioned, the ANZMFFR recently established three system priorities for 2017 until 2021 that included supporting public health objectives to address overweight and obesity (Australia and New Zealand Ministerial Forum on Food Regulation 2017b), this seemed to be in response to directives from the COAG Health Council. In 2016 this Council had discussed collaborating with Ministers from other portfolios, to establish action on improving the health of Australian children, by limiting the availability and promotion of unhealthy foods and drinks (COAG Health Council 2016a; COAG Health Council 2016b). Again, initiatives considered or introduced by ANZMFFR as a consequence of this request, all related to food labelling (Australia and New Zealand Ministerial Forum on Food Regulation 2018). Thus, the burden of responsibility for preventing and managing chronic ill-health continues to be placed on individual citizens, while food safety remains the priority aspect of the public health and safety objective of the food regulatory system.

2.1.4 Structures and procedures

The basis for the current food regulatory system and the process of developing and implementing Australian and New Zealand food regulation policies was established in 2002. This followed an industry sponsored, Federal Government review of the food regulatory system, commonly known as 'the Blair Review', which was conducted in 1998 (Australian Food and Grocery Council 2005; Food Regulation Review Committee 1998). The review committee was particularly charged with reducing the regulatory burden on the food industry and improving the clarity, certainty and efficiency of the food regulatory system (Food Regulation Review Committee 1998). A key result of the review was the division of responsibility for developing food regulation policy and food

regulation standards. This meant that FSANZ, formerly responsible for developing both, was now responsible for standards only, and the purposely formed ANZFRMC was responsible for developing policy (Peachey 2006; Yeatman 2002).

The Australia and New Zealand food regulatory system is illustrated in Figure 2.1 and the current policy development process is shown in Figure 2.2. Since the initial implementation of this system in 2002, some changes have been made to committee names, structures and procedures, as experience with the system and knowledge of the policy process has accumulated, and in accordance with COAG directives (Australia and New Zealand Food Regulation Ministerial Council 2008b; Australia and New Zealand Ministerial Forum on Food Regulation 2017c; Legislative and Governance Forum on Food Regulation 2012). However, from an external perspective, the basics of the system appear to have remained the same, and the following paragraphs provide an overview of the processes involved in the system and in policy development.

The Ministerial Council (ANZMFFR) is primarily responsible for the development of food regulation policy, as well as its implementation and enforcement (FRSC Principles and Protocols Working Group 2008). It also has the authority to request a review of, and ultimately accept, amend or reject, variations to existing, or new food standards as developed by FSANZ. ANZMFFR is comprised of Ministers from all Australian jurisdictions, as well as New Zealand (10 jurisdictions in total). Portfolios that can be represented include Health, Primary Industries, Premier/Prime Minister and Cabinet, Trade, State Development, Consumer Affairs, Local Government, and Food Safety. While more than one Minister from each government may be a member of the Council, only one vote is allowed per jurisdiction. This vote is cast by the 'lead Minister', who in most cases is the Health Minister, and is meant to represent a 'whole of government' view. To date, two jurisdictions, New South Wales and New Zealand, have opted to have their Primary Industries and Food Safety Ministers respectively, as the lead Minister, rather than Health (Food Regulation Secretariat 2018c). ANZMFFR is chaired by the Australian Government Health Minister or Parliamentary Secretary for Health.

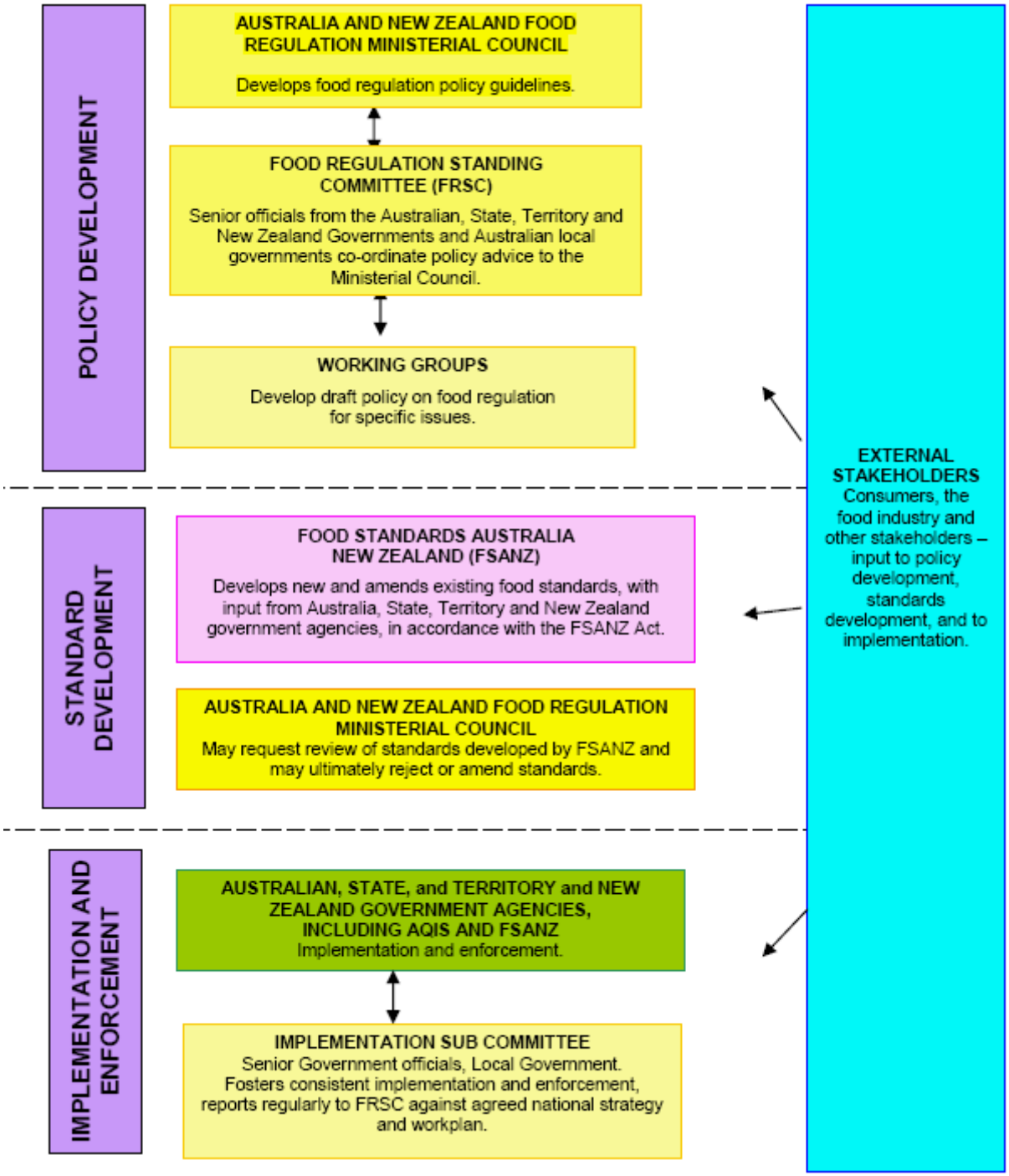

Figure 2.1: The Australia and New Zealand food regulation system

Sourced from: (Food Regulation Secretariat no date)

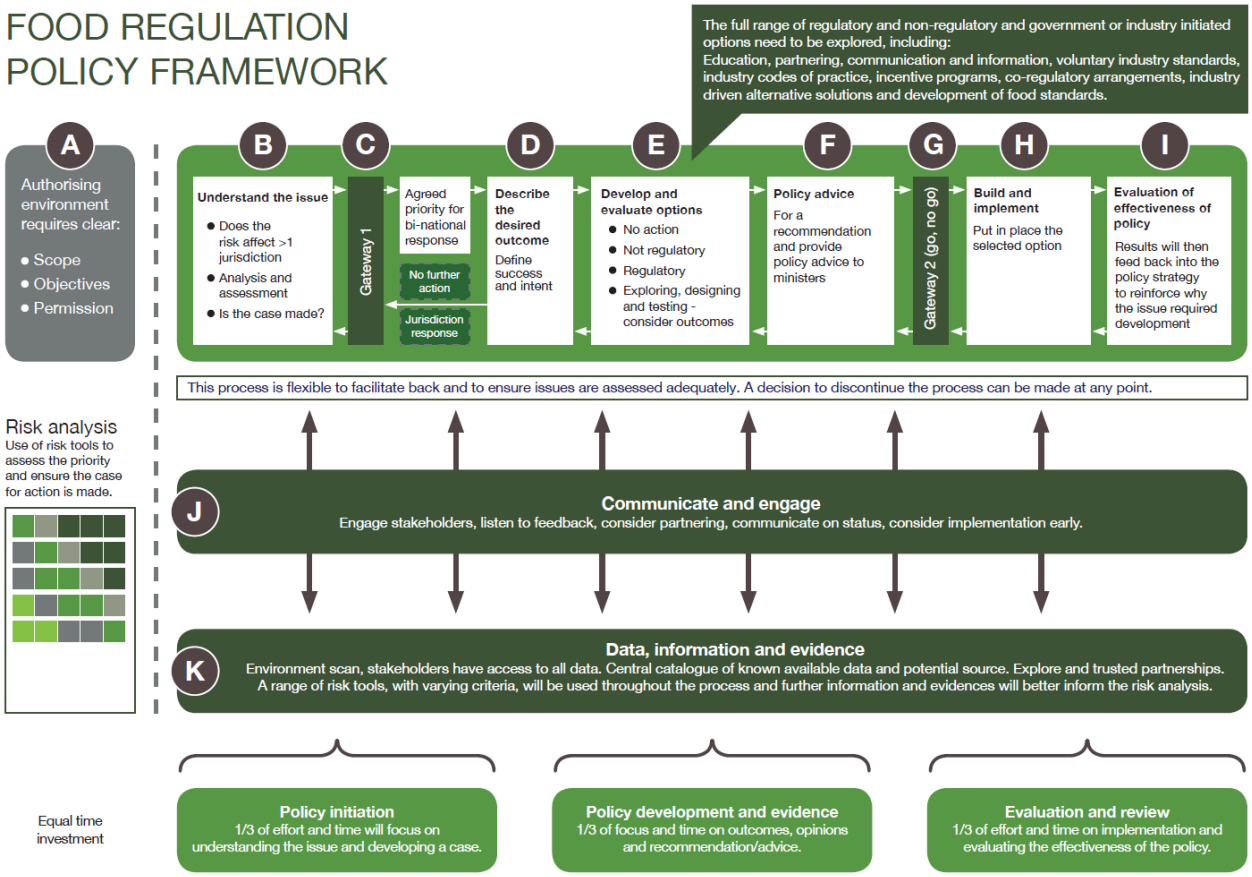

Figure 2.2: The food regulatory policy development process

Sourced from: (Food Regulation Secretariat 2016d)

The Ministerial Council is supported in its role by FRSC, which is meant to be comprised of Senior Executives (Director-General level) from all relevant jurisdictions represented in ANZMFFR (Australia and New Zealand Food Regulation Ministerial Council 2008b). In reality, it is often a relevant Departmental Head, such as Environmental Health or Public Health that participates in FRSC on behalf of the Director-General (Food Regulation Secretariat 2018b). The FRSC provides advice to Ministers regarding the development of policy, as well as the suitability of food standards prepared by FSANZ. When developing or revising a policy, FRSC usually forms a working group comprised of jurisdictional representatives (Australia and New Zealand Food Regulation Ministerial Council 2008b). However, such representation is very dependent on the availability of staff and resources, but also the interest and importance placed on the issue by individual jurisdictions.

Any jurisdiction may volunteer to chair a FRSC working group, but as considerable time and resources are required to be provided by that jurisdiction to undertake the task, the job tends to fall to the larger states, whether or not they have the appropriate expertise. A FSANZ representative with observer status is included in the group to provide technical expertise as necessary (Australia and New Zealand Food Regulation Ministerial Council 2008b). There is no requirement for jurisdictional members to have any particular field of expertise, although persons from outside the working group that have specific technical and/or scientific expertise, may be invited to provide advice when needed (Australia and New Zealand Food Regulation Ministerial Council 2008b).

A FRSC working group may be required to undertake a number of activities in the development of food regulation policy. These include, but are not limited to analysing policy issues, exploring the available scientific evidence, considering social and cultural issues for the community, developing policy options, consulting with stakeholders, allowing for minimum effective regulation requirements, recommending policy options, and developing draft policy guidelines for consideration by FRSC and ultimately approval by ANZMFFR (Australia and New Zealand Food Regulation Ministerial Council 2008b).

Since 2008, terms of reference and detailed guidelines and instructions have been provided to members of FRSC working groups at the outset of their task (Australia and New Zealand Food Regulation Ministerial Council 2008b). However, prior to this, working groups were given limited instruction on required processes, and several of the early working groups operating before 2006, failed to comply with standard procedures such as COAG Guidelines and Protocols (FRSC Principles and Protocols Working Group 2008). These guidelines required the preparation of a Regulatory Impact Statement (RIS) where legislative proposals may affect business, or impact on competition, as well as the provision of a draft version of a policy to the OBPR for comment prior to finalisation (Council of Australian Governments 2007; Council of Australian Governments 2010; FRSC Principles and Protocols Working Group 2008). External stakeholders have also complained that working groups are lacking in expertise, as well as lacking in clarity regarding roles, procedures and timeframes, and adequate operational and technical input into implementation and decision-making (FRSC Principles and Protocols Working Group 2008).

The Implementation Subcommittee, now known as the Implementation Subcommittee for Food Regulation (ISFR), is primarily responsible for overseeing a consistent approach to the

interpretation, implementation and enforcement of both food regulation policy and standards across all jurisdictions. It is comprised of senior government officials who have responsibility for food regulation in each jurisdiction, as well as local government (Food Regulation Secretariat 2018d).

Secretariat support to ANZFRMC, FRSC and ISFR is provided by the Food Regulation Secretariat (FRS). The FRS is located within, but works independently of in day to day operations, the Australian Government Department of Health and Ageing (Australia and New Zealand Food Regulation Ministerial Council 2008b).

The role of FSANZ in the development of food regulation policy is limited to observer status (Food Regulation Secretariat 2018b). Prior to 2002, FSANZ had been responsible for developing both policy and standards, however it now retains only the development and alteration of food standards as its main function. When determining such standards though, FSANZ must have regard to any relevant policy guidelines developed by ANZMFFR (Office of Legislative Drafting 1991).

2.1.5 Policies

The activity of the Ministerial Council in the first decade of its existence was dominated by the development of a number of food regulatory policies and statements (FRSC Principles and Protocols Working Group 2008). Eight policies were developed and endorsed from 2002-2003, and a further three from 2004-2006, during which time two policies were also revised or re-endorsed. After this initial flurry of policy development, another seven policies were developed and four clarified, reviewed or re-endorsed over a period of eight years (Food Regulation Secretariat 2016a). The Policy Guidelines and Statements developed by ANZMFFR since its establishment in 2002 are presented in Table 2.1. Those that are important for, or relevant to, public health nutrition and the prevention of diet-related chronic disease, are marked with an asterisk.

Other activities of the Ministerial Council can also have significance for public health nutrition and food regulatory policy. For example, in 2009 ANZMFFR commissioned an independent review of food labelling law and policy that culminated in 2011 in a report entitled *Labelling Logic* (Department of Health and Ageing 2011). The Council formally responded at the end of that year and the response committed ANZMFFR to a range of 'proposed actions' (Legislative and Governance Forum on Food Regulation 2011). Many actions were to be completed within two years and have led to Policy Statements such as *The Interpretation of Public Health and Safety in*

Table 2.1: Policy Guidelines and Statements endorsed by ANZMFFR since 2002

(Food Regulation Secretariat 2012b; Food Regulation Secretariat 2016a)

Policy Guideline	**Year first Endorsed**	**Year Reviewed, Clarified &/or Re-endorsed**
Policy Guidelines for Primary Production Standards	2002	2006
Policy Guideline on the Addition of Caffeine to Foods*	2003	2014
Policy Guideline on Novel Foods*	2003	
Policy Guideline on Country of Origin Labelling	2003	
Policy Guideline on Food Safety Management in Australia	2003	
Policy Guideline on Nutrition, Health and Related Claims*	2003	2004
Policy Guideline for the Fortification of Food with Vitamins and Minerals*	2004	2009, 2015
Policy Guideline on the Addition to Foods of Substances other than Vitamins and Minerals*	2008	
Policy Guideline on the Regulation of Residues of Agricultural and Veterinary Chemicals in Food	2006	
National Food Safety Audit Policy	2003	
Food Safety Management Policy Guideline for the Retail and Food Service Sectors	2011	
Policy Guideline on Intent of Part 2.9 of the Food Standards Code – Special Purpose Foods*	2009	
Policy Statement on the Public Health Role of FSANZ* Later renamed: The Interpretation of Public Health and Safety in Developing, Reviewing and Varying Food Regulatory Measures*	2008	2013
Policy Statement on Front-of-Pack Labelling*	2009	
Policy Guideline on Infant Formula Products*	2011	
Policy Guideline on the Labelling of Food Produced Using New Technologies	2014	

* Policy guidelines relevant to public health nutrition

Developing, Reviewing and Varying Food Regulatory Measures (formerly *The Public Health Role of FSANZ*) (Legislative and Governance Forum on Food Regulation 2013). However, additional actions such as labelling of added sugars and added fats, and energy labelling of alcoholic beverages, are still being progressed (Food Regulation Secretariat 2018a), whilst others have not been commenced, were not agreed to by the Ministerial Council, or were referred to other agencies (Legislative and Governance Forum on Food Regulation 2011). Despite all the time, effort and

resources that have gone into such processes though, it remains to be seen what, if any, impact they will have on public health nutrition and the prevention of diet-related chronic disease, or whether any form of assessment or evaluation of the proposed actions will take place.

2.1.6 Stakeholders

There are a range of stakeholders involved in food regulation policy. Lang, Barling and Caraher (2009) outline 16 different disciplines, or areas of expertise, that offer insight and stake claims on the development of all types of food policy. Some of those disciplines that are interested in food regulation policy, include agriculture, biochemistry, economics, environmental science, epidemiology, home economics, journalism, nutrition, political science, and public health. This list is not exhaustive though, and other disciplines that are active in the development of food regulation policy include environmental health, toxicology, social science and food technology. Persons with such professional backgrounds may work in a variety of organisations, including government, industry, academia, non-government, health or consumer organisations and professional associations. As a result of this considerable range of interests, all food policy operates in a very contested forum (Cullerton, Donnet et al. 2016a; Lang, Barling et al. 2009). Food regulation policy is no different, where conflicts between industry, public health and citizen interests can be particularly heated (Lawrence 2013; Nestle 2013; Reynolds and Howse 2004; Yeatman 2007).

With respect to this research, the main categories of stakeholders of interest include representatives of the general public, industry, public health and public health nutrition, as well as government. Within each of these stakeholder categories there are some key groups that are particularly active in the development of food regulation policy in Australia. The following section will consider these groups.

Citizens

While a range of citizens and consumer-based organisations have demonstrated interest in food regulation matters, the most prominent and active organisation in Australia is the Australian Consumers' Association or Choice (Food Standards Australia New Zealand 2005). Choice is an independent organisation that lobbies and campaigns on behalf of consumers, or citizens, and their interests. It receives no funding from government or industry, and is primarily financed through magazine subscriptions and fee-for-service testing and expert services (Australian Consumers' Association 2004). Choice's key concerns are to ensure that citizens have a voice in the

development of food regulation policy, and that relevant decision-makers in the food regulatory system prioritise consumer and public health interests over those of the food industry (Choice 2008). Choice also advocates for an open and transparent process in the development of food regulation policy, that would enable stakeholders to have appropriate input into the decision-making process, and to assess the evidence and basis for decisions that are made. In Choice's view, such a process would enhance the public's confidence in the food regulatory system and its ability to achieve its primary objectives with respect to protecting public health and safety, and providing adequate information for informed choice (Choice 2008). Choice would also like to see a greater commitment from government to engage the public in both the food regulation policy and standard development processes.

Industry

While a range of organisations relevant to the food industry, such as retailers, food manufacturers, food transport, food packaging, primary producers and the hospitality sector, may be considered stakeholders within the food regulatory system (Food Regulation Standing Committee 2005; Food Standards Australia New Zealand 2005), the reality is some sectors of primary production and food manufacturing are the most actively involved (Food Standards Australia New Zealand 2005). Primary production organisations such as Meat & Livestock Australia and Dairy Australia are usually the ones with the resources to participate, while less well funded sectors such as Horticulture Innovation Australia Limited and the Australian Nut Industry Council may only manage representation on issues of key importance to their producers, such as health claims or front-of-pack labelling. With respect to the manufacturing sector, the most vocal and active participants include multinational food manufacturers such as Nestlé, Mars and Unilever, and some food manufacturing associations such as the Australian Beverages Council, the Australian Industry Group Confectionery Sector, and the Australian Food and Grocery Council (AFGC). The AFGC represents Australia's food, drink and grocery manufacturing sector, and is a membership-based organisation completely funded by industry in order to work for industry (Australian Food and Grocery Council 2010).

According to the AFGC, in 2015-2016, Australia's food, beverage, grocery and fresh produce industry had a turnover of $127.4 billion annually (Australian Food and Grocery Council 2017b). This incorporated $104.2 billion in food and beverage processing, and $6.4 billion in fresh produce. Interestingly, fresh produce provided the only increase in turnover in that year, and this sector is generally not well represented by the AFGC. Despite this, it is apparent that the AFGC is very well

funded and resourced by a large number of food, retail and technology related businesses (Australian Food and Grocery Council 2018). It is therefore able to employ a range of professionals (such as lawyers, political lobbyists, nutritionists, economists etc) with the required skills and experience to participate in all aspects of food and nutrition policy. Thus they are able to significantly influence a range of government food-related policy decisions (Australian Food and Grocery Council 2017a) and wield significant power (Cullerton, Donnet et al. 2016a).

The key aim of the AFGC is to represent and advocate for, as well as present a united voice on behalf of, the food and grocery manufacturing industry (Australian Food and Grocery Council 2017a). This is done by engaging with key political and policy decision-makers, stakeholders and all government officials (Australian Food and Grocery Council 2017a). They also aim to analyse, question and affect federal and state policies to ensure their members' views are represented at the highest level of government (Australian Food and Grocery Council 2010). Additionally, there is a strong emphasis on reducing regulatory burden, increasing productivity and growth, as well as promoting trade.

Given the food industry is a profit-based industry like any other commercial business, the views of the AFGC are largely based on economic priorities. As the best profit margins in food manufacturing usually come from high fat, high sugar, high salt and low fibre foods and drinks such as confectionery, soft drinks, crisps, and pastries, it stands to reason that the points of view promoted by the AFGC will, in the majority of cases, promote such highly processed foods (Stanton and Pollard 2014). Therefore, it is inevitable that food industry views will be contradictory to the views of public health and consumer groups.

Government

Many of the government bodies key to the food regulatory system, such as ANZFMFR, FRSC and FSANZ have been discussed previously. However, it is important to note that all levels of government in Australia and New Zealand representing a wide range of interests, participate in the decision-making processes, and/or implementation of, food regulation policy (Food Regulation Standing Committee 2016; Food Standards Australia New Zealand 2005). Within these government departments and authorities, personnel involved may range from junior and senior public servants to departmental heads, Directors-General, Government Ministers and Parliamentary Secretaries. Further, these personnel may have many wide and varied professional backgrounds and personal viewpoints that they bring to the policy process. Each jurisdiction will

also operate according to the philosophies and policies of the political party currently in government. In addition, international trade obligations require consideration of the Codex Alimentarius Commission (Codex) standards and the World Trade Organisation (WTO) legislation in the development and implementation of all food regulations (Food Regulation Secretariat 2016c). Consequently, all these factors mean food regulation policy development can be highly political and passionately contested, even before any other stakeholders are consulted.

Public health and public health nutrition

As with other stakeholders, there are a range of non-government organisations and professional associations with an interest in public health and/or public health nutrition that take an active interest in food regulation policy. These include, but are not limited to, the Public Health Association of Australia (PHAA), the Dietitians' Association of Australia, the Heart Foundation, the Cancer Council, Nutrition Australia, and the NHMRC (Food Regulation Standing Committee 2013). Where possible, representatives of these organisations provide submissions in response to public consultation papers, participate in advisory committees, and advocate for the inclusion of issues relevant to the prevention of chronic disease in food regulatory decision-making processes.

For example, the PHAA has been a strong advocate for the recognition of the prevention of chronic disease in food regulatory decisions for many years. They have supported the use of a broader definition of the public health and safety food regulatory objective to include the prevention of chronic disease, and promoted the inclusion of chronic disease prevention at all decision-making points within the food regulatory system (Public Health Association of Australia 2012). The PHAA was also a key instigator in the establishment of the FSANZ Consumer and Public Health Dialogue (Food Standards Australia New Zealand 2011).

Academics

While not being considered a specific group of stakeholders for this research, it should be noted that the University sector may also be active in the food regulatory system. However, the range of disciplines involved usually means their contributions form part of the four stakeholder groups already discussed. Thus, varying academic disciplines may be involved such as public health, public health nutrition, epidemiology, social science, food science, business, environmental health, political science and public health law. Involvement may be via preparing or assisting with submissions on behalf of relevant professional associations, lobbying Government on pertinent issues, and providing media statements. However, another key role for academics is

representation on food regulatory committees such as the FSANZ Board, and FSANZ Expert and Scientific Advisory Committees (Food Standards Australia New Zealand 2011). Representation may also be on Independent Expert Panels formed by the Government to review a particular section of the food regulatory system, such as the review of food labelling law and policy (Department of Health and Ageing 2011).

2.1.7 Stakeholder consultation

Stakeholder consultation is an important component of the Australia and New Zealand food regulatory system. When the Ministerial Council was established in 2002, legal agreements between jurisdictions, required that within 12 months of its first meeting the Council must establish a stakeholder consultation mechanism (Food Regulation Secretariat 2009). This consultation mechanism could be in the form of a Consultative Council or an alternative method if agreed to by all parties. In 2003, Ministers agreed to an adaptable approach to consultation where the level of consultation reflected the complexity or controversial nature of the topic. This approach was purportedly selected in order to ensure community confidence in the new system, provide openness and transparency in the process of policy guideline development, and enable the involvement of a broad range of stakeholder groups (Food Regulation Secretariat 2009).

However, unlike the legal requirements for FSANZ to conduct public consultations on proposed changes or additions to food standards under the *FSANZ Act 1991*, ANZMFFR is not obliged or required to consult on draft policy guidelines. Rather, when the then ANZFRMC was set up, whilst its structural arrangements included public consultation, it was not mandatory, and the type of consultation was not specified. Thus, when consultation does occur it generally takes place prior to the development of a draft policy, and as a result stakeholders have complained that consultation is incomplete, inconsistent, ad hoc and unstructured, lacking in transparency and openness, limited in detail, out-of-date, and not enabling of active engagement (Food Regulation Standing Committee 2016; FRSC Principles and Protocols Working Group 2008).

Further, while the system for developing food standards is clearly articulated in the *FSANZ Act 1991* (Office of Legislative Drafting 1991) and requires FSANZ to conduct a very clear, open and transparent process of consultation and decision making, the Ministerial Council is not bound by the same system for the development of policy (Office of Legislative Drafting 1991). Ministerial Council decisions cannot be challenged or reviewed, and if public consultation occurs, it may or may not involve a formal process for stakeholder submissions (Australia and New Zealand

Ministerial Forum on Food Regulation 2016b). In contrast, when the NFA was established in 1991, an open and consultative process was a key feature of the food regulatory system, because there was no opportunity for parliamentary debate on matters of food legislation (Slater 1995). Additionally, accountable decision-making with appropriate external review were important features established for the NFA. However, a similar system of accountability and review was not established for the Ministerial Council when it took over the role of policy development, even though there is still no parliamentary debate on matters of food legislation.

It must be acknowledged though, that there have been recent attempts to make the ANZMFFR policy development process more transparent and consultative (Food Regulation Secretariat 2016d; Food Regulation Standing Committee 2016). As well as the more detailed, provisional policy development process shown in Figure 2.2, a new stakeholder engagement strategy is being trialled, in an attempt to address stakeholder complaints, strengthen relationships, share information and improve system transparency (Food Regulation Standing Committee 2016). Initiatives being explored include FRSC Round Tables for invited stakeholders, targeted consultations, regular email updates and a new website for notifications of public consultations and to aid access to up-to-date information, as well as encouraging direct contact with relevant Members of Parliament, ANZMFFR or FRSC members (Food Regulation Standing Committee 2016). However, while the FRSC Round Tables have been evaluated and are recommended to continue with some amendments (Victoria State Government 2018), there is no apparent plan for evaluating the effectiveness of the remaining initiatives, or the policy development framework, and deciding whether or when to make them permanent (Food Regulation Secretariat 2016d).

2.1.8 The influence of stakeholders in food regulation

All stakeholder groups vie to influence food regulatory policy and standards so that they are most favourable to their interests. However, some would consider the food industry to be particularly powerful , and the strategies this stakeholder group use to influence government food and nutrition policy more broadly to protect their commercial interests are well documented (Cullerton, Donnet et al. 2016a; Cullerton, Donnet et al. 2016b; Lang and Heasman 2004; Moore, Yeatman et al. 2015; Nestle 2013). Their involvement in the development of Australian and New Zealand food regulation policy and standards is less well documented, although the observations of some indicate it is likely to be no less significant or influential (Lawrence 2013; Nestle 2013).

For example, in 2005 the Ministerial Council held a re-vote on the classification of biomarker

claims within the nutrition, health and related claims policy that had been previously agreed on in 2004 (Australia and New Zealand Food Regulation Ministerial Council 2005). The re-vote was the result of extensive and pressured lobbying by the AFGC, who along with the jurisdictions that supported their point of view, tried to persuade other states and territories to change their vote on the issue (Australian Consumers' Association 2004; Hughes 2005a; Kennedy 2005). As there is no official or formal process by which a Ministerial Council decision can be challenged, this action was unprecedented. Ultimately the challenge was unsuccessful and the ANZFRMC retained its original decision at the revote, but a precedent had been set for food regulatory decisions to be challenged at the highest level of government (Hughes 2005a; Kennedy 2005).

The resources available to, and strategies used by the food industry to ensure policies favour their commercial interests (Cullerton, Donnet et al. 2016b; Hughes 2005b; Moore, Yeatman et al. 2015), mean that issues of concern to citizens and public health professionals, such as the impacts of food production and consumption practices on the environment and prevention of diet-related chronic disease, are not always given full consideration in policy debates (Lawrence 2009a; Sustain: The Alliance of Better Food and Farming 2011). Structural barriers such as the requirement of food regulatory policy to be approved by the OBPR and any potential barriers to trade notified to the WTO, also limit the influence of citizen and public health stakeholder groups (Barling, Lang et al. 2002). Yet with food regulation having so much potential to influence the population's food and drink choices, and with Australia's rates of obesity, diabetes, heart disease and cancer escalating (Australian Institute of Health and Welfare 2016a; National Preventative Health Taskforce 2009) it is an important area for citizens and public health nutritionists to be involved and engaged in, and to try to shape decisions.

Enabling and encouraging greater and more effective citizen and public health involvement in the policy process is also important given the food regulatory system is managed by a democratically elected government and operates on a publicly funded multimillion-dollar budget. For example, in 2016-2017 the budget for FSANZ alone was in excess of $30 million (Australian Government 2017), which was an increase of about $12 million since 2006 (Peachey 2006). However, this does not cover the policy development side of the food regulatory system, the cost of which would be more difficult to determine given the large range of jurisdictions and government departments involved.

2.1.9 Other influences on food regulation

The influence of international trade and neoliberal government policies on food regulation in

Australia and New Zealand is very significant. Neoliberal or economic rationalist ideology promotes a free market economy, a minimal role for government, and the protection of individual freedoms (Bastian and Coveney 2013). Trade liberalisation and globalisation are important aspects of neoliberal theory, and according to Edwards (2007; 2013) neoliberal economic and global trade policies dominate and permeate all Australian Government departmental policy, staff and decisions. Indeed, discourse such as 'nanny state', 'wowsers', 'teetotallers' and 'fun police' is commonly used by political conservatives, to discourage regulation of industry and invoke fear of government interference in individual freedoms (Moore, Yeatman et al. 2015).

From the early 1900s, after previous progress in setting up food laws to protect citizens from food adulteration in Australia in the 1800s, trade became a significant reason for pursuing uniformity in those laws, both nationally and internationally (Reuter 1997). After Federation, industry organisations such as the then Federal Council of the Associated Chambers of Manufacturers of Australia, lobbied the Commonwealth and State Governments for a uniform system of food laws, because the differences in various state and territory legislations were inconveniencing interstate trade (Nelson 1992; Reuter 1997; Stanhope 1993).

With the introduction of new manufacturing techniques, and the expansion of the food processing industry, both during and after World War II, trade liberalisation became an international agenda, and in 1948 Australia became a founding member of the General Agreement on Tariffs and Trade (GATT) established to assist in conducting and promoting international trade (Department of Foreign Affairs and Trade no date; Nelson 1992; Reuter 1997). International trade was further promoted with the establishment of Codex by the World Health Organization and Food and Agriculture Organization (WHO/FAO) in 1962, with the purpose of establishing uniform standards for foods in world trade (Reuter 1997).

However, it was the resurgence of neoliberal political ideologies, the wave of Hawke 'new federalism' activity, and the economic downturn of the 1980s that brought significant challenge from many sides to the former approach to food regulation (Nelson 1992). The primary objective for industry was the deregulation of both national and international markets; a plan which conflicted with the concerns of both citizen and public health stakeholder groups (Nelson 1992). Yet since the 1980s, the schedule of deregulation and trade has escalated, with review after review of the food regulatory system in Australia aiming to reduce regulatory burden for the food industry and facilitate interstate and international trade (Bidmeade and Reynolds 1997; Johnson

1992; Nelson 1992; Peachey 2006; Reuter 1997). Within these environments, citizen and public health stakeholder group objectives and priorities have become increasingly difficult to advance in food regulatory debates (Schrecker 2016).

More recently, the 2016 presidential election in the USA, the British vote to leave the European Union, and increased government spending on regulatory interventions in the market of some policy areas in Australia, have been linked with the beginnings of the breakdown in dominance and power of neoliberal ideology (Denniss 2018; Keane 2017a; Keane 2017b). While this may mean changes in emphasis on commercial and trade objectives in the future, currently there is still significant emphasis on deregulation in food production, manufacturing and sale in Australia and internationally (Denniss 2018; Schrecker 2016).

2.1.10 International context

Food regulation internationally is guided by Codex, although relevant standards, guidelines and codes of practice are not legally binding or enforceable. However, Codex provisions are intended to achieve harmonisation of food standards internationally, and are generally recognised as the benchmark that individual countries should support and adopt (Codex Alimentarius Commission 2018a; Lawrence 2013). Codex was established in 1963 by the WHO/FAO, and its stated aims are to develop international food standards that both protect health and ensure fair food trade practices (Codex Alimentarius Commission 2018a). Codex standards are developed and agreed to by member states via an eight-step process, which is based on a scientific risk analysis and allows for two rounds of comments by both members and observers (Codex Alimentarius Commission 2018b).

While Codex standards are not mandatory for individual countries, they do provide the basis for WTO agreements which are legally binding (Codex Alimentarius Commission 2018b). The main principle for the WTO is 'non-discrimination' which means member countries cannot favour locally produced foods over similar imported foods (Lawrence 2013). Two WTO agreements of particular relevance to food standards are the Technical Barriers to Trade Agreement (TBT) and the Sanitary and Phytosanitary Measures Agreement (SPS) (World Trade Organization 2018). The SPS allows countries to set regulations that might breach trade rules for the purpose of protecting the health and safety of their citizens (World Trade Organization 2018). However, any such regulations must be scientifically justifiable. The TBT was created to ensure any legitimate technical regulations (including those for health and safety) do not create unnecessary restrictions or obstacles to trade

and guard against individual country 'protectionism' (World Trade Organization 2018).

Recent developments in international trade also affect national food regulations. For example, the recent signing of the Trans-Pacific Partnership (TPP) between Australia and nine other countries in the Pacific region, heralded the introduction of a new type of regional trade agreement that is forecast to transform global trade rules (Gleeson and Friel 2013). The TPP type of regional trade agreement has been described as "a complex 'trade-investment-service nexus'" (Friel, Gleeson et al. 2013, p2) that goes beyond the exchange of goods between countries to include services, people, ideas, and other investments. In addition, it goes beyond the provisions of the WTO and affords significantly less transparency in both the development of agreements and resolution of disputes (Friel, Gleeson et al. 2013; Gleeson and Friel 2013; Thow, Snowdon et al. 2015).

Of particular concern and relevance to public health nutrition and food regulation, the TPP increases intellectual property and investor protections, enables greater industry involvement in the development of policy and regulation, provides new avenues of appeal, and allows multinational food companies to prosecute governments that introduce health promoting policies or regulation (Friel, Gleeson et al. 2013). Thus, any domestic public health regulation in areas such as food labelling, marketing or advertising that a company believes to undermine the value of their investment, will be legally challengeable as the agreement comes into force, and therefore virtually impossible to develop or implement. As some authors suggest:

> With binding international agreements to liberalise food-related trade and investment on one hand, and non-binding international commitments to NCD prevention on the other, there is potential for trade and investment agreements to trump health policy and constrain or limit national efforts to improve diets and prevent disease (Thow, Snowdon et al. 2015, p89).

2.2 The relevance of public health nutrition to food regulation

This section describes public health nutrition and the importance of the food environment in managing and preventing diet-related chronic disease. It then considers the role of food regulation in addressing diet-related chronic disease and incorporating public health nutrition principles into policy and standards. This is followed by a discussion of the significance of public health nutrition for food regulation using the examples of iodine fortification and compulsory Nutrition Information Panels (NIPs). The section concludes with consideration of the challenges of public health nutrition involvement in food regulation.

2.2.1 What is public health nutrition?

Public health is focussed on the health of populations rather than individuals. Public health perspectives are distinguished from clinical approaches by the fact that they are generally directed at the prevention rather than cure of disease and ill-health. The term 'prevention' when used in relation to health, refers to "the efforts of society to promote, protect and sustain the health of the population" (National Public Health Partnership 2006, p2). Similarly, public health has been defined as "the organised response by society to protect and promote health, and to prevent illness, injury and disability" (National Public Health Partnership 2006, p5). Thus, public health has a broad remit and there are a diverse range of approaches used to achieve its purpose.

Public health nutrition is a discipline that emerged from a union of the fields of public health and nutrition science (Lawrence and Worsley 2007). Consequently, protection and promotion of the nutritional health of populations, and the prevention of diet-related chronic disease are key objectives for public health nutrition. The field is concerned with issues across the food supply (from paddock to plate). It considers how political, social, economic and cultural factors affect food systems, population dietary intakes, public health and the environment (Lawrence and Worsley 2007). Public health nutrition has been defined as "the promotion and maintenance of nutrition-related health and well-being of populations through the organised efforts and informed choices of society" (World Public Health Nutrition Association 2006).

2.2.2 Diet-related chronic disease and the food environment

Both inadequate food and excess food, particularly excess highly processed food, make it difficult for humans to attain and maintain good health. Globally, the greatest burden of ill-health and disease is from food and nutrition-related factors, and over the last couple of decades, dietary risks have overtaken exposure to tobacco smoke as the leading cause of morbidity and mortality (GBD 2013 Risk Factors Collaborators 2015). In Australia, the situation is similar, with dietary risks and high body mass index being the two leading causes of disease burden, followed by smoking (Institute for Health Metrics and Evaluation 2013).

The significant increase in prevalence of overweight and obesity in Australia that has occurred over the last four decades, is mirrored in hundreds of other countries across the world and shows little sign of abating (Swinburn and Wood 2013; The GBD Obesity Collaborators 2017). Since 1980, across the globe the prevalence of obesity has doubled, and in many countries the rate of increase among children has exceeded the rate of increase among adults (NCD Risk Factor Collaboration

2016; NCD Risk Factor Collaboration 2017). In Australia, a conservative estimate of the direct and indirect cost of obesity (using 2011-12 data but given in 2014-15 dollars) is $8.6 billion (PricewaterhouseCoopers 2015). $3.8 billion of this figure is attributed to health care costs, and $4.8 billion attributed to losses in relation to employment and forgone tax. If no further action is taken to slow the increasing prevalence of obesity, then between 2015-16 and 2024-25, it is estimated that an additional $87.7 billion in costs will be incurred by society (PricewaterhouseCoopers 2015).

As is the case for most high-income, industrialised countries, obesity related non-communicable or chronic diseases such as heart disease, diabetes and some cancers, are the main types of preventable death and disability in Australia (Australian Health Ministers' Advisory Council 2017b; The GBD Obesity Collaborators 2017). Globally, approximately 63% of premature death and disability is from chronic disease which is largely attributed to poor dietary intake, inadequate physical activity, smoking and harmful alcohol consumption (World Health Organization 2013). Consequently, the prevention of non-communicable disease rather than treatment is a key priority internationally and locally, and good nutrition an important aspect of relevant government plans for action (Australian Health Ministers' Advisory Council 2017b; World Health Organization 2013).

The dietary risk factors that contribute to obesity and chronic disease include diets low in fruit, vegetables, wholegrains, nuts and seeds, and milk, and high in red and processed meats, and sugar sweetened beverages (GBD 2013 Risk Factors Collaborators 2015). Diets low in fibre, calcium, omega-3 and polyunsaturated fatty acids, and high in trans fatty acids and sodium, are also associated with an increased risk of death and disability from chronic disease (GBD 2013 Risk Factors Collaborators 2015). Results from the most recent national nutrition survey in Australia in 2011-12, indicate that only 7% of the population eat the recommended serves of vegetables and 54% eat the recommended serves of fruit (Australian Bureau of Statistics 2014). Discretionary foods such as biscuits and cakes, confectionery, soft drinks and alcoholic beverages, make up 35% of the population's daily energy (kilojoule) intake (Australian Bureau of Statistics 2014).

Given the link between such dietary profiles and obesity and chronic disease, factors that shape the food environment are important for affecting change. Whilst the immediate political, industry and community response is to recommend individuals take more responsibility for what they eat, considerable evidence shows that without more supportive food environments, few individuals are able to change their dietary patterns (Baker, Gill et al. 2017; Eyles, Ni Mhurchu et al. 2012;

Ghosh, Charlton et al. 2016; Nestle and Jacobson 2000; Swinburn and Wood 2013; Swinburn, Sacks et al. 2011; Tillotson 2004). As commented almost 20 years ago:

> when it comes to obesity, our society's environment is 'toxic'. Unintended consequences of our post-industrial society are deeply rooted cultural, social, and economic factors that actively encourage overeating and sedentary behavior [sic] and discourage alterations in these patterns, a situation that calls for more active and comprehensive intervention strategies. (Nestle and Jacobson 2000, p18)

One of the ways in which the food environment can be altered, is through food regulation. Food regulation policy and standards dictate food safety, food composition, the suitability of specific ingredients such as nutrients, additives, preservatives and genetically modified organisms, as well as labelling and claims. Such factors play a significant role in steering people toward or away from the purchase and consumption of specific foods and drinks (Christoforou, Dachner et al. 2017; Lawrence 2009a; Lawrence, Dickie et al. 2018; Nestle 2013; Pulker, Scott et al. 2017; Stanton and Pollard 2014). Thus, food regulatory policies and standards can either support, or undermine, public health and nutrition.

2.2.3 The role of food regulation in addressing diet-related chronic disease

It would be inapposite to imply that there is no recognition of the need for food regulation to play a role in addressing diet-related chronic disease or incorporate more public health nutrition principles when developing food regulation policy and standards. However, the role is generally considered to be supportive rather than proactive, and initiatives are 'downstream' rather than 'upstream' in approach. Also, the committees and organisations involved largely underestimate the role they could play toward preventing and reducing chronic disease in Australia.

For example, in 2009 FSANZ commissioned a research company to conduct in-depth interviews with key stakeholders, regarding their opinion of FSANZ and its processes (ANOP Research Services Pty Ltd 2009). From a public health perspective FSANZ was "perceived as being out of its comfort zone when it is dealing with chronic disease and emerging public health problems and issues" (ANOP Research Services Pty Ltd 2009, p2). Further, one of the main areas where stakeholders held conflicting views regarding FSANZ processes, was whether FSANZ has or should have a narrow food safety or broader public health focus, when attending to its primary objective of protecting public health and safety (ANOP Research Services Pty Ltd 2009). As one outcome of the ANOP research, FSANZ held a forum for leaders in public health nutrition, to discuss the role of food regulation in attaining broader public health objectives, and to clarify the boundaries of the legislative framework within which FSANZ must work (Food Standards Australia New Zealand

2009-10). However, it is clear from statements made as a result of this forum that FSANZ underestimates the role it could play in promoting public health (Food Standards Australia New Zealand 2009-10).

The ANZMFFR and FRSC have also endeavoured to clarify the role of the food regulatory system in addressing longer-term public health issues. As discussed previously, several strategic and policy statements have been issued with the purpose of providing context for, and clarifying the objectives of, the food regulatory system (Australia and New Zealand Ministerial Forum on Food Regulation 2017c; Food Regulation Standing Committee 2008; Legislative and Governance Forum on Food Regulation 2013). However, these documents have reiterated the view that food-borne illness is considered a higher risk to public health, and therefore higher priority in food regulation, than longer term public health problems. The statements also demonstrate that both the Ministerial Council and FRSC view the food regulatory system as having a supportive role only in promoting healthy food choices and ensuring the nutritional quality of the food supply. Individuals are considered personally responsible for making food choices that promote health and prevent chronic disease.

However, food regulation has a major influence on the shape of the food supply and customer purchasing decisions (Nestle 2013; Steier and Patel 2016), and it is possible that ANZMFFR, FRSC and FSANZ could make a significant contribution to public health by providing an environment that enables healthier food choices. For example, compositional standards could legislate an upper limit on salt or sugar in specific food categories such as breakfast cereals, which changes the shopping environment for citizens without needing a change in food purchasing behaviour. ANZMFFR, FRSC and FSANZ though, generally limit their role to strategies such as food labelling, that are acknowledged to only impact on citizens already wanting to change their behaviour (Food Standards Australia New Zealand 2009-10). Further, FSANZ considers it has little role to play in addressing complex, multifactorial problems such as obesity, questions whether food regulation can have any impact on diet-related chronic disease, and believes that food regulation, in isolation, can have little or no positive effect on population health. Indeed it is suggested that any effect on health would be outweighed by the significant and quantifiable cost of any intervention (Food Standards Australia New Zealand 2009-10).

FSANZ does make the point that a well targeted package of wider ranging measures aimed at addressing complex public health issues such as obesity and chronic disease is required, and that

food regulation could play a role in such a package (Food Standards Australia New Zealand 2009-10). ANZMFFR and FRSC too, acknowledge that food regulation should be a part of any coordinated, multi-sectoral, public health strategy to address diet-related chronic disease (Australia and New Zealand Ministerial Forum on Food Regulation 2017c). Yet, in the absence of strong government leadership and financial commitment to the prevention and management of diet-related chronic disease, it is unlikely the food regulatory system will act 'upstream' to address such costly and debilitating public health problems.

Internationally, Codex has also been grappling with how to incorporate issues relevant to diet-related chronic disease into the development and revision of international food standards. In the Commission's Strategic Plan for 2008-2013, one of the planned activities was to revise and develop Codex standards and associated texts for food labelling and nutrition, taking into consideration the 2004 WHO Global Strategy on Diet, Physical Activity and Health (World Health Organization 2004) as well as scientific and technological developments (Codex Alimentarius Commission 2008). However, the Commission also planned to ensure such deliberations did not make food labelling and nutrition standards overly prescriptive, or more trade restrictive than necessary. Indeed, member countries were repeatedly advised to consider any economic implications of new or revised standards for their country (Codex Alimentarius Commission 2015b). This was despite the first purpose of the Commission giving equal importance to the protection of health and ensuring fair practices in food trade (World Health Organization and Food and Agriculture Organization of the United Nations 2006b).

Despite the difficulties of national and international government attempts to incorporate more public health nutrition principles into food regulation policy and standards, there has been a ground swell of public activity by citizens wanting to regain some control of the food system. In Australia, organisations like Food Connect, the Australian Food Sovereignty Alliance, and the Sydney Food Fairness Alliance have increased in member numbers and influence on a range of food issues (Australian Food Sovereignty Alliance 2010; Pekin 2012; Rose and Murrell 2011). Internationally, organisations like Sustain: the Alliance for Better Food and Farming in the UK, and the Centre for Science in the Public Interest in the USA, have been advocating for greater consideration of nutrition, chronic disease, social equality and environmental sustainability in the areas of food, nutrition, health and agriculture practice, policy and research across a number of public settings for many years now (Centre for Science in the Public Interest 2011; Centre for Science in the Public Interest 2018; Sustain: The Alliance of Better Food and Farming 2011). In

more recent years, a 'people's supermarket' owned and operated by the local community, has been set up in competition to the major chains in London (Morrison 2011). By making the supermarket not-for-profit, staffed by members, trading locally grown produce that would normally be rejected by the major supermarkets, and cooking and selling meals from foods that would otherwise be wasted, *The People's Supermarket* aims to provide foodstuffs at a fair and affordable price by connecting the urban community with the local farming community (The People's Supermarket 2017).

2.2.4 The significance of public health nutrition for food regulation

According to Hughes and Lawrence (2005) "food regulation is a particularly strong policy instrument that can be used to influence the composition, availability and accessibility of food and help protect food security" (Hughes and Lawrence 2005, p301). Food regulation is also viewed as having an important role in ensuring the quality of the food supply (Hughes and Lawrence 2005).

As previously indicated, the primary objective of the Australian and New Zealand food regulatory system is the protection of public health and safety (Australia and New Zealand Ministerial Forum on Food Regulation 2017c). However, Ministers acknowledge a lack of clarity around it and recognise it is open to interpretation (Australia and New Zealand Ministerial Forum on Food Regulation 2017c). Despite attempts to clarify what it means, and recent efforts by Ministers to prioritise supporting public health efforts to prevent chronic disease, food-borne illness continues as the first priority of the food regulatory system (Australia and New Zealand Ministerial Forum on Food Regulation 2017a; Australia and New Zealand Ministerial Forum on Food Regulation 2017b). Public health nutritionists therefore, have an important role in advocating for a greater priority for preventative health in food regulation, and a favourable interpretation and implementation of the Ministers' key priority for 2017-2021 to "support the public health objectives to reduce chronic disease related to overweight and obesity" (Australia and New Zealand Ministerial Forum on Food Regulation 2017a, p1).

Historically, public health nutrition has played an important role in the regulation of food. From the late 1930s until the establishment of the NFA in 1991, the NHMRC was responsible for developing food standards in Australia. After Ministers took charge of food regulatory policy in 2002, the inclusion of Ministers for Agriculture and Trade in decision-making, meant commercial factors became increasingly important and ever more prioritised (Lawrence 2013; Yeatman 2002). However, the usefulness of applying a public health nutrition lens to developing and implementing

food regulatory policy cannot be underestimated and can be illustrated by two examples: iodine fortification for the prevention and treatment of iodine deficiency disorders (IDD); and the introduction of mandatory NIPs on food labels in Australia in 2002.

Fortification of the food supply with iodine

Low levels of dietary iodine can cause an array of childhood mental and physical developmental impairments in sight, hearing, intelligence and growth (Lawrence 2013). More severe issues such as goitre, hypothyroidism, cretinism, decreased fertility, infant mortality and impaired mental function occur at high levels of iodine insufficiency (World Health Organization 2014a; Zimmermann, Jooste et al. 2008). Collectively such conditions are known as iodine deficiency disorders (IDD).

Iodine deficiency is the consequence of limited iodine in the food supply. Most foods that have a low iodine content, do so because a range of geological and geographical factors result in soils being iodine deficient. In addition, rich food sources of iodine such as milk, eggs, and marine plants and animals are unavailable to many populations for reasons of poverty as well as geography. For others, the iodine that is in available foods, has come from iodine containing compounds used in food production such as fertilisers, livestock feed and dairy disinfectants (Lawrence 2013).

IDD have been problematic in many countries across the world, and for the last century there have been organised efforts to address the situation through mandatory fortification (Lawrence 2013). The preferred vehicle for iodine fortification is salt. This is because salt is widely consumed, the addition of iodine is technologically well established, its taste and smell is not affected by iodine fortification, and it is relatively inexpensive (World Health Organization 2014a). However, relevant food regulation is required to establish mandatory salt fortification, and some countries have chosen alternative food vehicles such as sugar, fish sauce and bread (Lawrence 2013).

Epidemiologically, iodine deficiency has decreased significantly in recent decades because of public health nutrition efforts to mandate fortification through relevant food regulations. Prior to 1990, only a few countries, including Switzerland, Australia, the USA and Canada were completely iodine sufficient (Zimmermann, Jooste et al. 2008). However, coordinated efforts by the WHO, United Nations Children's Fund and the International Council for Control of Iodine Deficiency, have meant that between 1993 and 2013, the number of countries that are iodine deficient has been reduced from 110 to 31 (World Health Organization 2014b). By any standard this is an impressive

achievement.

Despite this widespread success, it is estimated that 1.88 billion people worldwide are still at risk of iodine deficiency. Eastern Mediterranean, Eastern European, Asian and African countries are most vulnerable (World Health Organization 2014b). Further, excessive intake of iodine is also apparent in some high income countries, although uncertainties linked with methods of assessing iodine sufficiency, as well as a lack of monitoring in many countries, means the reported prevalence of both deficiency and excess is inconsistent (Lawrence 2013; World Health Organization 2014a; World Health Organization 2014b; Zimmermann, Jooste et al. 2008). Therefore, global public health efforts, in both the monitoring of iodine status and the implementation and evaluation of iodine fortification, remain an important and ongoing aspect of food regulation.

In Australia, the occurrence of iodine deficiency has been mostly located in the south-east of the country, i.e., in Tasmania, Victoria and New South Wales (Food Standards Australia New Zealand 2004). Both Australia and New Zealand introduced voluntary iodine fortification of table salt in the early to mid-20th century, but this was accompanied by a public health advertising campaign that aided uptake by the community (Lawrence 2013). However, in the late 20th and early 21st centuries, the re-emergence of iodine deficiency was detected in Tasmania. In response, a voluntary program of fortification of bread with iodised salt was commenced and achieved significant increases in iodine status (Seal, Doyle et al. 2007). With other parts of Australia and New Zealand also identifying mild iodine deficiency, and because of inconsistent uptake of VF by the food industry, the ANZFRMC mandated the use of iodised salt in commercial bread-making in New Zealand in 2008 and in Australia in 2009 (Australian Institute of Health and Welfare 2016b; Food Standards Australia New Zealand 2008).

The reintroduction of mandatory iodine fortification in Australia and New Zealand was largely deemed successful in reducing the re-emergence of mild iodine insufficiency (Australian Health Ministers' Advisory Council 2017a; Australian Institute of Health and Welfare 2016b; Food Standards Australia New Zealand 2016b). However, limited dietary intake and iodine status data from prior to the introduction of mandatory fortification was available, making firm conclusions difficult. Further, in the absence of an accompanying public education campaign, the community may be unaware of the importance of iodine fortification, and view mandatorily fortified products with suspicion (Yeatman, Player et al. 2010). Thus, more work is required to ensure the anticipated

benefits of iodine fortification, as well as prevent potential problems in populations where iodine status is more assured.

Nutrition Information Panels

NIPs on all food labels in Australia and New Zealand became compulsory in 2002 when the joint FSC was established (Curran 2002). Prior to this, NIPs were only required on special purpose foods and foods promoted using nutrition claims. The issue had been under consideration by the Food Authority since 1995 and was agreed to by the Ministerial Council in 2000, giving allowance for a two year transition period (Australia New Zealand Food Authority 1999; Curran 2002).

Mandatory nutrition information labelling was recommended in order to address the priority food regulatory objective of protecting public health and safety, particularly long-term public health and safety (Australia New Zealand Food Authority 1999). It was also to address the secondary regulatory objectives of providing adequate information for citizens to aid informed purchasing decisions as well as prevent misleading and deceptive conduct by industry. However, the Final Assessment Report by FSANZ indicated that the regulation additionally aimed to provide consistency and linkage with the Dietary Guidelines, as well as the then National Food and Nutrition Policy (Australia New Zealand Food Authority 1999). The cost benefit analysis conducted by FSANZ considered the available evidence regarding the significant expense of diet-related chronic disease, and compared this with the cost of compliance that would be incurred by both industry and government (Australia New Zealand Food Authority 1999).

Industry opposition to mandatory and prescriptive NIP, as well as the inclusion of some nutrients such as sugar in the panel, was considerable (Australia New Zealand Food Authority 1999; Stanton 2001). The AFGC and some of the larger corporations such as Kellogg's, Heinz, Nestlé and Monsanto, preferred a voluntary or non-regulatory arrangement with no prescribed format. They were also opposed to the mandatory inclusion of sodium, saturated fat, sugar, dietary fibre and calcium (Australia New Zealand Food Authority 1999). Concerns expressed by industry included the cost of changing labels, the consistency of evidence regarding the public health significance of sugar and saturated fat, the inaccuracy of methods of analysis for nutrients such as dietary fibre and saturated fat, the inclusion of too many nutrients as being 'unnecessary cluttering' and 'over-labelling', the negative impact of NIP labelling on new product innovation, and the difficulty of enforcement (Australia New Zealand Food Authority 1999; Woods 2018).

Despite these concerns, the arguments of public health nutrition and consumer advocacy groups,

along with the consistency of opinion among these stakeholders, meant the final decision favoured public health views rather than industry opinions (Australia New Zealand Food Authority 1999; Woods 2018). NIPs displaying a product's energy, protein, fat, saturated fat, carbohydrate, sugar and sodium content per average serving and per 100g/100mL, were required to be displayed on all packaged foods and beverages from the end of 2002 (Curran 2002; Ni Mhurchu and Gorton 2007). Exemptions were made for small packages and products such as tea and coffee, salt, herbs and spices, unless a nutrition claim was made on the packet.

Whilst the introduction of mandatory NIP was a significant achievement for public health nutrition and an important source of information for citizens, the long-term impact on dietary intake and public health is less clear. Systematic reviews of the literature indicate that while citizens report a high level of intended use of nutrition information labelling, actual use, as well as understanding and interpretation of NIP information, is substantially lower (Cowburn and Stockley 2005; Ni Mhurchu and Gorton 2007). Some work has also indicated that citizens find more recently implemented front-of-pack labelling schemes easier to use and understand than NIPs (Ni Mhurchu, Volkova et al. 2017). However, as front-of-pack schemes are voluntary, and it seems that with practice and training, citizens are more able to accurately use and interpret NIPs in order to compare products, education may be an important accompaniment to broader food labelling policy (Food Standards Australia New Zealand 2003a).

A recent investigation by FSANZ found that around 70% of both Australian and New Zealand customers reported using and trusting the NIP (Food Standards Australia New Zealand 2015c). On the other hand, about 40% of citizens reported not looking at other nutrition related information including the Daily Intake Guide, HSR, nutrient content and health claims. Some of this difference is very likely explained by the length of time the NIP has been in place in comparison to other schemes. For example, at the time of the survey, the NIP had been in place for more than a decade, and the HSR for just over a year. However, it is indicative of the significance of the NIP for customers when assessing the nutritional quality of packaged foods.

2.2.5 Challenges for public health nutrition involvement in food regulation

The aforementioned examples demonstrate the importance of public health nutrition for food regulation, and the need for public health nutritionists to advocate for supportive food regulatory policy. However, many challenges make such involvement extremely difficult. For example, food regulation is an area in which many public health nutritionists lack relevant knowledge and are

hampered by limited capacity (Hughes and Lawrence 2005; Lawrence 2009a; Lawrence 2009b). The complexity of the food regulatory system is also daunting for the novice advocate. A further difficulty is the challenge of working in an environment where neoliberal economic and global trade policies dominate and permeate all government departmental policy, staff and decisions (Edwards 2007; Edwards 2013). Arguably the most significant challenge for public health nutrition involvement in food regulation policy though, is the dominant power and influence of the food industry in determining policy direction (Cullerton, Donnet et al. 2016a; Cullerton, Donnet et al. 2016b; Cullerton, Donnet et al. 2017; Magnusson 2010; Moore, Yeatman et al. 2015). This section will consider each of these challenges in turn.

While few public health nutritionists have the knowledge and experience to participate in the development of food regulatory policy, those that do, are hindered by a lack of funds and the need to use time outside their usual hours of employment (Lawrence 2013). Further, food regulation is not generally recognised as a core competency for public health nutrition training (Hughes 2003; Hughes, Begley et al. 2015) meaning those involved have mainly learnt through experience. Recent downsizing of the public health nutrition workforce across the country also means the opportunity for employment in the area is rare (Adam and Vidgen 2013). Indeed, Adam and Vidgen (2013) found that after cutbacks to the nutrition workforce by the Queensland Government in 2012, the number of positions in the state with a public health nutrition focus to their work, decreased from 137.3 full-time equivalent in 2009 to 14 full-time equivalent in 2013. In addition, the majority of those that were employed after 2012 had less than five years work experience, indicating a significant loss of professional knowledge and skill. Thus, those that remain employed have little food regulatory experience, and are likely to prioritise other public health nutrition work.

Even if public health nutritionists are employed, or volunteer their time, to work on food regulatory issues, the presiding political environment is one of neoliberal ideology that promotes trade liberalisation and globalisation, rather than the protection of public health and safety (Ruckert, Schram et al. 2017). Neoliberalism, increased trade liberalisation and globalisation emerged with the Thatcher and Reagan Governments in the UK and USA respectively, and was followed by similar economic policies from the Hawke and Keating Governments in Australia in the 1980s (Edwards 2013). International agreements on trade through the GATT, followed by the establishment of the WTO in 1995, accelerated the pursuit of increased exports and reduced trade tariffs globally. However, such endeavour also created interference with, and restrictions on, local

food production and the setting of national food regulations (Phillips 2006). For example, in Australia changes to food regulatory policy must be accompanied by a Regulatory Impact Statement that is approved by the OBPR and then reported to the WTO before final gazettal (Australia and New Zealand Ministerial Forum on Food Regulation 2016b; Legislative and Governance Forum on Food Regulation 2012).

Other key agreements and treaties arising from the increasing influence of neoliberalism have also impacted on the development of food regulatory policy and standards in Australia. In 1992 the *Inter-Governmental Agreement on Mutual Recognition* between States, Territories and the Federal Government established a national market for goods and services (Council of Australian Governments 2009a). This was followed by the 1995 *Agreement Between the Government of Australia and the Government of New Zealand Concerning a Joint Food Standards System*, and the 1996 *Trans-Tasman Mutual Recognition Arrangement* that expanded the national agreement to include New Zealand (Council of Australian Governments 2009b). Consequently, any product that could be manufactured in, or imported into New Zealand, became recognisable, and thus legally available for sale, in Australia, and vice versa. For example, prior to these agreements, energy drinks were only available for sale in New Zealand, but afterwards were able to be imported into and sold in Australia, which then forced the development of a relevant Australian standard (Food Standards Australia New Zealand 2003b).

The increasing number of regional trade agreements like the TPP that go beyond the provisions of the WTO, are also likely to add to the challenges of public health nutrition involvement in national food regulatory policy development. Some have suggested that ensuring food policies are consistent with public health objectives will be virtually impossible because of the rules these trade agreements propose to establish (Friel, Gleeson et al. 2013; Gleeson and Friel 2013; Thow, Snowdon et al. 2015). Indeed, even the implementation and achievement of the internationally agreed, nutrition related Sustainable Development Goals, may be limited by such regional agreements (Ruckert, Schram et al. 2017).

Another significant hurdle for public health nutrition involvement in food regulation is the power of the food industry. Whilst neoliberal trade and globalisation policies and agreements increase industry power, multinational food corporations also hold significant influence within their own right (Cullerton, Donnet et al. 2016a; Nestle 2013). This power and influence of the food industry over food and nutrition policy and regulation, has been recognised and studied for some time now

(Cannon 1987; Cullerton, Donnet et al. 2016a; Dorfman, Cheyne et al. 2012; Igumbor, Sanders et al. 2012; Lang, Barling et al. 2009; Nestle 2013; Stuckler and Nestle 2012).

A range of strategies are used by the industry to gain advantageous food policy and regulation. Koplan and Brownell (2010) describe approaches such as, seeking credibility by partnering with respected health organisations, reframing health problems as being the responsibility of individuals rather than the responsibility of corporations or society, diverting attention away from the role of food in health and toward physical activity, creating or funding advocacy groups that appear to be community-based, adding nutrients to foods of poor nutritional quality and promoting them as healthy options, and opposing public health measures. Wiist (2011) adds to this list with actions including distorting scientific evidence and dismissing independent research as 'junk', investing in public relations campaigns, influencing political decision-makers via lobbying and funding of election campaigns, employing financial strategies that externalise costs and minimise taxes, and exerting legal pressures on both the government and judiciary.

Scrinis (2016) divides these food industry activities into two sets of strategies. Firstly, he suggests many of the measures described above, are used by industry to undermine and resist any government attempt toward mandatory regulation that would restrict continual growth in profit. Secondly, industry present themselves as part of the solution to diet-related chronic disease. This is done through the delivery of nutrition information on food labels that is difficult to understand, developing self-regulatory codes of practice, establishing voluntary policies on 'healthy' product formulation, and funding community nutrition and exercise education programs.

Recent work by Cullerton, Donnet et al (2016a; 2016b; 2017) has also provided evidence of the strategic advantage of industry created by their links with, and direct access to, key decision-makers in food and nutrition policy. This research examined the power and influence of several stakeholder groups using a social network analysis of both individual and group capacity to influence nutrition policy making in Australia. The analysis demonstrated the tactical benefit of the food industry over nutrition professionals because of their proximity to, and strong ties with, policy decision-makers. Nutrition professionals were more likely to have ties with other nutrition professionals, and limited access to key decision-makers. Thus, public health nutrition advocacy would benefit from being vertical rather than horizontal in the future.

2.3 Fortification of foods and drinks with vitamins and minerals

This section considers the origins of fortifying foods and drinks with vitamins and minerals, and the transition of its use from public health to commercial purposes. It summarises VFP developed in Australia since 2002 and outlines the difference between voluntary and mandatory food fortification. The section concludes with a discussion on regulatory approaches to VF in Australia and internationally, and the concerns public health nutritionists have with modern uses of VF.

2.3.1 Definitions

The word fortify originates from the Latin 'fortis' meaning strong (Oxford Dictionaries 2017). To fortify therefore, means to make something or someone, strong or stronger. With respect to food then, fortification can be considered the strengthening or enriching of a food or drink through the addition of nutrients.

In 1987, and in two subsequent amendments to, the Codex *General Principles for the Addition of Essential Nutrients to Foods* defined food fortification as:

> The addition of one or more essential nutrients to a food whether or not it is normally contained in the food for the purpose of preventing or correcting a demonstrated deficiency of one or more nutrients in the population or specific population groups (Codex Alimentarius Commission 1991, p2).

The most recent revision of this policy however, removed the definition of fortification, adding in a footnote that the term fortification may describe different types of essential nutrient additions to food, by different member countries (Codex Alimentarius Commission 2015a).

In Australia and New Zealand, the Ministerial Council *Policy Guideline on the Fortification of Foods with Vitamins and Minerals*, also contains no definition of fortification (Australia and New Zealand Food Regulation Ministerial Council 2009b). A footnote in the policy states:

> Within the context of this policy Fortification [sic] is to be taken to mean all additions of vitamins and minerals to food including for reasons of equivalence or restoration (Australia and New Zealand Food Regulation Ministerial Council 2009b, p1).

2.3.2 Origins

The concept of food fortification has been in existence for a few thousand years. It was first mentioned in 400 BC when iron filings were added to wine as a means of increasing the 'potency' of soldiers (Mejia 1994).

In modern times, fortification was first advocated for public health reasons in the early 1830s

when a French chemist promoted the use of iodine in table salt to prevent goitre (Nestle 2013). However, it was not until the early 1920s that iodine was added to table salt in Europe, initially in Switzerland in 1923, and the United States soon followed with iodized salt being introduced in Michigan in 1924 (Fletcher, Bell et al. 2004; Institute of Medicine 2003; Lawrence 2013; Nestle 2013).

Further widespread fortification paralleled the discovery and isolation of many vitamins in the first half of the 20th century. As the connection between vitamin or mineral dietary deficiencies and conditions such as rickets, beri beri, pellagra and anaemia were discovered, and technological developments enabling the large-scale addition of nutrients to foods progressed, further food fortification was introduced in many industrialised nations to address public health issues (Lawrence 2013; Nestle 2013). Examples include the addition of vitamin D to milk in the 1930s, iron and B group vitamins to flour in the 1940's, and vitamins A and D to margarine also in the early 1940s (Kamien 2006; Lawrence 2013; Nestle 2013). The onset of World War II and related food shortages creating the possibility of population-wide dietary deficiency diseases, along with the poor nutritional status of young men joining the armed forces, were major contributors to these fortification decisions (Institute of Medicine 2003; Kamien 2006).

By the 1960s though, fortification had become so prolific in the food supply of the United States that the US Food and Drug Administration (FDA) proposed a more restrictive approach to the regulation of fortification (Institute of Medicine 2003). This was because of concerns regarding potentially excessive nutrient intakes among the population causing associated overdose illnesses. However, as a consequence of legal action the FDA had taken against a food company because of what it considered to be the misleading labelling of a fortified food product, both the US District Court and the US Court of Appeals determined that the FDA did not have the legal authority to prohibit the fortification of any food product, unless it could be demonstrated that it was unsafe. Further, the Courts concluded that neither the FDA, nor any other federal agency held the legal power to determine which foods should comprise the dietary intake of the American population, because this was the purpose of the marketplace (Institute of Medicine 2003).

While the FDA continued to endeavour to limit the indiscriminate fortification of both food and dietary supplements, their power to do so was further stripped in the ensuing years. In 1969, a White House Conference on Food, Nutrition and Health made forceful recommendations promoting the increased use of fortification in both new and existing food products, which

effectively negated a 1966 proposal by the FDA to limit the number of fortified food products in the food supply (Institute of Medicine 2003; Nestle 2013). Then in 1976, Congress amended the *Food Drug and Cosmetic Act* in order to prohibit the FDA from imposing any limit on the combination, number, or maximum quantity of vitamins and minerals in dietary supplement products. However, this prohibition was extended to include dietary supplements in food form in 1997 when the FDA attempted to limit the amount of vitamin A and vitamin D fortification in food to less than 150% of the recommended dietary allowance; a decision against the FDA which was again upheld by the US Courts (Institute of Medicine 2003).

During the 1970s, fortification of food to address micronutrient malnutrition became more prominent in low and middle-income countries, where widespread and significant dietary deficiencies from poverty, food shortages, drought and so on, remain problematic today (Lawrence 2013; United Nations System Standing Committee on Nutrition 2017). Prior to this time, the focus for such countries had been on reducing protein and energy malnutrition (Allen 2002; World Health Organization and Food and Agriculture Organization of the United Nations 2006a). However, during the 1970s and 1980s, micronutrient deficiencies received greater understanding and recognition, resulting in the instigation of a range of fortification programs to address insufficiencies in the intake of nutrients such as iodine, vitamin A, iron and zinc (Allen 2002; World Health Organization and Food and Agriculture Organization of the United Nations 2006a).

However, food is a commercial commodity as well as a source of nutrition. Consequently, in industrialised countries in the 1980s and 1990s, where food was becoming increasingly plentiful and overnutrition rather than undernutrition more problematic, calls by health experts for food products with reduced salt, fat, sugar and increased fibre, were responded to with considerable enthusiasm by food manufacturers (Nestle 2013). In the US, the increase in sales of such nutritionally modified foods and drinks began to outstrip sales of unaltered products. Then with the opportunity to add statements to labels about the nutrition and health benefits of products, manufacturers were given the incentive to invent other nutritionally enhanced foods through the addition of vitamins and minerals (Nestle 2013). At the same time, technological advances and promotional pressures from dietary supplement companies, demonstrated the profitability of fortified foods. For example, the cost of adding a dozen or more vitamins and minerals to a food is estimated to be about one-fifth of the additional retail price of the final fortified versus non-fortified product (Nestle 2013). Thus, VF became a sales and marketing opportunity for food manufacturers, rather than a means of addressing public health policy objectives to manage

specific nutrient deficiencies among the population (Lawrence 2013; Nestle 2013).

In Australia, fortification was first used in 1956 with the addition of iodine to bread in Canberra (Ipsos-Eureka Social Research Institute 2010; Kamien 2006). Tasmania followed a decade later but ceased the practice in 1974 because of concerns regarding iodine toxicity. This was because of the concurrent use of iodine based sanitising solutions in local dairies adding to the iodine content of milk (Kamien 2006). In the 1980s, fortification of beer and flagon wine with thiamine was proposed to reduce the incidence of alcohol-related Wernicke's encephalopathy and Korsakoff's syndrome (Kamien 2006). However, acceptance of this proposal was problematic, and a compromise was made to add thiamine to bread, which became mandatory in 1991. More recent legislation has introduced the use of folic acid fortification as a means of addressing neural tube birth defects (such as spina bifida). This first occurred on a voluntary basis in 1995 when the addition of folic acid to breakfast cereals was allowed (Lawrence 2003a), and then in 2009 folic acid fortification was mandated in bread making flour (Food Standards Australia New Zealand 2015d). At the same time, the use of iodised salt in bread was mandated in order to address the re-emergence of iodine deficiency in some parts of Australia (Food Standards Australia New Zealand 2015d).

When mandatory thiamine and folic acid fortification were legislated, the decisions created considerable public controversy amongst the academic community and some sectors of the general population (Begley and Coveney 2010; Kamien 2006; Lawrence 2013). For folic acid the scientific evidence behind the decision was challenged, and for thiamine, the cultural acceptance of adding vitamins to alcoholic beverages was problematic. However, when a decision was made to allow VF of breakfast cereals with a range of B vitamins and iron in the mid-1990s, there was little publicly available comment or examination. Yet, in the limited academic work that is available regarding the decision, hints of considerable internal controversy are apparent.

For example, according to Slater (1995), after 12 years of consideration, agreement on a standard for adding vitamins and minerals to food could not be reached by the then NHMRC Food Regulatory Committees. When the NFA was formed in 1991 and took over the work of the NHMRC, the matter remained controversial. Indeed, the then technical director of the Council of Australian Food Technology Associations, attacked the Food Authority for not approving a draft standard for vitamins and minerals (Downer 1989). In his view, "most of the reasons given were speculative, inconsistent and in some cases inaccurate or irrelevant or contradictory to the

objectives laid down in the National Food Authority Act" (Downer 1989, p44). When after another four years of debate, unanimous agreement could not be reached by the Ministers of the National Food Standards Council, majority support was sufficient to pass the legislation under the national food standards system of the time (Slater 1995). This time though, it was the Australian Consumers' Association that expressed their displeasure at the decision, releasing a media statement titled "Health Ministers sell out consumers" (Lawrence 2003a, p110).

Since this decision, the range of foods and beverages that have been approved for VF with a variety of vitamins and minerals in Australia, has expanded considerably. For example, breakfast cereals may now contain up to 13 added vitamins and minerals; vitamin C, folate, beta-carotene and calcium may be added to fruit and vegetable juices; savoury crackers may contain up to 10 added vitamins and minerals; chewing gum may be fortified with calcium; beverages made from legumes, cereals, nuts and/or seeds may include up to 12 added vitamins and minerals; and formulated caffeinated beverages ('energy drinks') may have up to 16 added vitamins and minerals (Food Standards Australia New Zealand 2015a; Food Standards Australia New Zealand 2017).

2.3.3 Voluntary food fortification policy in Australia since 2002

In Australia between 2002 and 2012, the period of interest for this research, two specific fortification policies were developed; the 2004 ANZFRMC *Policy Guideline on Fortification of Food with Vitamins and Minerals*, and a revised 2009 version of the same policy (Australia and New Zealand Food Regulation Ministerial Council 2004; Australia and New Zealand Food Regulation Ministerial Council 2009b). Work on the original policy (which included both mandatory and voluntary fortification) was first commenced in 2003, and the policy was finalised and endorsed by ANZFRMC in May 2004.

The complex and controversial nature of the policy meant it remained contentious after its development, and the various jurisdictions made different interpretations of its intent. This was particularly the case when FSANZ, deeming consistency with the policy, approved several applications to voluntarily fortify a range of foods and drinks. These permissions allowed manufacturers to add calcium to fruit and vegetable juices, soups, savoury crackers, cereal-based beverages, and chewing gum, permitted several vitamins and minerals in water-based, sweetened beverages, and enabled fluoride to be added to bottled water. Consequently, in 2006 the jurisdictions and FSANZ commenced a process of clarifying the policy, which eventually resulted in

a slightly amended policy being endorsed by ANZFRMC in 2009 (Food Regulation Secretariat 2012b).

Whilst outside the scope of this study, the ANZMFFR made an additional effort to clarify the intent of the policy in 2015 (Australia and New Zealand Ministerial Forum on Food Regulation 2015a; Australia and New Zealand Ministerial Forum on Food Regulation 2015b). Again, this was in response to FSANZ recommending approval of a VF application; this time to voluntarily fortify breakfast cereals with vitamin D. The Forum was concerned that:

> permitting the addition of vitamin D to breakfast cereals of poorer nutritional quality (e.g., cereals high in fat, sugar or salt) is not consistent with this Policy Guideline (Australia and New Zealand Ministerial Forum on Food Regulation 2015a, p2).

Consequently, in November of that year, the Forum met again and agreed to the following clarifying statement:

> The intent of the Policy Guideline for the Fortification of Food with Vitamins and Minerals is to not permit voluntary fortification of a food category, or products within a food category, that are high in salt, sugar or fat, or foods with little or no nutritional value. FSANZ should use recognised nutrition profiling tools and initiatives that are capable of identifying foods that are high in salt, sugar or fat, or little or no nutritional value, to determine which foods are appropriate for fortification (Australia and New Zealand Ministerial Forum on Food Regulation 2015b, p2).

Thus, FSANZ was forced to amend the vitamin D approval to include only those breakfast cereals that met predetermined nutrition criteria which set limits on the amount of sugar, fat, salt and fibre that cereals fortified with vitamin D could contain (Food Standards Australia New Zealand 2016c).

2.3.4 Voluntary versus mandatory food fortification

Voluntary and mandatory food fortification are generally distinguished by who makes the decision to add nutrients to foods; that is, the government or the food industry. In the case of MF, governments instigate the decision to regulate the addition of one or more nutrients to a food or food category, that industry is then obliged to implement. On the other hand, the decision to voluntarily add nutrients to foods is usually initiated by industry, typically within the bounds of permissions provided by government regulations.

MF is usually introduced in response to a public health problem that is widespread among a population and/or high in severity (Lawrence 2013). This may be caused by poor soil quality, a deficiency of the nutrient in question in the food supply, limited dietary variety or access to food,

poverty, lack of knowledge, low levels of consumption of a particular food source of a nutrient, or illness across a population group (World Health Organization and Food and Agriculture Organization of the United Nations 2006a). Long-term micronutrient malnutrition can have long lasting and wide-ranging effects on health, learning ability, and work capacity. So it is important to address nutrient deficiencies in affected populations (World Health Organization and Food and Agriculture Organization of the United Nations 2006a).

VF is sometimes used by government as an alternative, or less restrictive response to a public health problem than MF. It may also be used for trial purposes in order to examine the potential effectiveness of an intervention. However, in modern, industrialised countries, commercial incentives tend to take precedence over health, with manufacturers submitting applications to the food regulator to add specific vitamins and/or minerals to food products, with a view to influencing customer purchasing decisions (Lawrence 2013). A recent example in Australia and New Zealand was an application by DSM Nutritional Products Australia Pty Limited (a nutritional supplement company) to add vitamin D to breakfast cereals (Food Standards Australia New Zealand 2015b). Whilst such applications are generally supported by health and nutrition data and public health reasoning, they are largely desired and driven by commercial and marketing objectives rather than public health need or benefit (Lawrence 2013; Nestle 2013; Scrinis 2016).

Traditionally, both voluntary and mandatory food fortification have played a role in public health nutrition via several core principles that were originally prescribed by Codex in 1987, and subsequently amended in 1989 and 1991. These included adding essential nutrients to foods for reasons of:

1. restoration of nutrients lost in manufacturing processes;
2. nutritional equivalence of a substitute food intended as a full or partial replacement for a similar food;
3. fortification to prevent or correct a demonstrated deficiency of an essential nutrient in a population, or sub-population;
4. ensuring a special purpose food has appropriate nutritional composition (Codex Alimentarius Commission 1991).

Recently however, the Codex *General Principles for the Addition of Essential Nutrients to Foods* were subject to a complete revision (Codex Alimentarius Commission 2015a). As such, the 1987-1991 “basic principles” (Codex Alimentarius Commission 1991, p2) were replaced with the

following “fundamental principles” (Codex Alimentarius Commission 2015a, p2) for adding nutrients to foods:

- preventing / reducing the risk of, or correcting a demonstrated deficiency of one or more essential nutrients in the population;
- reducing the risk of, or correcting inadequate nutritional status or intakes of one or more essential nutrients in the population;
- meeting requirements and/or recommended intakes of one or more essential nutrients;
- maintaining or improving health; and/or
- maintaining or improving the nutritional quality of foods (Codex Alimentarius Commission 2015a, p2-3).

The first three of the original 1987 fortification principles were relabelled as “principles for specific types of addition of essential nutrients” (Codex Alimentarius Commission 2015a, p4), with the fortification of foods for a demonstrated public health need largely relegated to MF, and special purpose foods no longer forming part of the General Principles (Codex Alimentarius Commission 2015a).

2.3.5 Approaches to voluntary food fortification policy

In industrialised, high income countries such as America, Britain, Switzerland, Australia and New Zealand, there are generally two approaches to VFP. Meltzer, Aro et al (2003) describe these approaches as ‘selective’ and ‘non-selective’. The selective approach is more traditional and based on the original, precautionary, Codex principles that required a demonstrated, public health need before implementing any form of fortification. This form of fortification may include adding nutrients to foods to address deficiencies amongst the general population or be more targeted to a specific population group with a particular need. On the other hand, the non-selective approach allows fortification whether there is demonstrated need or not, as long as there is no risk of adverse health effects for the population. Thus, the non-selective approach allows more liberal use of fortification giving greater freedom to industry, whilst the selective approach is more conservative or precautionary.

Internationally, chosen approaches differ. As indicated earlier, Codex traditionally used a conservative approach to VF, in line with the precautionary principle (Codex Alimentarius Commission 1991). However, recently the approach was completely overhauled, and would now be considered a liberal or non-selective approach to VFP (Codex Alimentarius Commission 2015a). In Europe, both liberal and conservative regulatory approaches to VF have been applied. Countries

such as Britain, Switzerland, Belgium, Spain, Portugal and Austria have allowed relatively unrestricted VF for several decades. On the other hand, the Nordic countries, particularly Denmark, Finland and Sweden have either disallowed or restricted VF permissions since the 1980s (Fletcher, Bell et al. 2004; Jacobsen, Hypponen et al. 2015; Meltzer, Aro et al. 2003). In the US, the approach has largely been liberal, and as mentioned previously, attempts by the FDA to place some restrictions on the number and quantity of micronutrients that can be added to foods have largely been unsuccessful (Institute of Medicine 2003).

However, whether a country applies a liberal or a conservative approach to VF, consensus in the literature regarding associated impacts on health has not been reached (de Lourdes Samaniego-Vaesken, Alonso-Aperte et al. 2012; Yngve, Haapala et al. 2012). Some authors suggest benefits to nutritional status from VF amongst European populations and no associated health risks (Hennessy, Hannon et al. 2014; Hennessy, Walton et al. 2013). However, others, particularly in the US, indicate considerable concern regarding the adverse health impacts of VF on the population. (Berner, Keast et al. 2014; Environmental Working Group 2014; Sacco, Dodd et al. 2013). According to the US-based Environmental Working Group (2014), an environmental health research and advocacy organisation, the greatest evidence of risk appears to be for children under eight years of age, who are exposed to significantly higher levels of some nutrients than recommended.

In Australia, regulatory approaches to VF in line with traditional Codex principles, were dominant until the mid-1990s, when the revised Standard A9 was introduced allowing VF of breakfast cereals with a range of vitamins and minerals (Lawrence 2003b). New Zealand already had liberal VF via their *Dietary Supplements Regulations 1985 (DSR 1985)*, which while originally intended to regulate supplements in the form of tablets, powders etc, were subsequently used by industry to manufacture supplements in food form (New Zealand Government 2016). Thus, a range of vitamins and minerals were added to foods and drinks and labelled 'dietary supplements'. However, when Australia and New Zealand formed a joint food regulatory system, the *DSR 1985* in conjunction with the *TTMRA 1997*, meant such products legal for sale in New Zealand were able to be imported into Australia, despite the fact that the Australian law did not allow for the manufacture of similar products locally (Australia New Zealand Food Authority 2001). The impact of this on industry in Australia, meant food manufacturers called on the government to broaden VF permissions in Australian law, so that the local industry would not be disadvantaged (Australia and New Zealand Food Standards Authority 1999). New Zealand also supported having the *DSR*

1985 incorporated in some way in the joint FSC (Sue Kedgley MP no date). The eventual consequence of all these factors was that the 2004 and the revised 2009 fortification policies of the ANZFRMC, substantially liberalised the regulatory approach to voluntary fortified foods (VFF) and drinks in Australia (Australia and New Zealand Food Regulation Ministerial Council 2004; Australia and New Zealand Food Regulation Ministerial Council 2009b).

The approach to the regulation of VF in Australia, could also be described as ad hoc or unsystematic. Whilst there is an overarching VFP to guide regulatory decisions, such decisions are usually made on a case by case basis, and in isolation from other determinations. This is partly because of processes set down in the *FSANZ Act 1991* (Office of Legislative Drafting 1991) but also because of a lack of an overarching strategic public health framework (i.e., a national food and nutrition policy and monitoring and surveillance program) within which regulators are able to make assessments. Instead, most VF permissions are the consequence of industry applications to FSANZ to add one or more vitamins and/or minerals to specific foods or drinks for commercial reasons. Relevant applications assessed individually, and at the time the request is submitted. For example, one applicant may request permission to add vitamin D to breakfast cereals, whilst another may want to add vitamin D to bread, and further applicants may propose adding vitamin D to sweetened beverages. Each of these applications would be subject to an individual risk analysis, but this gives little consideration to the cumulative effect of such permissions on long-term dietary intakes, chronic disease or the food supply (Lawrence 2013; Meltzer, Aro et al. 2003). Thus, there is apparently no limit to the number and range of foods that might be permitted to add micronutrients, and therefore any impacts on health are difficult to predict or assess. Also, there is no planned approach to VF decisions and consequently regulatory permissions become patchy and haphazard, rather than systematic and strategic.

2.3.6 Public health nutrition concerns regarding voluntary food fortification

Since the discovery of vitamins and minerals in the late 19th and early 20th centuries, nutrition science has been dominated by the exploration and investigation of food components and their impact on health (as opposed to the study of whole foods and the impact of dietary patterns on health). This focus on the nutrient profile of foods, and reducing foods into their component parts, has been termed 'reductionism' or 'nutritionism' (Scrinis 2016). Within this paradigm, the primary way in which the nutritional quality of a food is understood, is in terms of its nutrient composition; that is, whether specific nutrients are present or absent. As a consequence of this, the importance of nutrients in foods may be exaggerated, simplified or decontextualised, in order to understand

their role in health (Scrinis 2016). Further, this understanding may be irrespective of the quality of food or dietary pattern in which the nutrients are found. According to Scrinis (2016), the nutritionism paradigm has come to frame modern government food and nutrition policy and dietary guidelines, as well as food production, marketing and labelling, and also public understanding of food and dietary health. Further, the nutritionism paradigm has provided scientific legitimacy to support nutrition and commercial strategies such as reformulation, functionalisation and fortification (Scrinis 2008; Scrinis 2016; Scrinis and Monteiro 2017).

VF therefore, can be viewed within the nutritionism paradigm and considered a reductionist approach to addressing public health problems. Combined with its increased use in modern food supplies, this creates a number of concerns for public health nutritionists. These apprehensions include the long-term health impacts of excess nutrient intakes, the highly processed food vehicles fortificants are often added to, the marketability and attractiveness of VFF to customers, the lack of monitoring and surveillance of dietary intakes in Australia, the lack of evaluation of VF food regulatory policies and standards, and the impact of the commercial nature of VFF on nutrition and dietary recommendations. Each of these concerns will be considered in the following paragraphs.

As noted earlier, in 21st century America and much of Europe, the presence of VF in the food supply has become so prolific, concern has been expressed about excessive dietary micronutrient intakes in some population groups (Environmental Working Group 2014; Meltzer, Aro et al. 2003; Sacco, Dodd et al. 2013). In the US, where labelling of added nutrients reflect adult rather than age-appropriate daily requirements, children younger than eight years old are particularly at risk of excessive consumption. Nutrients of concern include vitamin A, zinc and niacin, with breakfast cereals being the main voluntarily fortified food source of these nutrients (Environmental Working Group 2014). Sacco, Dodd et al (2013) also found that usual intakes of selenium, retinol, copper, zinc, folic acid, vitamin C and calcium among children aged one to three years old, were likely to exceed upper intake limits. Berner, Keast et al (2014) found fortified foods contributed to usual intakes of vitamin A, niacin, folate, zinc, copper and selenium being above upper intake limits for 13.4, 8.2, 9.7, 44.9, 7.3 and 7.3 percent respectively, of children between two and eight years old. Vitamin A consumption by pregnant women and older adults has also been identified as likely to be excessive, creating the potential for problems such as birth defects, osteoporosis and hip fractures (Environmental Working Group 2014). Such concerns are exacerbated by the widespread use of dietary supplements, some of which have been specially formulated to make them more

appealing to children (Bailey, Gahche et al. 2013). However, even excluding dietary supplement intake, studies have found significant numbers of children younger than eight years of age with excessive nutrient intakes from food sources (Berner, Keast et al. 2014; Sacco, Dodd et al. 2013). The impact of continually high micronutrient intakes on health over the long-term is yet to be determined.

Another public health concern with respect to VF, is the recently accumulating evidence that supplementation with several vitamins and minerals may increase, rather than decrease mortality and morbidity from some chronic diseases. For example, clinical trials of beta-carotene, vitamin E and vitamin A have been found to increase the risk of cancer and heart disease among participants (Goodman, Thornquist et al. 2004; Omenn 2007). Similarly, a study of vitamin E and selenium supplementation, whether taken separately or in combination, found no protective benefit from selenium but an increased risk from vitamin E for developing prostate cancer (Kristal, Darke et al. 2014). Whilst these studies have investigated supplementation, and therefore significantly higher levels of consumption of the nutrient in question than would be the case with fortification, other work has indicated an increased risk of breast cancer from the consumption of synthetic folic acid found in fortified foods, as opposed to a decreased risk with the consumption of foods naturally high in folate (Gong, Ambrosone et al. 2014). When considered alongside research that has indicated the additive and synergistic effects of phytochemicals in whole foods such as fruit and vegetables are responsible for their protective effect against cancer (Liu 2003), these studies are indicative of the possible risks associated with widespread VF, and the increased consumption of one nutrient over another.

A further misgiving for public health nutritionists regarding VF, is the nutritional quality of foods and beverages that contain added micronutrients. Many of the products that are voluntarily fortified, would be classed as discretionary rather than core foods, as they are highly processed and contain significant amounts of fat, sugar and salt, and are low in fibre (Scrinis 2016; Scrinis and Monteiro 2017). For example, in Australia, 'energy drinks', sweetened beverages, and some breakfast cereals, all of which are highly fortified, would be classed as discretionary foods in the Australian Guide to Healthy Eating and Australian Dietary Guidelines (National Health and Medical Research Council 2013a; National Health and Medical Research Council 2013b). Indeed, Nestle (2013) considers the nutritional quality of many fortified foods so low, she has labelled fortified breakfast cereals as "sugars and a vitamin pill" (Nestle 2013, p308). Given the escalating crisis of obesity and chronic disease in many countries, it is possible that unchecked VF is creating, rather

than solving, public health problems (Scrinis 2016).

The impact of VFF with poor nutritional quality on public health, is also exacerbated by the attractiveness of such foods to many customers. Qualitative and quantitative research by FSANZ (Food Standards Australia New Zealand 2013; Ipsos-Eureka Social Research Institute 2010) has indicated that the majority (just over three quarters) of Australians and New Zealanders are aware of VF, and that this awareness is largely because of information on food labels. Nutrition and health claims on the front of VFF packages are the most important source of this information, with the NIP and the ingredient list also identified as important, but to a lesser degree. The quantitative survey also found that more than half of respondents purchased VFF because of the added vitamins and minerals and their perceived associated health benefits (Food Standards Australia New Zealand 2013). Foods most commonly purchased for this reason included dairy products, breakfast cereals, fruit juice and bread. However, findings from the qualitative survey indicated a disparity between what participants reported as their shopping habits and their actual purchases when on accompanied shopping trips (Ipsos-Eureka Social Research Institute 2010). So, it is possible customers do not always act on their attraction to, and beliefs regarding, VFF. Despite this, it was also apparent in the research, that VF creates confusion among the public regarding healthy eating, which is a further concern about fortification that public health nutritionists have expressed (Lawrence 2013).

In Australia, one of the difficulties of assessing potential or actual impact of VF on dietary intakes and public health, is the lack of a systematic program of nutrition and monitoring surveillance (Webb, Rutishauser et al. 2006). In 2003-04 when the Ministerial Council fortification policy was being developed, the most recent dietary intake data were from 1995 (Food Regulation Standing Committee 2003). Consequently, the policy could not be informed by up-to-date information on the food supply or the nutritional status of the population. Whilst another national nutrition survey was conducted in 2011-12 (Australian Bureau of Statistics 2014) this information was not available for several key VF policy and standard decisions. In addition, data on dietary supplement intake are more limited, with dietary surveys usually considering only basic information regarding whether supplements are used by participants, and not the resulting impact on nutrient intake (Australian Bureau of Statistics 1997; Australian Bureau of Statistics 2014).

Evaluation of food regulatory fortification policies and standards is also problematic. Whilst there is monitoring of the outcome of some MF permissions in Australia (Australian Health Ministers'

Advisory Council 2017a; Australian Institute of Health and Welfare 2016b; Food Standards Australia New Zealand 2016a; Food Standards Australia New Zealand 2016b; Food Standards Australia New Zealand 2016d), there is a considerable lack of monitoring of VF and its impact on dietary intakes and health. Some qualitative work has been done regarding public awareness, attitude and behaviour toward fortified foods, that includes both voluntary and mandatory food fortification (Food Standards Australia New Zealand 2013; Ipsos-Eureka Social Research Institute 2010). This work has also considered the labelling of VFF, and factors that influence purchasing decisions. However, information about the numbers, and nutrient profiles, of VFF available for purchase, as well as the actual consumption of VFF and any subsequent impact on nutrient intakes, is lacking.

Finally, another public health concern regarding VF, is the significant change in both the terminology and value of recommended dietary intakes (RDIs). RDIs were originally developed in 1954 as a population-based standard of nutrient intake that was sufficient to meet the needs of almost all healthy individuals according to age and gender (National Health and Medical Research Council 1991). However, since the turn of the century, these recommendations have undergone significant review both in Australia and internationally (National Health and Medical Research Council 2006). For example, the single RDI term and value, has been replaced with a suite of terms and values under the umbrella of Nutrient Reference Intakes (NRIs). This has created confusion and concern among nutritionists as to the appropriate use of each value (Nestle 2013; Thuraisingam, Riddell et al. 2009). With respect to regulatory matters this has significance for issues such as risk assessments and the information provided on food labels. Of additional importance for VF is the considerable increase in recommended intakes of some nutrients, which has made it difficult to achieve the suggested nutrient levels with the consumption of conventional foods alone. Thus, the NRIs have created a greater impetus and justification for food manufacturers to add nutrients to food products, and for food regulators to provide the relevant permissions (Nestle 2013; Thuraisingam, Riddell et al. 2009).

2.4 Models, theories and frameworks for understanding and explaining public policy

In order to examine and understand food regulatory policy, it is useful to consider the theoretical underpinnings of public policy. Such theory will also assist with the analysis of the case of VFP to be considered in this study. Therefore, this section concludes the literature review with a discussion of public policy theory. It opens with an outline of what policy is and an overview of

some of the models, theories and frameworks within which public policy is viewed. It then considers approaches to policy analysis and the concept of 'problematisation', before concluding the section with examining the scholarly work that has been done in the analysis of food regulatory policy.

2.4.1 Definitions

Most authors acknowledge there are a myriad of definitions of the term policy. At its most basic level, policy is perceived as a course of action (or inaction) proposed or adopted by an organisation or individual (Clavier and De Leeuw 2013; Gibson 2003; Maddison and Denniss 2013; Oxford Dictionaries 2010). Policy can also be considered a statement of values, beliefs and intentions toward achieving a desired outcome (Lawrence 2007). Althaus, Bridgeman et al (2018) add that policy implies authority, expertise and order.

Policy can be developed by government, non-government, private or other organisations, in order to deal with an issue, problem or matter of concern. While many authors use the terms policy and public policy interchangeably, policy becomes public policy, when it is designed by governments as a use of sovereign power that can utilise public resources and legal coercion in ways that private or non-government organisations cannot (Althaus, Bridgeman et al. 2018; Gibson 2003; Maddison and Denniss 2013). At a fundamental level, public policy is concerned with the power of the state in people's lives, and how that power is exercised (Maddison and Denniss 2013). As a result of this, public policy, and the process by which it is made, is inherently and unavoidably political and value laden, regardless of how much intellectual rigour is applied to its development (Gibson 2003; Maddison and Denniss 2013).

Parsons (1995) describes public policy as being concerned with how problems and issues become defined, constructed and put on the political and policy agenda. It is also the study of how and why, and to what effect, governments undertake specific courses of action and/or inaction, and what difference it makes. This means, when studying public policy, it is important to avoid a narrow focus and to draw on a variety of methods and disciplines.

Policy analysis on the other hand, is an approach to public policy that aims to integrate and put into context, models and research from a range of disciplines (Parsons 1995). In essence, policy analysis is an applied sub-field of public policy, whose content can only be ascertained by the circumstances of the time, and the nature of the problem. According to Lasswell (1951) the study of policy is multi-method, multi-disciplinary, problem focussed, and concerned with charting the

context of the policy process, options and outcomes. It also endeavours to integrate such knowledge into an overarching field that analyses public decision-making, thereby contributing to the democratic nature of society.

Parsons (1995) employs two broad approaches to policy analysis. These include analysis *of* the policy process, and analysis *in* and *for* the policy process. Analysis of the policy process examines how and why questions. For example, how policy problems are defined, how and why plans are set and decisions made, as well as how policy is formulated, implemented and evaluated. On the other hand, analysis in and for the policy process comprises of the use of analytical, research and advocacy techniques that are needed to develop a policy. These include defining the problem, making decisions, preparing, implementing and evaluating policies.

Within the political science literature there are a vast array of models, theories and frameworks, that have been developed in order to try and understand and explain the process of policy making (Maddison and Denniss 2013). Ostrom (2007) and Sabatier (2007) describe frameworks, theories and models as operating along a continuum of increasing levels of specificity and decreasing range of scope, with frameworks being the most general and broadest in scope, and models being the most specific but narrowest in scope.

Schlager (2007) defines frameworks as providing a foundation for inquiry by specifying the general relationships between specific classes of variables. Frameworks are also useful for focussing attention on important features of the social and physical landscape. However, while these features of frameworks help organise inquiry, they cannot explain or predict outcomes and behaviours, which are concepts within the realm of theories and models.

At the simplest level, theories can be defined as seeking to explain policy-making, while models seek to describe it (Maddison and Denniss 2013). Going deeper though, theories can be described as taking some of the variables identified as important in a framework and placing a value on them, hypothesising about any relationships among them, and making predictions regarding any likely outcomes (Ostrom 2007; Schlager 2007). Several theories may be compatible with the one framework.

Models test selected parts of theories by placing a limited number of variables in particular settings and investigating any outcomes produced (Ostrom 2007). Models can be used to test, revise and further develop theory, and several models may be compatible with any one theory.

The relationship between a framework, its theories and models therefore, is dynamic, and they work together in an interactive way to support the development and accrual of knowledge (Schlager 2007). Thus, models inform and contribute to theories. Theories are tested and revised through models but may also indicate the need to revise a framework. In turn, frameworks aid the comparison and review of related theories (Schlager 2007).

2.4.2 Models, theories and frameworks

Different authors use different names for the various political science frameworks, theories and models. There is also a tendency to use the terms frameworks, theories and models interchangeably. As a result, often the different names are used to refer to the same or a similar approach, although they might be explained in a slightly different way.

For example, Guldbrandsson and Fossum (2009) describe 'institutional approaches' to public policy as those that focus on following rules within the context of a policy-making institution, such as a political organisation. This seems similar to, and probably encompasses, what Sabatier (2007) describes as a family of frameworks called 'institutional rational choice', which focus on the way that institutional rules change the behaviour of rational individuals who are assumed to be motivated by material self-interest. However, Guldbrandsson and Fossum (2009) describe another approach they call 'rational choice' as focusing on individual choices as the foundation of action and inaction in public policy. This seems to incorporate the additional individual aspect of the institutional rational choice frameworks described by Sabatier (2007). Then there is what Colebatch (2009) and Althaus, Bridgeman, et al (2018) call 'authoritative choice', that emphasises policy-making as the process by which authorised decision-makers choose a course of action or inaction. Again, this seems to overlap in part with both the rational choice approach and institutional rational choice framework described by Guldbrandsson and Fossum (2009) and Sabatier (2007) respectively.

Because of such differences, public policy literature can be quite daunting and confusing for the uninitiated, or novice public policy researcher. However, Colebatch (2006) claims that it is not possible to understand or explain policy without an underlying theoretical conceptual framework. It is important therefore, at least initially, to work with the theoretical approaches that make sense to the novice, while still bearing in mind the strengths and weaknesses of the different frameworks, theories and models (Hill 2009).

Three frameworks that are useful for understanding public policy theories and models are the

normative, ideal-type, and explanatory frameworks (Star 2010b). According to Star (2010b) normative frameworks outline a set of conditions or arrangements that show how policy should be made, if what the theorists consider to be the best outcome is to be achieved. Examples include socio-economic or market models, and stages or policy cycle models, such as the seven stage process proposed by Lasswell (1971) and the Australian Policy Cycle developed by Althaus, Bridgeman, et al (2018).

Ideal-type frameworks set out the defining characteristics of a phenomenon. Thus, they may attempt to categorise the different approaches to policy, such as the social democratic versus liberal democratic political systems of Australia and the USA respectively. Theories and models that would fit under ideal-type frameworks would include bureaucratic or hierarchical models such as institutional rational choice approaches described by Sabatier (2007), and Colebatch's (2006) authoritative choice theory.

Finally, explanatory frameworks attempt to explain what is actually happening or what is being observed during the process of policy-making. Theories and models that would be included under this framework include Kingdon's (1984) multiple streams or 'garbage can' approach, Sabatier and Jenkins-Smith's (1993) advocacy coalition framework (ACF), as well as social construction theories.

The stages, or what Lasswell (1971) called 'policy process' models of public policy, dominated the political literature for the first few decades of policy science research and were adopted by a number of authors (DeLeon 1999). In an Australian context the most influential policy process model has been the Australian Policy Cycle (Althaus, Bridgeman et al. 2013) (Figure 2.3). Whilst this stages heuristic provides a good model to describe an ideal or normative policy framework, since the 1980s it has been criticised for the fact that it does not represent what actually happens in real life. As a result, a number of alternative models have been developed (Maddison and Denniss 2013; Sabatier 2007).

One such alternative, is the explanatory 'garbage can' approach proposed by Kingdon (1984), also called the multiple streams, policy streams or policy windows approach (Béland and Howlett 2016; Guldbrandsson and Fossum 2009; Sabatier 2007; Star 2010a). This theory sees policy-making as uncertain, complex and changeable, as well as chaotic, random and often irrational, also involving many actors and competing interests. Policy agenda setting is seen as the product of three independent 'streams'. These include:

i) the problem stream - where the likelihood of policy success depends on the way in which policy problems are defined, articulated, and brought to the attention of policy makers;
ii) the policy stream - in which there is no underlying logic as to why some policy proposals gain attention and others do not. Sometimes they will reflect intellectual fads, and other times the preferences and values of key stakeholders in the policy process; and
iii) the political stream - that includes factors which set the governmental agenda, such as election results, media reports, the mood of the public, and the influence of key interest groups (Béland and Howlett 2016; Kingdon 1984; Lawrence 2013; Star 2010a).

Kingdon's (1984) theory is that while these three streams operate more or less independently, when a window of opportunity or 'policy window' opens, the three streams can converge and major policy change can occur (Béland and Howlett 2016; Kingdon 1984).

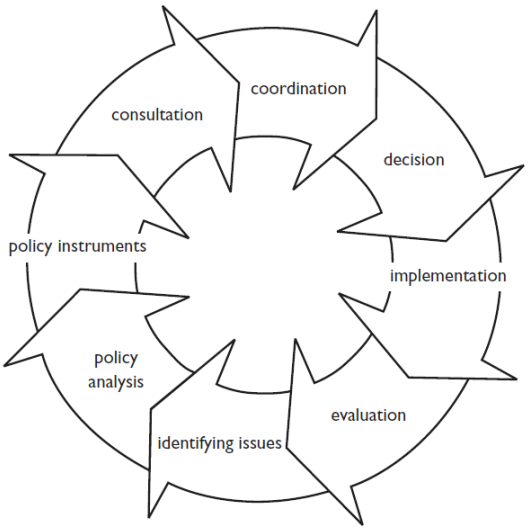

Figure 2.3: The Australian Policy Cycle
Sourced from: (Althaus, Bridgeman et al. 2013, p38)

Sabatier and Jenkins-Smith's (1993) ACF is another example of an alternative policy model that fits within the explanatory framework. The ACF focuses on the interaction of policy actors via the advocacy coalitions they form because of shared policy beliefs. Policy change occurs as a result of competition between advocacy coalitions within a particular policy subsystem, as well as events outside the policy subsystem (Sabatier 2007). The ACF theory is built on three core concepts:

i) a macro-level assumption that most policy-making is the work of specialists in a particular policy subsystem, but that broader political and socio-economic factors affect their behaviour;
ii) a micro-level view of individuals that is drawn from social psychology literature; and
iii) a meso-level belief that dealing with the large range of policy actors within a particular policy subsystem, is best done by grouping them into advocacy coalitions (Sabatier and Weible 2007b).

Contemporary policy literature such as this, acknowledges the fact that public policy emerges as a result of a mixture of political structures, institutions, organisations, stakeholders and circumstances. Thus, its complex nature is often condensed into several organisational groups or models (Star 2010b). The predominant ones include bureaucratic or hierarchical models, market based or socio-economic models, and community or network models. Each of these has developed out of response to perceived failures in the alternative models. For example, bureaucratic models were a response to market failure, while market based, or neoliberal public policies, grew in favour as a response to the perceived failure of bureaucratic models. Network and community models may also be seen as an alternative to market based and bureaucratic forms of public policy (Star 2010b).

While there are a considerable range of policy models available, and each has usually emerged as a result of criticisms and critiques of previous ideas, recent work has suggested that policy models can and should be mixed, rather than continually compete with each other for supremacy (Howlett, McConnell et al. 2016; Howlett, McConnell et al. 2017). Given they all have something to offer, and have endured despite their rivalries, Howlett, McConnell et al (2016; 2017) have proposed the use of what Parsons (2004) has described as 'weaving', to build on the strengths of each of the models and propose a new five thread / five stream model of policy-making. This model aims to refine, adapt and blend previous work, rather than force models together. Consequently, instead of using a cyclical or linear framework, this model links the policy stages, threads and streams in a similar manner to that of tributaries merging into a river at different points of the waterway's progress downstream (Figure 2.4).

Colebatch (2006; 2009) identifies what he calls three major theoretical frameworks or approaches to policy, that are relevant and useful. Given the earlier definitions of frameworks, theories and models though, it seems that what Colebatch calls frameworks, are more in the realm of theories and models, than frameworks. However, the accounts of policy that Colebatch (2006; 2009) uses

are policy as authoritative choice, structured interaction, and social construction.

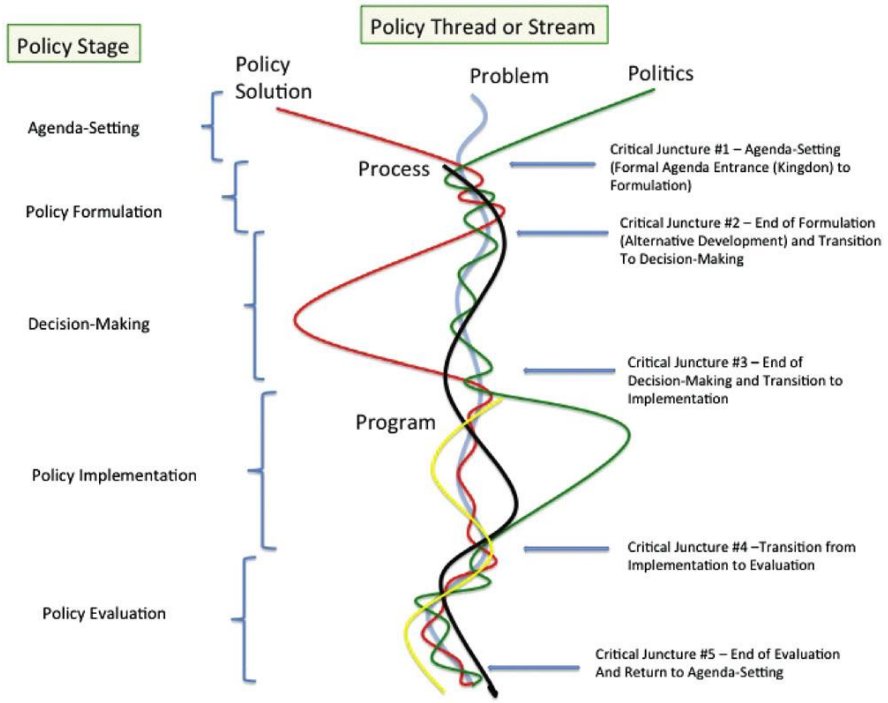

Figure 2.4: Five-stream or thread framework of the policy process

Sourced from: (Howlett, McConnell et al. 2017, p73)

The authoritative choice paradigm views policy as something that is created by authorised decision-makers. The process of making a policy is focussed on the decision-making, with authorised leaders such as government ministers making a decision, probably using the advice of senior officials who work for them, and then relying on subordinate public servants to implement the policy. This ideal-type, bureaucratic view of the policy process is very vertical in dimension, but the problem is it does not consider the role of participants from outside the hierarchical authority. Thus, while it can be a useful account of policy-making, it may not be a completely accurate one (Colebatch 2009).

In order to address this issue, the structured interaction account of policy-making considers the various relationships and linkages between different policy participants. While the authoritative choice view focuses on policy participants within the authorised organisation, usually the government, a structured interaction view recognises there will usually be a considerable amount

of negotiation between government departments, and with other non-government participants, before any potential policy is presented to Cabinet for decision (Colebatch 2009). Rather than viewing government as an actor in the policy-making process, it views government as an arena within which a variety of actors interact with each other (Colebatch 2006). This interaction is viewed as a very ordered activity, and non-government participants are almost invariably involved as a result of an official position, acting on behalf of an organisation that is recognised as having a rightful place at the policy table. In this way, while still a very institutionalised and bureaucratic view of policy-making, the structured interaction paradigm adds a horizontal dimension to the policy process (Colebatch 2006).

Both the authoritative choice and structured interaction views of the policy process assume that known objectives or pre-existing problems are being pursued (whether agreed to by all participants or not). The social construction theory is more explanatory though, and suggests that policy issues are not naturally occurring, but rather socially constructed by participants in the policy process. Thus, policy-making is an exercise in the construction of meaning and policy problems within a particular socially based context (Colebatch 2006; Colebatch 2009). Colebatch (2009) underpins this social construction view of the policy process in the Foucauldian concept of 'problematisation'; that is, interpreting policy problems in a way that makes it appropriate to deal with them in specific ways. So, while many policy workers would view policy formation as an exercise in problem solving, it can also be viewed as an exercise in problem finding. Within this explanatory framework then, it becomes necessary to ask questions such as: why is this issue a problem and not another? Why is this a problem now but not before? Why is this a problem in this context, but not another? (Colebatch 2009).

This social construction theory of the policy process is particularly relevant to the food regulation policy setting. There are many instances of food regulation policy 'problems' that are currently considered policy problems but were not considered problems a few decades ago. For example, the use of health claims on food labels, the addition of substances such as medicinal herbs and phytonutrients to foods and drinks, labelling the front of food packages with 'easy to understand' nutrition labelling, and 'country of origin' ingredient labelling. Also, when Australia is currently facing the significant ramifications of an obesity epidemic for the public health system, public health nutritionists are asking why legislative strategies for addressing this problem are not considered important for the food regulatory system, but reducing the regulatory burden on a food industry that produces significant quantities of non-nutritious, high calorie foods and drinks is

considered very important (Food Standards Australia New Zealand 2009-10; Lawrence 2009a; Stanton and Pollard 2014; Vogel 2010).

However Colebatch (2009) stresses that these three theories of the policy process are not mutually exclusive, and that effective policy development may call for the use of all three approaches. Again, this seems relevant for the food regulation policy setting, where the ANZMFFR and its subsidiary bodies fit well into the authoritative choice paradigm, consultation with non-government stakeholders during the policy process is evidence of the structured interaction paradigm, and the social construction paradigm is demonstrated in the way food regulatory policy problems can be represented differently by different stakeholders, as shown by Begley and Coveney (2010). Thus, as Colebatch (2009) suggests, the different theories recognise different dimensions of policy practice; the authoritative choice being the vertical, the structured interaction the horizontal, and the social construction the scene setting dimension. Further, all three may be useful in the process of policy analysis.

2.4.3 Policy analysis

The concept of problematisation used by Colebatch (2009) is grounded in the work of Foucault (1978), who focussed on the different forms of government rule, coining the term 'governmentality' (or govern-mentalities - the mentalities of government) to describe them (Bacchi 2009; Foucault 1978). Foucault (1978) uses the term problematisation in two ways: firstly to question assumptions that are taken for granted in different forms of rule; and secondly as a way of understanding the thinking behind particular forms of rule or so-called 'discourse' (Bacchi 2009; Foucault 1984). Both Colebatch (2009) and Bacchi (2009; 2016; 1999) have applied the work of Foucault (1978) and the concepts of governmentality and problematisation to the theory of the policy process, as well as to the practice of policy analysis (Coveney 2010).

Bacchi's (2009; 1999) "What's the problem represented to be?" (WPR) method of policy analysis is based on three propositions relating to Foucault's (1978) concept of problematisation. These include:

i) governing occurs through problematisations;
ii) rather than studying policy 'problems', we need to examine problematisations, by investigating the representations of the problem they incorporate;

iii) it is necessary to problematise, or interrogate, the problematisations proffered by analysing the underlying premises, and the effects of, the problem representations they encompass.

Bacchi (2009; 1999) also draws on Colebatch's (2006; 2009) social construction view of the policy process, suggesting that governments are active in the creation of policy 'problems', rather than passively reacting to problems that previously existed.

According to Bacchi (2009; 1999), problem representations are elaborated in discourse. Discourses are forms of knowledge that are socially produced, and that set limits on what it is possible to think, write or speak about a particular object or practice. Naming something a discourse, means questioning its truth status, and Bacchi (2009; 1999) uses discourse analysis as a key aspect of her WPR approach to policy analysis. The WPR approach is a critical, rather than descriptive, form of policy analysis and is an attempt to understand how governing takes place, and with what implications for those who are so governed (Bacchi 2009).

Given these underlying concepts, the WPR approach seems particularly relevant to the aims of this research, which are to understand how the policy 'problem' is represented in food regulation policy decision-making processes, and with what implications for public health nutrition participation in, and engagement with, future policy development. Thus, the WPR approach to policy analysis will be a key tool for this research and will be discussed further in the next chapter on methodology.

2.5 Summary and Implications

This chapter has considered the literature regarding the food regulatory system, its objectives, policies and stakeholders. It also examined the factors that influence the development of food regulatory policy, including the international context within which policies sit. The chapter then outlined the importance of public health nutrition and the role of the food regulatory system in addressing diet-related chronic disease. The significance of public health nutrition for food regulation was demonstrated with a few examples, before the challenges of public health nutrition involvement in the food regulatory system were detailed.

The third section of the literature review discussed the food regulatory policy of interest for this research; voluntary food fortification. The differences between voluntary and mandatory food fortification were considered as well as the various regulatory approaches to VF in Australia and

internationally. The concerns of public health nutritionists with VF, particularly regarding its impact on health and diet-related chronic disease, were then outlined.

The chapter concluded with a discussion of the literature on public policy and some of the models, theories and frameworks that have been developed in an attempt to describe and understand the policy development process. Policy analysis was briefly considered with particular emphasis on Bacchi's (2009; 1999) "what's the problem represented to be?" approach which will be used in this research.

In considering the literature relevant to the field of food regulation, this chapter demonstrates the fundamental importance of public health nutrition to the area, and especially to the policy and standard decision-making processes. The valuable role that public health nutrition can play in this food policy setting is not matched by other stakeholders. Yet, many public health professionals do not fully understand the food regulatory policy process and are hampered by a range of challenges that limit their capacity to have their voice heard in policy debates. Thus, it remains difficult to shape policy outcomes that promote and protect the health and nutrition of the Australian population.

Given the importance of public health nutrition in food regulatory decision-making processes, the fact remains that there is very little research in this area. Consequently, there is a gap in the public health nutrition knowledge and understanding of food regulatory decision-making processes, and the best means of effectively engaging, and playing an influential role, in policy development. The research reported in this thesis will investigate that gap.

Thus, this research aims to understand how the policy 'problem' is represented in food regulation policy decision-making processes, and the implications of this for public health nutrition participation in, and engagement with, policy development.

Specifically, it will examine how stakeholders represent the policy 'problem' in food regulatory decision-making processes, determine how stakeholder views are reflected in food regulatory policy, explore how contextual factors impact on food regulatory processes and decisions, and identify opportunities to advance public health nutrition priorities in food regulatory processes and policies.

It will do this using VFP as a case study and Bacchi's (2009; 1999) WPR method of policy analysis. These and other aspects of the research methodology will be outlined in the next chapter.

CHAPTER 3: METHODOLOGY

This chapter outlines the methodology and methods used for this research. It opens with a description of the reasons for the choice of qualitative research methods in section 3.1, and then outlines the theoretical framework used to support the data (Section 3.2). It discusses the choice of a discourse analysis methodology and details the Bacchi WPR process of policy analysis (Section 3.3). Section 3.4 provides an overview of the research design. The use of a case study method is then considered in section 3.5 along with the justification of the case study of VF chosen for this research. The remaining sections (3.6, 3.7, 3.8) describe the processes of data sampling, data collection and data analysis. The chapter concludes with a consideration of relevant ethical issues in section 3.9.

3.1 Choice of research methods

The aim and objectives of this research were best addressed using qualitative research methods. Quantitative and qualitative methods have different strengths, and for public health research, describing the meaning of disease as well as understanding how public health strategies can assist, is best determined using qualitative methods (Baum 2016). The NHMRC (1996) have defined several applications of qualitative research for public health. Of these, the in-depth study was considered the application of relevance for this study. This was particularly because of its consequent explanation of the economic, political, social and cultural factors that influence health and disease (Baum 2016).

Maxwell (2013) espouses the benefits of qualitative research and describes five intellectual goals for which it is particularly suited. These include: understanding the meaning of events, situations, experiences and actions; understanding the context within which people act, and the influence this context has on their actions; identifying unanticipated phenomena and influences; understanding the process by which events and actions take place; and developing causal explanations, particularly of the process that connects ‘x’ and ‘y’. Maxwell (2013) also claims these intellectual goals assist in the achievement of three practical goals, including: generating understandable and experientially credible results and theories; conducting formative evaluations that help improve existing practice; and engaging in collaborative or action research with practitioners or research participants.

Several of these intellectual and practical goals were identified as relevant to the aim of this study.

In particular, this research sought to examine the way in which the policy 'problem' was represented in VFP, as a means of understanding the process by which food regulatory policy decisions are made, and to improve the existing practice of public health nutrition participation in that process. To achieve this aim, it was necessary to understand the context within which policy decisions are made and how that context influences decisions, and appreciate the meaning of events, situations, experiences and actions of people involved in (and excluded from) the policy development process.

3.2 Theoretical framework

The use of a theoretical framework in qualitative research is important for two reasons (Maxwell 2013). Firstly, it provides a place to 'hang' data in order to show their relationship to other data. Secondly, it is important for illuminating data; drawing attention to particular phenomena, and shedding light on relationships between data that might otherwise go unnoticed or be misunderstood. However, Maxwell (2013) reminds the researcher that no one theory will accommodate all data, or illuminate everything. One theory will organise and illuminate some data, but leave other data disorganised and in darkness.

Maxwell (2013) also warns that qualitative researchers often fail to make appropriate use of good existing theory. They do this by relying on it too much and using it uncritically, or they may not use it enough. Both underuse and overuse of existing theory can cause serious problems with qualitative research. Use of some theory is needed to guide research design decisions. On the other hand, imposing theory on a study can put research questions, methods and data into preconceived and conceptualised codified entities, and prevent the observation of events and relationships that do not fit that theory (Maxwell 2013). This becomes an ethical problem, and in order to deal with it, researchers need to continually test explanations being used, looking for data that do not 'fit', and for alternative ways of making sense of the data (which can include using the way research participants make sense of the data).

Before determining an appropriate theoretical framework for qualitative research however, it is important to choose a suitable epistemology. According to Crotty (1998), many qualitative researchers draw on a constructionist epistemology. Crotty (1998) describes constructionism as the view that all meaning is constructed by humans as they interact with the world and interpret it. 'Social' constructionism extends that view by suggesting that all meaning is socially constructed; that is, our historical and cultural roots enable us to place meaning on some things, but at the

same time ignore others (Crotty 1998). Bacchi (2009) agrees that social constructionism emphasises the extent to which our understanding of the world is produced by social forces, as opposed to individuals making their own meanings, independent of other social, cultural, and historical influences.

When applied to public policy, a social constructionist epistemology views governments and stakeholders as active in the creation of policy 'problems' rather than reacting to problems that existed previously (Bacchi 2009; Colebatch 2006). This view fits well with a food regulation policy setting. For example, a social constructionist epistemology would suggest that policy 'problems' such as VF and health claims, only became 'problems' when stakeholders viewed the addition of vitamins and minerals to foods and drinks, in conjunction with the use of nutrition and health claims, as an opportunity for increased sales, profit, marketing and trade. This led to an increase in the number of applications to FSANZ to voluntarily fortify a range of foods and drinks, additional pressure on the Ministerial Council to allow nutrition and health claims, and the eventual decision by government that VF and health claims were 'problems' that required policies to solve them.

Within the social constructionist epistemology, the theoretical framework drawn on for this research was a contemporary form of critical inquiry that critically examines social and cultural relationships (Crotty 1998). Researchers using this type of critical inquiry generally participate in the interrogation of commonly held values, beliefs and assumptions, the challenging of conventional social structures, and engaging in social action, usually in the cause of social justice (Crotty 1998). Some aspects of this form of inquiry, particularly the interrogation of commonly held values, beliefs and assumptions, and the challenging of conventional social structures, were viewed as well matched to the aim and objectives of this study. Thus, in seeking to understand how the policy 'problem' was represented, challenging the contextual factors promoting and supporting that representation, as well as interrogating any underlying values, beliefs and assumptions, this study aimed to reveal participation strategies for public health nutrition engagement in future food regulation policy processes.

The limited literature, research and scholarly work in food regulation policy analysis meant there were a range of frameworks that could have been used for this study. However, for the reasons described above, this research used a social constructionist epistemology and borrowed from a contemporary critical inquiry theoretical framework.

Within this context, the methodology chosen for this study was discourse analysis, using Bacchi's

(2009; 1999) WPR approach to policy analysis. A case study method was also chosen in order to examine an Australian food regulation policy. A diagrammatic illustration of this framework is presented in Figure 3.1.

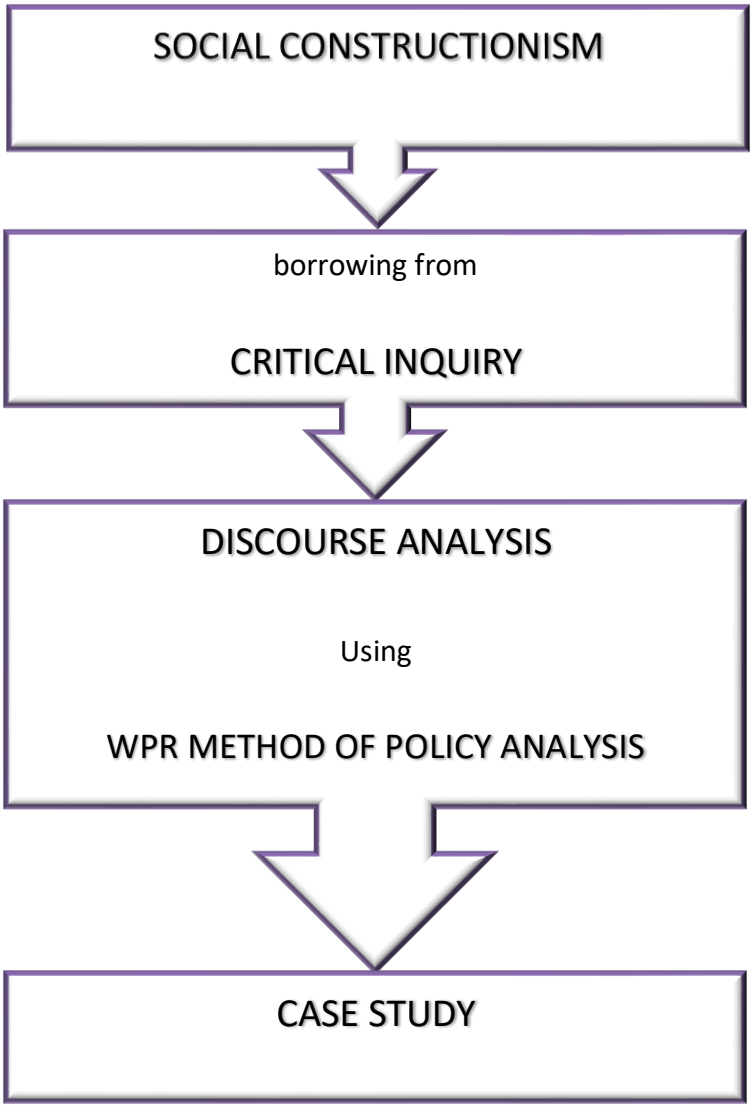

Figure 3.1: Diagrammatic representation of theoretical framework for research

3.3 Discourse analysis

Bacchi (2009) describes discourses as meaning systems or 'knowledges' that are socially produced, commonly accepted as truth, and that limit the way it is possible to think, write or speak about a particular issue. Liamputtong (2010) agrees social reality is created and made real through

discourse, and that social interactions and objects cannot be fully understood unless reference is made to the discourses that give them meaning. Discourse is more than language or language usage, as it encompasses the assumptions, values, beliefs and presuppositions that underpin a meaning system or knowledge. Labelling something a discourse, means questioning its truth status (Bacchi 2009).

Discourse analysis then, attempts to identify, interrogate and reflect upon the underlying assumptions and preconceptions, as well as silences in a particular discourse (Bacchi 2009). It is also an attempt to recognise patterns, rules or procedures that are taken for granted and the way in which such structures or conventions influence meaning and effect (Liamputtong 2010). The method allows examination of the way people construct meaning and it reveals the ways in which social realities are produced (Liamputtong 2010).

Liamputtong (2010) claims there are many ways of doing discourse analysis and a range of applications for theoretical perspectives. A good example of the use of discourse analysis for the study of public policy, is that presented by Bacchi (2009) who draws heavily on the use of discourses in her WPR approach to policy analysis. She does this in order to reveal underlying assumptions and preconceptions in the way policy problems are represented, and to identify and reflect upon the consequences of any silences in these representations.

3.3.1 "What's the problem represented to be?" approach to policy analysis

Traditional views of public policy see governments as solving problems that are outside the policy process. Colebatch (2006) disputes this view, stating that the policy process is not a collective attempt to accomplish some known goal, but rather an intersection of the diverse agendas of a range of policy players, each with distinct concerns and ideas. He claims mainstream policy literature focuses on how policy actors address problems or 'known goals' and places much less emphasis on how something became a policy 'problem' in the first place. Bacchi (2009; 2016) agrees that the policy problem is a social construction and is very much a part of the policy process, not something that previously existed and was waiting to be solved. Therefore, to analyse policy, a problem questioning rather than problem solving approach needs to be adopted. This view was considered particularly relevant for the food regulation setting where there are extremely divergent views, highly vested commercial interests, and considerable political battles involved in the development of policy.

Bacchi (2009; 1999) has proposed a method of policy analysis that adopts such a problem

questioning rather than problem solving focus. This WPR approach draws attention to the assumptions and presuppositions underlying the policy 'problem'. A series of six interrelated questions are used to examine the way the policy 'problem' is represented and the assumptions behind, and consequences of, that problem representation (Figure 3.2). Bacchi (2009) suggests that these questions add a new dimension to the social construction view of policy. Specifically, at the end of the six questions, the researcher is directed to also apply the questions to their own problem representations. This exercise in self-analysis or reflexivity is designed to ensure the researcher is aware of the views, assumptions and biases they bring to the policy analysis.

What's the Problem Represented to be?: An Approach to Policy Analysis

(Bacchi 2009; Bacchi 1999)

1. What's the 'problem' represented to be in a specific policy?
2. What presuppositions or assumptions underlie this representation of the 'problem'?
3. How has this representation of the 'problem' come about?
4. What is left unproblematic in this problem representation? Where are the silences? Can the problem be thought about differently?
5. What effects are produced by this representation of the problem?
6. How/where has this representation of the 'problem' been produced, disseminated and defended? How could it be questioned, disrupted and replaced?

Apply this list of questions to your own problem representations.

Figure 3.2: Six questions for examining a policy 'problem' adapted from Bacchi (2009; 1999)

Several authors have used Bacchi's (2009; 1999) WPR approach to analyse a variety of public health policy problems. Bastian (2011a) used it to conduct a critical analysis of Australia's public health nutrition strategies *Eat Well Australia* and the *National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan*, in order to better understand how public health nutrition has been represented during the decade the strategies relate to, i.e. 2000-2010. She also used it to examine the issue of childhood obesity and how it was represented in the Australian newsprint media and academic literature (Bastian 2011b).

A food regulatory policy was investigated by Begley and Coveney (2010) who used Bacchi's (1999) WPR approach to examine representations of the 'problem' of mandatory folate fortification for the prevention of neural tube defects in Australia and New Zealand. They studied problem representations in both newspapers and health and medical journals that were published over a 12-year period, during which the folate policy was being considered, and then finally agreed to by the ANZFRMC in 2007. They considered ways in which the policy problem could have been repositioned or reframed, and the effect that would have had on the final policy decision.

Jenkin, Signal et al (2011; 2012) and Lawless, Coveney et al (2014) also used the WPR approach to research public health issues. Jenkin, Signal et al (2011; 2012) considered the 'problem' of obesity and how it was framed by both the food industry and public health practitioners in New Zealand, and then examined whether these representations were reflected in New Zealand food and nutrition policy. Lawless, Coveney et al (2014) studied the discourses used in infant mental health promotion and how they were applied in this field of practice to advance, or not advance, broader health promotion objectives.

More recently, Salas, Forhan et al (2017) used a WPR analysis to examine obesity prevention policies and strategies in Canada. Fifteen (15) national, territorial and provincial policies and strategies were examined to identify the dominant narratives. Findings indicated that while the policies and strategies discussed the 'problem' of obesity with respect to social determinants of health, recommended strategies were commonly reduced to interventions that focussed on promoting healthy eating and physical activity at the individual behaviour level. This was consistent with the 'downstream drift' that Baum and Fisher (2014) discuss as being common in many public health policies. This means that while background papers or policy introductions might identify health status as being a consequence of 'upstream' social and economic circumstances, strategies for implementation are usually 'downstream' or individually based.

These examples of work using Bacchi's (2009; 1999) WPR approach to policy analysis, indicate that a problem questioning rather than a problem solving approach to policy analysis has been well tested in the public health arena. The examples also show that researchers do not always use all of the Bacchi (2009; 1999) questions in order to interrogate the issue of interest, and there appears to be great value in either approach. However, overall the WPR approach has been found to be a useful technique that was considered appropriate to apply to this research investigating a food regulatory case study of VFP.

3.4 Overview of research design

The aim of this research was to understand how the policy 'problem' is represented in food regulation policy decision-making processes, and the implications of this for public health nutrition participation in, and engagement with, future policy development. The fluid nature of food regulatory policy in Australia meant a time parameter for the research was required, and for reasons described previously, the period between 1 July 2002 and 30 June 2012 was selected.

In order to answer the research question, a case study of VFP developed by the ANZFRMC was chosen, and two sets of data were collected. The reasons for the selection of a case study method, and the choice of this particular case, are outlined in Section 3.5. However, this section outlines the research design, as well as its relation to the research objectives (Table 3.1).

Two sets of data were identified as relevant to the development of VFP in Australia between 2002 and 2012. These were a set of key documents used in the development of VFP in that time period, and a series of semi-structured, in-depth telephone interviews. The interviews were conducted with key informants who had knowledge and experience in the development of VFP.

Key documents identified as important to the development of VFP in Australia included:

1. any public consultation paper/s on VF,
2. stakeholder submission/s offered in response to such consultation document/s,
3. summaries of stakeholder submissions, and
4. VFP developed or revised by the Ministerial Council.

Where possible these documents were obtained from publicly available sources such as the FRS Secretariat website. However, some were not so accessible and required a Freedom of Information (FOI) request to the Commonwealth Government.

The key documents were read repeatedly, and analysed using Bacchi's (2009; 1999) WPR method of policy analysis. The WPR approach was used to assist in determining how the policy 'problem' was represented in the documents, what values, beliefs and assumptions underlay that representation, and the contextual factors that supported them. The analysis then considered how the problem could have been thought about differently, and the consequences of the way in which the problem was represented.

Table 3.1: Overview of research design

Research Aim: To understand how the policy 'problem' is represented in food regulation policy decision-making processes, and with what implications for public health nutrition participation in, and engagement with, future policy development.			
Research Objective	**Method**	**Data Collection**	**Analysis**
To examine how the policy 'problem' is represented in food regulatory decision-making processes.	Case study of voluntary food fortification policy (VFP) between 2002 and 2012	2003 Food Regulation Standing Committee (FRSC) Stakeholder Consultation Paper on Fortification 2004 and 2009 revised Australia and New Zealand Food Regulation Ministerial Council (ANZFRMC) Policy Guideline on Fortification of Foods with Vitamins and Minerals	Determination of what the 'problem' of voluntary food fortification (VF) is represented to be in these policy documents
To determine how stakeholder views are reflected in the resultant food regulatory policy.	Key documents used in the development of VFP	Key document data set: As above, plus Freedom of Information (FOI) request for stakeholder submissions to consultation paper 2004 FRSC Summary Analysis of Submissions	Determination of key themes and 'problem' representations in the stakeholder submissions Application of "what's the problem represented to be?" (WPR) discourse analysis of all key documents
To explore how contextual factors impact on food regulatory processes and decisions.	As above, plus Semi-structured, in-depth, open-ended interviews with key informants	As above, plus Key informant interview data set: Semi-structured, in-depth interviews with purposeful sample of key informants with expertise in VFP, including government policy workers, food industry experts, public health nutritionists and citizen representatives	Determination of key themes and 'problem' representations in the key informant interview data WPR discourse analysis of all in-depth interview transcripts
To identify opportunities to advance public health nutrition priorities in food regulatory processes and policies.	As above	As above	Comparison of results from analysis of key documents with analysis of key informant interviews Interpretation of results from all analyses and comparison with literature

The results from the key document data analysis were then used to inform a series of present day semi-structured, in-depth, telephone interviews with key informants. Key informants included persons with in-depth knowledge and expertise in the development and implementation of VFP. This might incorporate government policy workers, public health nutritionists, citizens, academics, environmental health officers and food industry workers. Despite the time delay between when the key documents were developed (2002 to 2012) and the interviews conducted (2016 to 2017), if at all possible it was important to include key informants who were involved in, as well as those who may have been excluded from, the development of any VFP and/or its review.

3.5 Method

3.5.1 Case study research

Case study research is commonly used in the social science disciplines such as psychology, sociology, political science and anthropology, but it is also used to do research in different professional fields , including public administration, public health and education (Yin 2014). According to Yin (2014), the more a research question seeks to explain some circumstance, the more relevant a case study research method will be. A case study method is also particularly relevant where an extensive and in-depth description of a social phenomenon is required, as was wanted in this research, in order to understand the food regulation policy development process.

Yin (2014) outlines three conditions important for determining when a case study is the most appropriate research method. These include when the research question poses explanatory questions such as ‘how’ and/or ‘why’; the investigator has no control over, or access to, actual behavioural events; and contemporary events are being examined, rather than entirely historical.

A particular strength of the case study is its ability to deal with a variety of sources of evidence, including documents, artefacts, interviews, surveys and observations (Baum 2016; Yin 2014). Case studies can also be more influential with policy-makers and politicians, as these groups may relate to the experience and story of a case better than a set of statistics (Baum 2016; Liamputtong 2010).

However, case studies are not without their drawbacks (Hammersley 2004). The greatest concern is usually over the potential for lack of rigour, followed by not reporting all evidence in a fair manner and creating bias in the results (Yin 2014). Further concerns have been expressed regarding limitations in the usability of case study results for generalisation to populations, the

inability to establish causal relationships, as well as the length of time required to complete a study, and the temptation to report on excessive amounts of data (Baum 1998; Yin 2009; Yin 2014). Most of these issues can be overcome though, with a well-designed, systematic study that relies on multiple sources of evidence converged in a triangulating fashion, and that uses appropriate theoretical propositions to guide data collection and analysis. While statistical generalisation and establishing causal relationships cannot be addressed using a case study, analytical generalisation (expanding and generalising theoretical propositions) can be achieved (Yin 2009; Yin 2014).

There are several types of case study design available to the qualitative researcher, depending on the purpose of the study (Patton 2002; Yin 2014). Broadly speaking, designs fall into four categories: single case, multiple case, holistic, and embedded. Single and multiple cases are relatively self-explanatory, however a holistic design is used when the overall nature of the case is examined, whereas an embedded design occurs when more than one unit of analysis is considered within a case. Thus, a single case may be either holistic or embedded, and the same applies for multiple cases (Yin 2014).

While the use of a single case study can be risky, its use can be justified in several circumstances (Yin 2009; Yin 2014). One rationale is when it represents a *critical* case for testing a well-formed theory. Another is where it represents an *extreme* or *unusual* case such as when the situation being studied is very rare or unique. Alternatively, a *representative* or *common* case might be chosen to capture the circumstances and conditions of a more characteristic situation. A *revelatory* case would be used where the investigator has the opportunity to observe and analyse a phenomenon previously inaccessible to social science enquiry, while a *longitudinal* case would be observed at two or more different points in time in order to ascertain how conditions change over time (Yin 2009; Yin 2014).

Whilst there may be other rationales for the use of a single case study design, Yin (2009) emphasises that the most important point is to provide a solid justification for the choice of case. Patton (2002) concurs that the case or cases chosen must be most suited to the purpose of the study, as well as provide the opportunity for information-rich, in-depth study.

For this study, the chosen case of VF represented a single, holistic case that was both longitudinal and critical. It was longitudinal in that its development was observed over the period of a decade, and critical in that it used the WPR approach to policy analysis in a food regulation setting. It also

provided a considerable amount of rich and thick data for the in-depth study of the food regulation policy development process in Australia.

3.5.2 Food regulation policy as a case study

As indicated earlier, the food regulation policy area of interest for this research was the voluntary fortification of foods and drinks with vitamins and minerals in Australia between 2002 and 2012. VFP was chosen because it provided considerable rich information for in-depth study, as suggested necessary for a single case study design by Patton (2002). The policy was also developed over a number of years, was quite controversial, has been the subject of limited research to date, and remains one of several food regulation policies that have particular relevance to public health nutrition and the prevention of diet-related chronic disease. There were also international parallels with Codex concurrently reviewing its long-standing policy on VF during the period of interest to this research.

For the purposes of this study, VFP also met all three of the conditions described above and outlined by Yin (2014) as important for determining when a case study is the most appropriate research method. Firstly, this research aimed to understand how the 'problem' was represented in food regulation policy decisions, secondly the investigators had no control over the policy process, and finally the development of the policy under examination was a modern, rather than purely historical event.

The use of a single, holistic case was considered justified because of the limited attention previously given to VF by government, public health nutritionists or academics. Considerably more focus has been devoted to MF because of issues such as the cost imposed on manufacturers, the removal of 'consumer choice' to eat non-fortified product, the exposure of the entire population to increased levels of a particular nutrient, and the increased accountability for Food Regulatory Ministers to approve such a requirement without the backing of Parliamentary Debate. MF has also received more attention in research and scholarly work because of the need for scientific evidence to substantiate such a requirement, as well as monitor its effectiveness.

While other food regulation policy areas relevant to public health nutrition, such as the *Policy Guideline on Nutrition, Health and Related Claims* (Australia and New Zealand Food Regulation Ministerial Council 2003a) or the *Policy Guideline on the Addition to Food of Substances other than Vitamins and Minerals* (Australia and New Zealand Food Regulation Ministerial Council 2008a), would have been extremely valuable and interesting to critically analyse, it was considered that

the richness and volume of data that would emanate from each policy made it possible to examine only one.

3.6 Sampling

As outlined in the overview of the research design (Section 3.4), two sets of qualitative data were collected for this study; key documents used in the development of VFP within the study time period, and semi-structured, in-depth telephone interviews with key informants who had expertise in VFP. Sampling required for this data is outlined below.

3.6.1 Key document data

For reasons described above, VFP developed in Australia between 2002 and 2012 was chosen as a case study for this research. Within this timeframe of interest, one VFP was developed and then subsequently amended a few years later. Accordingly, the ANZFRMC *Policy Guideline: Fortification of Food with Vitamins and Minerals* (PG) was endorsed by Ministers in May 2004 (Australia and New Zealand Food Regulation Ministerial Council 2004), and the revised version of the policy was endorsed in 2009 (Australia and New Zealand Food Regulation Ministerial Council 2009b).

Information provided on the FRS website (Food Regulation Secretariat 2008), indicated that one public consultation paper was used in the development of the 2004 VFP. Thus, the *Fortification of the Food Supply with Vitamins and Minerals: Consultation Paper on Draft Policy Guidelines* (CP) was publicly released by FRSC on 1 December 2003, and submissions from interested stakeholders were due by 5 February 2004 (Food Regulation Standing Committee 2003). Submissions provided were subsequently summarised in the document titled, *Fortification of the Food Supply with Vitamins and Minerals: Summary Analysis of Submissions* (SAS) (Food Regulation Standing Committee 2004) which was publicly released by FRSC sometime after the Ministers' endorsement of the VF policy in May 2004.

The FRSC SAS document indicated there were about 57 to 60 stakeholders that provided a response to the consultation paper (Food Regulation Standing Committee 2004). Whilst the researcher sought to include in the study as many of these submissions as were able to be accessed, given the consultation paper included discussion and questions on mandatory as well as VF, it was reasonable to expect that some submissions would only address issues relevant to MF and not consider VF. Therefore, the inclusion of stakeholder submissions in the key document analysis was subject to the following criteria:

i) submission must address VF; and
ii) submission may address both mandatory and VF but must have content that contributes to the debate on VFP.

The chronological order of the documents used in the development of VFP, and the relationship between each component of the key document data set is illustrated in Figure 3.3.

3.6.2 Key informant interviews

The analysis of the data from the key document data set informed the semi-structured, in-depth, telephone interviews with key informants. Key informants were defined as persons with in-depth knowledge and expertise in the development and implementation of VFP in Australia/New Zealand. Experience with the development and/or review of VFP between 2002 and 2012, was highly desirable. Representation from any stakeholder groups identified in the key document analysis was also important.

Criteria for determining apposite key informants were adapted from Lawrence (2002) and included persons who had been, or were currently involved in:

i) VFP development and/or review between 2002 and 2012;
ii) other public health related food regulation policy in Australia/New Zealand; and/or
iii) relevant work or circumstances that could provide insights into particular aspects of the case, e.g. concurrent Codex VFP development.

A purposeful sample of approximately 10 to 15 participants was sought for interview. Suitable candidates were sourced from the key documents used in this study, as well as publicly available information from relevant government organisations, committees and working groups, non-government organisations and institutions, professional associations and industry groups. Further participants were recruited via 'snowball' sampling from interviewees.

The relationship between the key document and key informant interview data is illustrated in Figure 3.4.

3.7 Data collection

The method of data collection necessarily varies with the type of data required to answer the research question. In addition, some data are more easily accessible than others. The following outlines the process used for obtaining the two sets of data needed for this study.

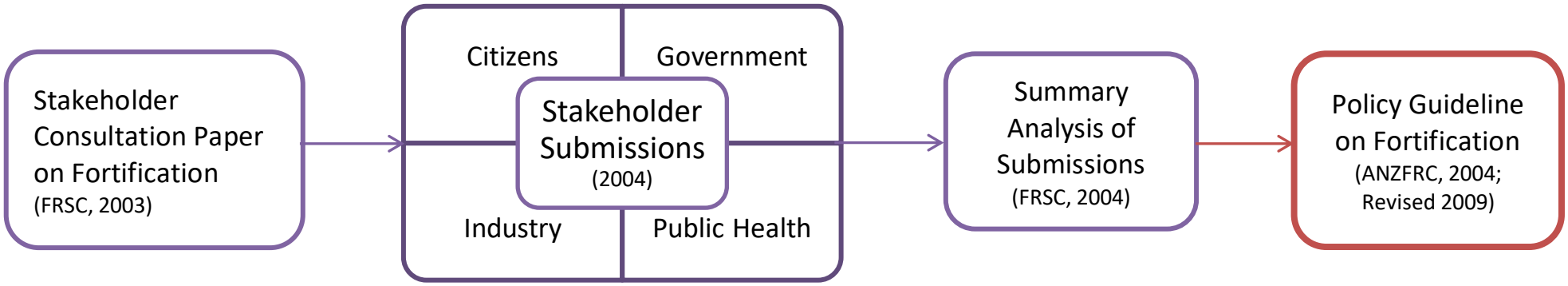

Figure 3.3: Diagram of the relationship between documents used in the development of ANZFRMC VFP that formed the key document data set for this study

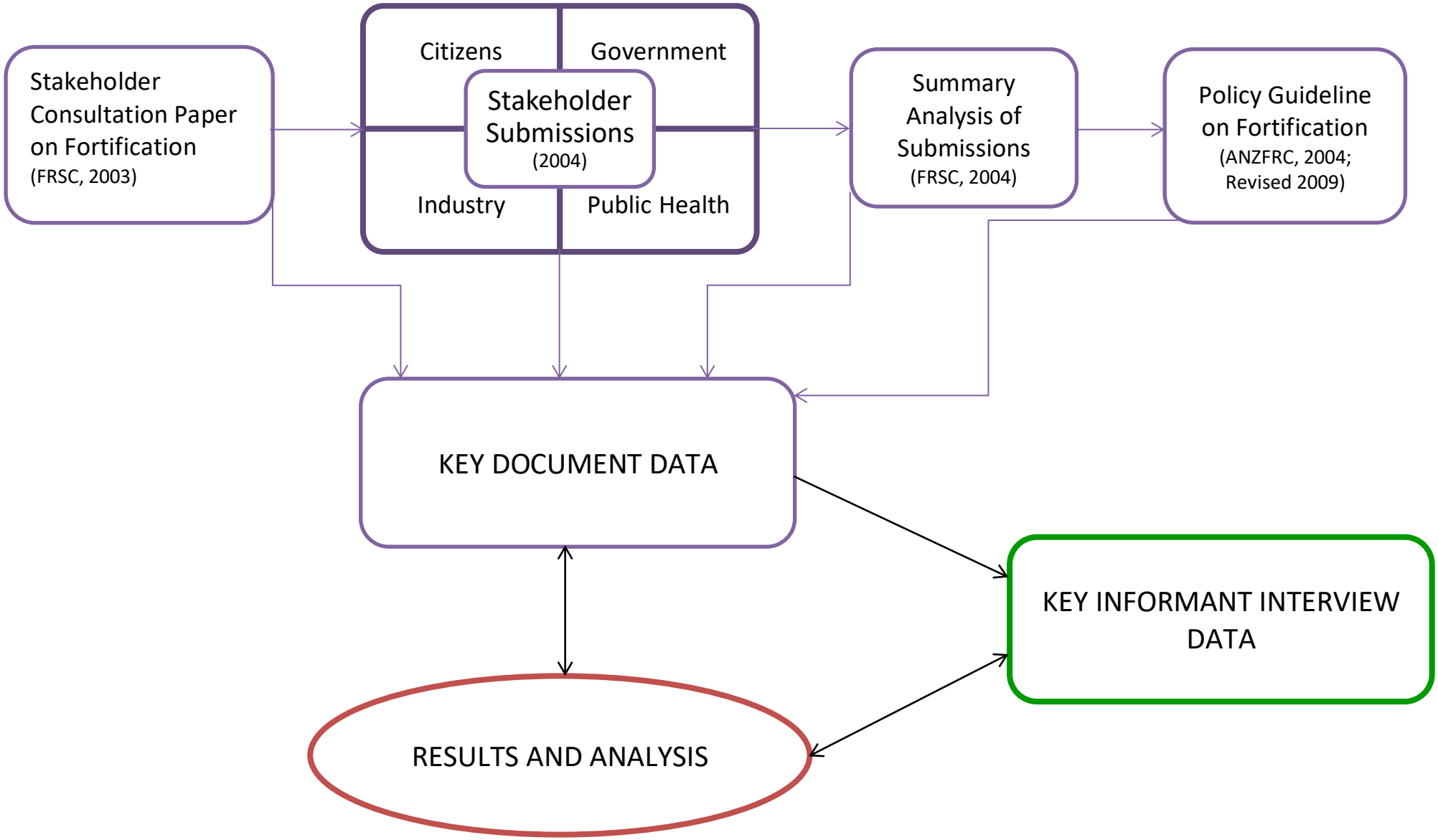

Figure 3.4: Diagram of relationship between key document data, key informant interview data and study results

3.7.1 Key documents

The FRSC CP and SAS documents were both publicly available and able to be downloaded from the FRS website (Food Regulation Secretariat 2008). Similarly, both the 2004 and 2009 ANZFRMC PGs were downloaded from the FRS website (Food Regulation Secretariat 2012b). Whilst the 2009 VFP is the only version currently available on the website, the 2004 policy had been publicly available prior to the 2009 amendments. As this had been previously downloaded by the researcher for different purposes, both versions of the policy were able to be used in the analysis for this research.

Obtaining copies of the approximately 60 stakeholder submissions however, required an FOI application to the FRS, based in the then Commonwealth Department of Health and Ageing (DOHA) in Canberra. This application was made in writing according to guidelines and instructions provided on the Australian Government website (Department of Prime Minister and Cabinet 2011). The FOI application contained written assurances that once the documents were sorted and coded, all other identifying information would be removed from the submissions prior to any data analysis. Assurances were also made that all copies of stakeholder submissions would be held in a secure location, only accessible by the research team.

3.7.2 Key informant interviews

Key informants were invited to participate in an in-depth, semi-structured, telephone interview. Invitations were sent by e-mail and included a general letter of introduction, an information sheet explaining the relevant details of the research, and a consent form (as shown in Appendix A). These documents clearly stated that participation was voluntary, and an assurance of confidentiality and anonymity was included. Invitees were given the opportunity to indicate their willingness to participate in an interview via completion and return of the consent form using e-mail. Non-respondents were followed up after two weeks, with an additional e-mail, and/or a telephone call, where a number was available.

Contact details for interviewees were obtained from publicly accessible information such as stakeholder submissions, organisational websites, and professional networks. Those who agreed to participate were free to withdraw themselves or their data from the study at any time, and/or choose not to answer particular questions during the interview, should they so desire.

Interviews were conducted by telephone, and took place on a date, time and location of the participant's choosing. Interviews took approximately 1 hour, and where permission was given,

interviews were recorded. However, participants were free to request the recording be stopped at any point during the interview, no matter whether it was for one or several questions.

Telephone interviews were chosen for reasons of cost, time and ease of access to participants. This was because key informants were located in a number of States and Territories within Australia, as well as in New Zealand, and the cost and time of travelling to participants in all these locations would have been considerable. Also, some interviewees may have needed to reschedule their interview at the last minute, which would have added additional travel and time costs if face-to-face interviews were being utilised.

While telephone interviews are not commonly used in qualitative research, largely due to concerns about data quality, when Sturges and Hanrahan (2004) were forced to use both telephone and face-to-face interviews in order to ensure an adequate sample size and representation, they found that regardless of the mode of interview, each afforded the same amount and quality of data. Also, the depth of response was generally the same. Novick (2008) conducted a systematic review of the literature regarding the use of telephone interviews in qualitative research between 1988 and 2007. She found an apparent bias against telephone interviews when contrasted with both face-to-face interviews and the growing interest in the use of electronic media for qualitative interviews. She also found that while telephone interviews were an accepted and well-studied approach for quantitative data collection, there was little methodological discussion of telephone interviews in the qualitative research literature. Further, Novick (2008) found that while most researchers had low expectations of telephone interviews, especially with respect to their ability to elicit high quality data, there was little evidence to back up the preference for face-to-face interviews as the 'gold standard' for qualitative research.

Both Novick (2008) and Opdenakker (2006) outlined a number of advantages and disadvantages of telephone interviews when compared with face-to-face interviews for qualitative research. Some of these pros and cons of telephone interviews, for both researchers and participants, are shown in Table 3.2.

While the lack of visual cues is considered by many to be the key disadvantage of telephone interviews for qualitative research, Novick (2008) questions how much of these data are actually used in analysis, especially when data analysis is heavily reliant on interview transcriptions. Novick (2008) also reported a claim by some authors that telephone interviews needed to be kept short compared with face-to-face interviews, thereby reducing the potential for in-depth discussion. Yet

little evidence was presented to support this claim, and other authors reported telephone interviews lasting 1½ to 2 hours with little participant fatigue.

Table 3.2: Advantages and disadvantages of telephone interviews for researchers and participants

(Novick 2008; Opdenakker 2006)

Interview role	Advantages	Disadvantages
Interviewee (Participant)	· greater convenience · shorter interview time · reduced travel costs · participants remain in their own environment · more anonymity and privacy for participants · less social pressure to participate or not	· absence of visual cues · no view of researcher's environment · potential for distraction (e.g. young children, being called away by an employer) · if in an open plan office, potential to disturb colleagues and potential for less privacy · lack of telephone coverage for some participants (e.g. those in remote areas, or the homeless)
Interviewer (Researcher)	· shorter interview / data collection time · reduced travel costs · increased access to geographically disparate subjects · fewer space requirements · better safety when dealing with participants in a dangerous location · the ability to take notes unobtrusively and without distracting the interviewee · potential for better responses from participants when discussing particularly sensitive issues	· absence of visual cues (although audio cues such as voice and intonation, hesitations and silences still available) · no view of interviewee's surroundings · potential for distraction (e.g. by young children, or an employer) · lack of telephone coverage for some participants (e.g. those in remote areas, or the homeless) · termination of the interview may be more difficult in the absence of visual cues

More recent technologies offer the option to conduct interviews using online mediums such as Skype and other synchronous audio-visual programs. However, whilst there is a significant body of literature exploring the use of asynchronous online interviews with email and other messaging software, research using synchronous audio-visual programs is limited (Deakin and Wakefield 2014). Where online audio-visual technologies have been utilised for interviews conducted for qualitative research, a range of advantages and disadvantages have been identified (Adams-Hutcheson and Longhurst 2017; Deakin and Wakefield 2014; Janghorban, Roudsari et al. 2014;

Walker 2013). These are outlined in Table 3.3.

As the literature on the use of audio-visual online technologies for qualitative research interviews is in its infancy, there is disagreement on some issues between authors. For example, Deakin and Wakefield (2014) found that when given a choice between a face-to-face or Skype interview, many participants chose an online interview. This appeared to be particularly for time reasons. However, those who chose an online interview were also more likely to fail to show up at the appointed interview time and fail to respond to any further communication. On the other hand, Adams-Hutcheson and Longhurst (2017) found that where participants were offered the choice of interview medium, the majority opted to meet in person. When asked how they felt the interview may have varied if conducted online, it appeared face-to-face interaction and connection was important for making these participants feel more comfortable during the interview.

Despite these differences, several authors (Deakin and Wakefield 2014; Janghorban, Roudsari et al. 2014; Walker 2013) conclude that synchronous online interviews are a viable alternative to the conventional 'gold standard' face-to-face interview. However, it is important for researchers to consider its benefits and limitations, and match them to their research objectives, methodology and participants. It is also important not to dismiss other methods of conducting interviews.

When considering all these issues, it was concluded that telephone interviews were appropriate and adequate for use in this study. In addition, data quality and depth would not be compromised by using in-depth telephone, rather than face-to-face or electronic media interviews.

Data collected during the interviews for the present study included the following general areas:

1. The participant's involvement in the development of VFP in Australia between 2002 and 2012;
2. Any contextual factors that participants believed had impacted on the policy development and decision-making processes;
3. Experiences of how stakeholder views were considered and incorporated into the policy-making process and final policy;
4. The extent to which VFP in Australia was considered supportive of public health nutrition principles and objectives; and
5. Potential opportunities for public health nutrition priorities to be advanced in future food regulation policy development.

Table 3.3: Advantages and disadvantages of online audio-visual interviews

(Adams-Hutcheson and Longhurst 2017; Deakin and Wakefield 2014; Janghorban, Roudsari et al. 2014; Walker 2013)

Aspect of online audio-visual interview	Advantages	Disadvantages
Logistical considerations	· flexibility for interview time and location · cost-effective · time effective · reduced travel and location safety concerns	· interviewee may be located in a distracting environment that can interrupt the flow of an interview and affect concentration of both interviewee and interviewer
Technological considerations	· use of information technology and Internet connectivity increasingly widespread	· access to appropriate information technology and Internet connection cannot be assumed, particularly in rural and remote, and lower socio-economic areas · familiarity with relevant software cannot be assumed · consistent Internet connection throughout interview not always assured · video connection may reduce audio quality
Rapport	· in most cases, rapport easily established	· it can be more difficult to build rapport with a reserved interviewee
Use of audio and video	· choice of audio only, or both video and audio for interview and for recording	· video may not be possible in some cases as it can reduce sound quality · participants may feel embarrassed or uncomfortable being filmed · 'headshot' only video may limit observation of participant's body language
Participation	· participants remain in their own environment for comfort and familiarity · greater access to geographically dispersed participants · greater access to other difficult to reach participants, e.g. socially isolated, less physically mobile · save on time and money if interviewee forgets or withdraws participation	· video as well as audio recording may add an additional deterrent to participation

Ethics	· interviewees can withdraw participation at the click of a button · participants may attain anonymity by use a pseudonym for their Skype name · contact can be deleted by both interviewer and interviewee immediately after interview completion	· participants may feel uncomfortable about being filmed, particularly in a home or other personal environment · video as well as audio recording may add to ethical considerations · data may be less secure
Validity	· perceived anonymity online may encourage discussion of sensitive topics or disclosure of more detail than face-to-face interviews	· participants may be more reluctant to provide personal information online

A professional transcription service was used to transcribe the majority of the interview audio recordings. The transcriptionist employed to undertake this task was required to sign a letter ensuring confidentiality of all materials. Audio files were transferred to the transcriber using a secure online file management service. Once transcribed and files were received and verified by the researcher, all data held by the transcription service were deleted. All data retained by the researcher are stored in a de-identified form, in a secure location, at Flinders University. It will be retained for a minimum period of five years.

3.7.3 Methods for aiding key informant memory

Because of the time that had elapsed since the VFP was developed and reviewed (2003/04 and 2006-09 respectively) and the key informant interviews for this research (2016-17), recall of the policy development process and decision-making was likely to be problematic for participants. In order to address this difficulty, a number of steps were taken to aid key informant memory.

Firstly, a range of research methods designed to investigate historical events were investigated for their applicability to this research. These included the Timeline Follow-Back method developed by Sobell and Sobell (1992); the Lifetime Drinking History and Cognitive Lifetime Drinking History interview-based procedure (Koenig, Jacob et al. 2009; Skinner and Sheu 1982); Retrospective Recall (de Vaus 2006); Post-Then Pre-Evaluation (Colosi and Dunifon 2006); Biographical Narrative Interpretive Method (Corbally and O'Neill 2014; Fielding 2006; Wengraf 2001; Wengraf 2004); and Oral History (Gardner 2006; Robertson 2000; Sacks 2009). A summary of each of these methods incorporating an evaluation of their usefulness for this study is outlined in Appendix B.

After considering each of these methods, oral history was deemed the most suitable method to

draw on for this research. As a research method, oral history aims to understand the past, and the relationship of the past to the present, through the use of in-depth interviews with persons who have lived through and experienced events of interest to the researcher (Gardner 2006). According to Sacks (2009) the character of oral history projects can be documentary, interpretive, or civic. Documentary projects present and preserve information about a particular topic, while interpretive projects emphasise the meaning and significance of information collected, and civic projects progress a specific community goal. For Robertson (2000), oral history consists of a number of important components that include a recorded interview in question-and-answer format, conducted by an interviewer who has some knowledge of the subject to be discussed, with a knowledgeable interviewee speaking from personal participation, on subjects of historical interest, and which is made accessible to other researchers.

Oral history methods have been used in a wide range of public health fields of research and practice (Tsui and Starecheski 2018). Examples include assessing population education campaigns, understanding the lived experience of persons with ill-health, advocacy to improve clinical care, reflecting on efforts to address disease (Tsui and Starecheski 2018), examining the birth of evidence-based medicine (Smith and Rennie 2014), determining appropriate use of health promotion in indigenous communities (Fletcher and Mullett 2016), and documenting changes in delivery of care in public health nursing (McCray Beier 2004).

In conducting a review of oral history use in public health, Tsui and Starecheski (2018) found a range of benefits. These included providing research that was more centred on the experiences and voices of populations affected by ill-health, establishing public health education and action more engaging for relevant populations, and affording tools for documenting and learning from past practices. While drawbacks were also noted, such as the time required to conduct oral histories, and the difficulty for some participants to discuss painful experiences, Tsui and Starecheski (2018) concluded that oral history has a significant contribution to make in supplementing other public health research and practice.

The major epistemological difficulty faced by oral history is its necessary reliance upon memory (Gardner 2006). However, while the validity of oral history is questioned because of possibly incorrect and fabricated memories, meaning the evidence collected may contain errors and bias, Robertson (2000) claims it is important to consider the following:

- all historical records may contain error and bias and should be used with caution,

- interviewers can focus on specific topics of interest and ask questions of interviewees, but there is no obligation to accept the record as given,
- people most accurately remember what has been particularly important or interesting to them,
- most of what is forgotten is lost soon after an event or experience, but what is remembered after that stage is remembered for a long time,
- in old age, recent rather than long-term memory tends to become impaired,
- information provided can be verified using other means, e.g. questioning an interviewee using different angles, or conducting a group interview after individual interviews to compare results,
- truth in the oral history can be contained in the values, attitudes, beliefs and feelings expressed, rather than just in factual accuracy, and
- oral history supplements other sources of evidence and does not claim to be the final word in a historical record.

Thus, despite the epistemological difficulties, oral history, particularly the interpretive oral history design, was considered a suitable method to draw upon for the key informant interviews in this research.

In drawing on oral history methods, several initiatives were instigated to aid participant memory. Consequently, a few days prior to the interview, key informants were emailed a copy of the 2009 ANZFRMC VFP, with the changes between the 2004 and 2009 versions highlighted. They were also sent a brief PowerPoint presentation (Appendix C). This provided key informants with a synopsis of the research, a timeline of key events in the development of VFP between 2002 and 2012, and the first interview question regarding the key informant's participation in the policy development process. This gave participants the opportunity to peruse the information provided, review their records of the policy process, and if desired, contact the interviewer for further information prior to the interview taking place.

In addition to this, early in the interview schedule (Appendix D), the PowerPoint presentation was conveyed by the interviewer, giving key informants a further opportunity to ask questions or revise their records regarding the policy development process. Finally, key informants were provided with the contact details of the interviewer, in case they wished to add to their interview responses at a later time.

3.8 Data analysis

The data analysis is essentially an attempt to view the making of policy from both the inside and outside, via the written documents of individuals and organisations, and the eyes and ears of participants in the process (Milio 1988). Patton (2015) suggests the main challenge of analysing qualitative data is making sense of an enormous amount of data, reducing the volume of information it contains, identifying any significant patterns, and constructing a framework for conveying the essence of what the data reveal. Baum (2016) concurs that the analysis of qualitative data is essentially aimed at imposing meaning and interpretation on data that is mainly textual and often unstructured and unwieldy.

With respect to case studies, Yin (2014) claims that analysing case study evidence is one of the most difficult and least developed aspects of case study research. Because there are no fixed formulas, much can rely on the investigator's style of rigorous empirical thinking. In order to overcome this problem, it is important to have an overall analytical strategy for the data analysis before any data collection occurs. Yin (2014) outlines four general strategies and five more specific analytical techniques for consideration. Of the general strategies, the first and most preferred strategy is to use the theoretical propositions that originally led to the need for, or choice of case, and on which the objectives and design of the study are based, and the plan of data collection shaped. The use of such theoretical propositions can also help to organise the case study, treat the evidence justly, focus attention on the most relevant data, produce compelling conclusions, and define or rule out any alternative explanations that need to be examined (Yin 2014).

As previously indicated, this research draws on a social constructionist epistemology and borrows from a contemporary critical inquiry theoretical framework. Within this framework, a discourse analysis methodology using Bacchi's (2009; 1999) WPR method of policy analysis is used. The WPR approach enables a critical examination of the way in which the policy 'problem' is framed or represented by various stakeholders, as well as consideration of the underlying assumptions, and consequences of, those 'problem' representations. Thus, during the process of data analysis, this framework was applied to each set of data collected.

Before the WPR framework could be applied though, it was necessary to filter the large amount of raw data to make it more manageable. Several authors outline a series of useful strategies that can assist with this process, so that verifiable, reliable and rigorous results and conclusions can be obtained (Baum 2016; Bazeley 2009; Lawrence 2002; Yin 2014). For example, Baum (2016)

suggests five stages of analysis including familiarisation, identifying a thematic framework, indexing, charting, as well as mapping and interpretation. Familiarisation involves reading and/or listening to the data and noting first impressions of key ideas and themes. As the data become more familiar and themes clearer, the data can be sorted into major subject headings or categories. Indexing involves coding the data according to the identified themes and categories, usually with the assistance of a relevant computer program. Once coded, the computer program can also be used to chart or arrange the data according to themes, before mapping and interpretation of the data can occur. This fifth stage comprises making sense of the data by reviewing identified themes, searching for patterns and connections, and seeking explanation for them within the data. During this part of the analysis, the importance of various issues is usually assessed by looking for structure within the data, rather than a multiplicity of evidence (Baum 2016).

Lawrence (2002) utilised a similar sequence of three analytical steps when assessing a case study of mandatory folate fortification food regulatory policy. The analysis however, was not confined to the end of the research process, but rather, there was a continuous and iterative movement through each of the analytical stages.

The method of data analysis used for this research, has drawn upon the work of Lawless (2010) and Lawless, Coveney et al (2014). Lawless (2010) and Lawless, Coveney et al (2014) used a series of analytical stages similar to those outlined by Baum (2016) and Lawrence (2002). However, the process also incorporated Bacchi's (2009; 1999) WPR discourse analysis framework, and was therefore particularly relevant for this study. Whilst the method employed an essentially linear, five stage analysis, there was continual movement back and forth between the stages in order to check the fit of the data and confirm the reliability of conclusions.

Accordingly, as illustrated in Figure 3.5, the general stages of analysis applied to the document and interview data collected for this research included: a period of immersion in the data; a primary descriptive analysis of the data using the first question of the WPR method of policy analysis (described in Figure 3.1); coding of the data according to the problem representations emerging from the previous steps; interrogation of the data using other WPR questions; and ultimately the compilation of a critical interpretation and explanation of the data.

Whilst these general stages of analysis were applied to all the data collected, some data required the inclusion of additional or more specific analytical steps. Consequently, a description of these

aspects of the data analysis conducted for the two sets of data is provided in the ensuing sections.

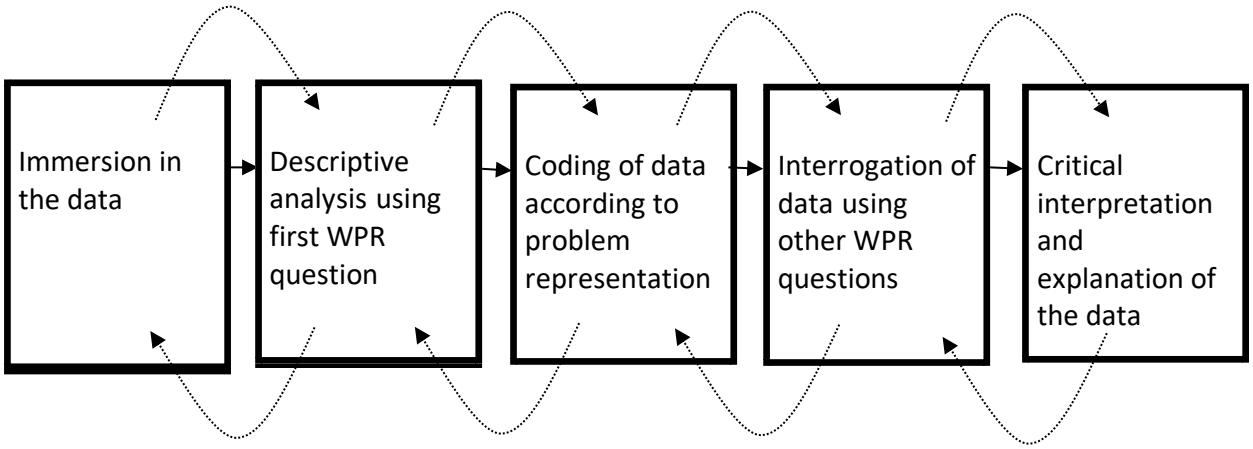

Figure 3.5: Representation of the five stages of data analysis used in this research
(based on the work of Lawless (2010))

3.8.1 Voluntary food fortification policy

As both the original and revised ANZFRMC PGs (2004; 2009b) covered mandatory as well as VF, only the sections relevant to VF were included in the analysis. These sections were read repeatedly in order to understand how the policy 'problem' had been represented by the Ministerial Council. As any policy problem/s were identified, they were noted and described. The discourse within the policies was then coded according to the various problem representations, and the WPR method of policy analysis used to interrogate, explain and interpret the data. Thus, it was possible to question the assumptions, silences and effects produced by the representation of the 'problem/s' found within the VFP.

3.8.2 Other key documents

As described in section 3.6.1, a number of documents used by FRSC and ANZFRMC to develop the fortification policy guideline, were collected for use as data in this research. Two documents prepared by FRSC (the CP (Food Regulation Standing Committee 2003) and the SAS (Food Regulation Standing Committee 2004)), were able to be analysed in a similar manner to the PG. However, the number and volume of stakeholder submissions offered in response to the CP and collected under FOI legislation for this research, required some additional analytical steps.

Before the stakeholder submissions were read, they were categorised according to the

stakeholder group they represented. This enabled a later comparison of results within and between groups. It also helped inform selection of key informants for the in-depth interviews, and enabled comparison of results for the two sets of data.

Four key groups of stakeholders were identified, including citizens, government, public health and industry (criteria for inclusion in each of these groups are outlined in Appendix E). Each group was given an identifying letter/s as follows: citizens (C), government (G), public health (PH) and industry (IN). Submissions in each stakeholder group were then allocated an identifying number, commencing with 1, but in no particular order within each group. The final identification for each submission consisted of a combination of the letter representing the stakeholder group it had been categorised into, and the number given to the submission. For example, C1 represented the first submission in the citizen stakeholder category.

Once categorised and numbered, each submission was read repeatedly in order to understand how the submitter had framed the 'problem' of VF. As the policy 'problem' or problems were identified, initial observations from the data were noted and sorted manually by stakeholder group. This enabled early patterns in the data to be described as shown in Appendix F.

Problem representations that had been noted during these stages were then used as headings or 'nodes' for electronic coding, and each submission was coded using the NVivo qualitative data software analysis program (QSR International Pty Ltd 2012). As the coding progressed and the repeated reading of the data made it more familiar to the researcher, additional representations of the policy 'problem' were identified. Also, those problems previously identified were able to be better described and understood, and an improved comparison of the problem representations between and within stakeholder categories able to be compiled.

By applying some of the additional WPR questions to this descriptive analysis, a critical inquiry into the underlying assumptions, silences and effects of the various problem representations was possible. This then enabled a more critical and detailed comparison of the data between and within the various stakeholder groups, that is presented in the Discussion (Chapter 6).

3.8.3 Key informant interviews

As each interview was conducted, notes were taken by the researcher, and where permission had been granted, an audio of the interview recorded. Immediately after each interview concluded, the audio was replayed and listened to by the researcher, whilst the written notes were reviewed.

Interview recordings were then transcribed; the first four by the researcher, and the remainder by a professional transcriber. When transcriptions were complete, they were checked for accuracy against the recordings by the researcher.

Each interview was then listened to and read repeatedly by the researcher in order to understand how the key informant represented the 'problem' of VF. As problem representations were identified, they were manually noted and described (as shown in Appendix G). Problem representations were subsequently entered as headings or 'nodes' in the NVivo qualitative data software analysis program (QSR International Pty Ltd 2015). Interviews were coded separately from key documents to aid comparison of the data.

As each stage of the data analysis was applied to the interviews, the researcher's familiarity with the data was enhanced, and thus reflection and analysis of the interviews was able to occur as they proceeded, rather than only when all interviews had been completed. It also enabled deeper exploration of the problem representations and other themes or points of interest that emerged from the data of the initial interviewees, with key informants in ensuing interviews.

3.8.4 Determining predominant problem representations

Given the size of the data set, a considerable number of problem representations were evident in the key documents and interviews. Thus, predominant problem representations needed to be determined in order to glean the most pertinent information from the data.

A range of factors were used to determine predominant representations of the 'problem'. These were similar for both data sets and included:

- how many stakeholders in each data set represented the problem in that way;
- the amount of the key documents and interview transcripts that were devoted to each problem representation;
- how the problem representation related to other problem representations in the data;
- any 'child nodes' or 'problems within' the main problem representation;
- the discourse used; and
- the passion, emotion and focus of the interview or document.

When the predominant problem representations were determined for each data set, the remainder of the data analysis was progressed using these problem representations only. This was for practical reasons given the number of problem representations revealed in the data. However,

it was also for process reasons, so that only the significant patterns in the data were used to convey the essence of what the data revealed (Patton 2015).

3.9 Reflexive practice

According to Patton (2015) reflexivity takes the practice of deep reflection and makes it more systematic. It encompasses and emphasises "the importance of deep introspection, political consciousness, cultural awareness, and ownership of one's own perspective" (Patton 2015, p70 & p604). Qualitative research demands such iterative and critical reflection throughout the research process. It is an important acknowledgement of the role the investigators play in shaping and analysing their data and determining the research findings (Liamputtong 2013; Maxwell 2013). When using the WPR method of policy analysis, Bacchi (2009; 1999) recommends the researcher apply the WPR questions to their own representations of the policy problem to aid reflexive practice.

Consequently, it was important to reflect on the public health nutrition perspective the investigator brought to this study, and how that impacted on data collection, coding and analysis. This was practiced through the use of a research diary, coding and analysis log book, application of the WPR questions to the researcher's own problem representations as they became evident, and regular meetings with the research supervisory team.

3.10 Ethical approval and considerations

An ethics application was submitted by the researcher on the 12th March 2012 to the Flinders University Social and Behavioural Research Ethics Committee, in accordance with the guidelines on their website (Social and Behavioural Research Ethics Committee 2012). Approval was provided on 23rd May 2012 and the project number 5585 allocated to the research.

When completing the application, the following ethical issues were identified as important, particularly in relation to the key informant interviews.

3.10.1 Key informant consent

As noted earlier and shown in Appendix A, free and informed consent from interview participants was obtained using a package of documents based on templates provided by the Flinders University Social and Behavioural Research Ethics Committee (Social and Behavioural Research Ethics Committee 2012). These documents clearly stated that participation was voluntary. In

addition, participants had to take the initiative in returning the signed consent form, to avoid any potential for coercion.

3.10.2 Assurances of confidentiality and anonymity

Key informant interviewees were provided assurances of confidentiality and anonymity. This was achieved by removing all identifiable information from the final interview transcripts, storing interview recordings in a secure location, separate to that of the transcripts, providing participants with the opportunity to view their interview transcript before data analysis if desired, allowing key informants to withdraw themselves, and/or their data, from the study at any time, and using pseudonyms and generic language in research reporting to preserve anonymity.

3.10.3 Participant burden

The main burden of this research for key informants was the time commitment required. While it was anticipated that the in-depth interviews would take one to two hours, they were conducted over the telephone enabling participants to choose the date, time and location that was most suitable to them. Even though every effort was made to ensure participants were not kept for an undue interval, it was important to allow adequate time for key informants to express everything they wished to say on the issue. Also, participants were free to request an interview be terminated at any time, should it continue longer they were able or willing to give, and interviewees were free to decline being involved if they could not spare the time.

3.10.4 Conflict of interest

While the researcher has been previously employed in the area of food regulation by the Queensland State Government, she has not worked in that role for more than a decade. However, input (on a voluntary basis) has been and still is provided for food regulation submissions on behalf of the Public Health Association of Australia. As a result, the researcher was known to some key informant interview participants. It was considered though, that as no professional role or power was held in relation to any potential participant, there was no possibility of coercing anyone to be involved in the research. Thus, it was unlikely this previous professional role constituted any conflict of interest for key informant recruitment. However, it was important to consider this prior involvement in food regulation as part of the researcher's reflexive practice.

CHAPTER 4: RESULTS - KEY DOCUMENTS

The previous three chapters of this thesis have provided background information and a review of the literature on food regulation public policy, as well as an outline of the methods used to address the aims of this research. This chapter provides the results for the first data set; the key document data. It begins by outlining the documents relevant to the development of VFP that were able to be collected and the nature of those documents (section 4.1). This section also describes the four main categories of stakeholders observed in the key documents (section 4.1.1). The chapter then goes on to detail the predominant representations of the policy problem in each type of key document collected and compare those problem representations within and between stakeholder groups (section 4.2).

4.1 Key document identification and collection

Key documents relevant to the development of VFP in Australia were sought from the FRS website (Food Regulation Secretariat 2008; Food Regulation Secretariat 2012b). Of the key documents identified as useful for this research, a total of four were publicly available and downloaded from the FRS site. These included:

- One public consultation paper entitled *Fortification of the Food Supply with Vitamins and Minerals: Consultation Paper on Draft Policy Guidelines* (CP) (Food Regulation Standing Committee 2003) that was developed and released by the FRSC at the end of 2003.
- One document providing a summary of the stakeholder submissions received in response to the consultation paper, and titled *Fortification of the Food Supply with Vitamins and Minerals: Summary Analysis of Submissions* (SAS) (Food Regulation Standing Committee 2004). This document was prepared by the FRSC working group on fortification and released by FRSC in the second half of 2004.
- Two Ministerial Council Policies; an original 2004, and a revised 2009 version of the *Policy Guideline for the Fortification of Food with Vitamins and Minerals* (PG) (Australia and New Zealand Food Regulation Ministerial Council 2004; Australia and New Zealand Food Regulation Ministerial Council 2009b).

It is important to note that the Food Regulation website from which these documents were obtained, has since been replaced with a new site, and consequently the 2004 version of the PG is no longer publicly available.

Copies of the stakeholder submissions sent to the FRSC in response to the 2003 CP on fortification were not publicly accessible. Consequently, a request using FOI legislation was required. Therefore, in July 2012, an FOI application was submitted to DOHA, requesting access to all of the stakeholder submissions. In November 2012, a positive response was received from DOHA and 58 submissions that had been found by the Department, were made available for this research.

Scrutiny of the information presented in the FRSC SAS document, indicated that between 57 and 60 submissions were received in response to the 2003 CP. This uncertainty was because of a discrepancy between the number of submissions indicated as having been included in the analysis for the SAS document (60), and the number of organisations named as submitters in an Appendix to that document (57). No indication was given that any names had been purposely withheld, so human error was assumed. However, after an examination of, and comparison with, the details provided in conjunction with the stakeholder submissions received under FOI, the researcher determined that a total of 61 submissions had actually been received by FRSC in response to the 2003 CP. One of the responses though, had been received a few weeks after the specified due date for submissions in early February 2004, and was therefore not included in the FRSC SAS.

In an attempt to gain access to as complete a dataset as possible, DOHA was approached again in late 2012 and in early 2013, to see if it was possible to obtain copies of the outstanding submissions. Unfortunately, this request was unsuccessful, and as a result, a letter was sent to relevant state-based jurisdictions in mid-2013, requesting access to any of the outstanding submissions that might be in their records. One further submission was found and made available for the research in September 2013 by the South Australian Department of Health. The remaining two submissions were unable to be found by any of the relevant jurisdictions. Thus, a final total of 59 of the 61 stakeholder submissions were obtained for the key document analysis component of this research.

The 2003 CP on fortification included both discussion and questions on mandatory as well as VF. At the time of the consultation, mandatory fortification of bread making flour with folic acid for the prevention of neural tube defects was a particularly prominent and contentious issue under public debate (Begley and Coveney 2010). Consequently, a number of the stakeholder submissions contained content only relevant to MF and did not answer the consultation questions, or express a view, on VF. Therefore, of the 59 stakeholder submissions obtained under FOI, six did not meet the selection criteria for inclusion in the key document analysis (as outlined in Section 3.6.1) and

were therefore excluded from the study.

In summary, a total of 65 key documents were identified as potentially relevant to the development of food regulatory VFP in Australia between 2002 and 2012. Of these, 63 were collected. Six of the documents were identified as pertaining to MF rather than VF and were excluded from the dataset. The remaining 57 key documents were identified as contributing to the debate on VF and were therefore relevant to the development of VFP in Australia. Thus, a total of 57 out of a possible 65 key documents were included in the data set for analysis in this case study.

A diagrammatic representation of the relationship between these documents and their progression toward the final ANZFRMC VFP is presented in Figure 4.1. Also included are the section numbers of this chapter that present the predominant problem representations for each key document type.

4.1.1 Stakeholder categories

The submissions to the 2003 FRSC CP on fortification were tendered by a range of different stakeholders. Within the 53 stakeholder submissions included in this research, four major categories of submitters were identified. Consequently, submissions were grouped into the following stakeholder categories:

- **citizens** (C) - members of the general public, consumer groups, and organisations that are altruistic in intent and action toward broader society;
- **government** (G) - government departments and organisations;
- **public health** (PH) - public health professional individuals and organisations that have an ideology, aim and/or practice consistent with the definition of public health (see Section 2.2.1); and
- **industry** (IN) - organisations involved in the production, manufacture, wholesale, retail, and/or marketing of food and/or beverages, and lobby groups acting for, or on behalf of, such industry.

The detailed criteria for inclusion in each of these categories is presented in Appendix E. However, of the submissions used in the present study, the number classified into each stakeholder group is presented in Table 4.1.

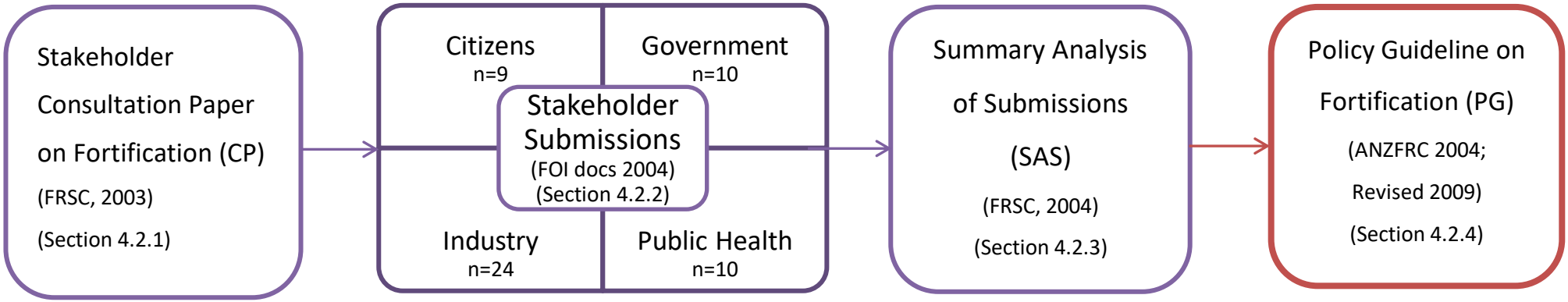

Figure 4.1: Diagram of key document data and the chronological progression of their use in the development of the ANZFRMC VFP and data analysis for the present study, as well as the related results section in this chapter

Table 4.1: Number of stakeholder submissions included in each stakeholder category for the present study

Stakeholder Category (abbreviation)	Number of Submissions n (%)
Citizens (C)	9 (17)
Government (G)	10 (19)
Industry (IN)	24 (45)
Public Health (PH)	10 (19)
TOTAL	53 (100)

By way of comparison, the FRSC SAS document (Food Regulation Standing Committee 2004) also categorised the stakeholder submissions into four groups. The total number and percentage of submissions reported as being included in each stakeholder category in this document is shown in Table 4.2.

Table 4.2: Number and percentage of stakeholder submissions included in each stakeholder category as shown in the FRSC SAS document (Food Regulation Standing Committee 2004)

Stakeholder Category	Number of Submissions n (%)
Consumers and Consumer Groups	6 (10.00)
Government Groups	9 (15.00)
Industry and Business Groups	25 (41.67)
Public Health and Professional Groups	20 (33.33)
TOTAL	60 (100)

A total of 60 submissions were included in the analysis for the FRSC SAS document, but no information was provided regarding any criteria that may or may not have been used to allocate stakeholders into categories, or which group each submission was categorised into. Whilst this made specific comparison with the current study difficult, it can be noted that submissions were categorised into similar types of stakeholder groups. It is possible there may have been proportionately more submitters categorised into the public health group in the SAS than was the case for this research. However, this could also be a consequence of excluding from the current

study, the submissions that only addressed MF and did not express an opinion on VF. It is possible that one of the two submissions unable to be located for this research would have been allocated to the public health category as well.

4.2 Predominant policy 'problem' representations in the key documents

The following sections detail the predominant 'problem' representations in the key document data. Where quotes are used from the data, they are cited in the following way. Each document has been given an identifying acronym. For example, the FRSC *Fortification of the Food Supply with Vitamins and Minerals: Summary Analysis of Submissions* (Food Regulation Standing Committee 2004) has been shortened to SAS. A quote from that document therefore is cited using the acronym SAS, followed by the page number of the document the quote was taken from. For example, a quote from page 11 would be cited as 'SAS/11'.

Where a quote is given from a stakeholder submission to the FRSC CP, the citation uses the identifying letter for the relevant stakeholder group, and number for the specific submission as previously outlined in Section 3.8.2. Thus, for citizen stakeholders, the identifying letter is 'C' and 'C1' would represent the first submission in that stakeholder category. A quote from that submission then, would add the page number of the submission, so that a citation from page 12 would read 'C1/12'.

4.2.1 FRSC Consultation Paper on Draft Policy Guidelines

The overarching 'problem' of VF in the 2003 FRSC CP (Food Regulation Standing Committee 2003) was represented to be the conditions under which VF should be permitted. In other words, the existing policy was too restrictive, and a more liberal VFP was desirable. For MF though, the initial policy 'problem' was a question of whether to continue to permit its use. If the answer to that question was yes, then the policy 'problem' became under what conditions MF should continue to be allowed. However, for VF there was no question of whether it should continue to be permitted or whether the status quo should remain. These options were dismissed without consultation. The only reason given for this was stated as:

> *Two options (an option proposing that (voluntary) fortification be prohibited and an option proposing there be no specific government intervention) were not developed further because they did not meet a number of High Order and Specific Principles. [CP/14]*

As there was no further explanation of this statement, and it was not clear to the reader how these policy options were inconsistent with the proposed high and specific order policy principles, it gave the impression that policy-makers viewed VF as a given; something that was unquestioned in its value and benefit for the community. Consequently, consideration of whether VF should be permitted or not was dismissed without consultation, and this question was not included for deliberation by stakeholders in any of the proposed policy options for VF provided in the CP[2].

VF itself was represented as a 'problem' in four main ways; as a 'problem' of public health, a 'problem' of commercial benefit, a 'problem' of risk, and a 'problem' of evidence. The meaning and use of each of these problem representations will be considered in the ensuing sections.

VF as a problem of public health

The representation of VF as a problem of public health largely referred to VF as having the 'potential' to address public health problems, as well as to improve individual general health and well-being. It also meant addressing perceived nutritional inadequacies in both the food supply and individual dietary intakes, as well as being supportive of nutrition policies and guidelines.

Thus, for policy-makers, VF as a problem of public health, mainly presented the possibility of "benefits in terms of *potentially* improving general health, and addressing public health problems in specific groups" [CP/7, *emphasis added*]. It was asserted that "it is widely acknowledged that the food supply can provide a useful vehicle for transporting vitamins and minerals to address public health problems, either existing or *potential*, or to assist in general health and well being [sic]" [CP/6, *emphasis added*]. VF was additionally claimed to have a "*potential* nutritional benefit" [CP/14, *emphasis added*] which was defined as the "*potential* opportunity to improve the nutrition of the population or target group based on evolving plausible scientific knowledge" [CP/4, *emphasis added*]. The use of VF for public health therefore, was promoted where it might be of benefit to population health, rather than where benefit would be more assured by evidence of public health need.

Another aspect of VF as a problem of public health in the CP was addressing nutritional inadequacies in both the food supply and in individual dietary intakes. Key policy issues to be

[2] The policy options for voluntary fortification (VF) provided in the 2003 FRSC consultation paper include:
1: VF is permitted only for restoration and for nutritional equivalence purposes.
2: VF is permitted where a potential population nutritional benefit can be demonstrated as well as for restoration and nutritional equivalence purposes.
3: VF is permitted where there is reasonable certainty of minimal risk to public health.
(Food Regulation Standing Committee 2003, pp14-15)

considered were described as:

- *the current and future shape of the food supply in an environment of technological developments, changing lifestyles and consumer habits; and*
- *the potential consequential long-term changes to consumption patterns of food, whether fortified or not. [CP/5]*

The CP also indicated there was "a small but growing category of voluntarily fortified foods whose fundamental purpose is promoted as relating to meeting an individual's health goals over and above 'normal' nutrition" [CP/9]. Further, examples given of developments in other countries reviewing VF policy at the time, promoted the use of VF "to maintain and improve the nutritional quality of the food supply" [CP/22] and "to allow for the wider range of fortified products which would provide for more food sources of nutrients" [CP/22]. Thus, there were implications that the nutritional quality of the food supply was inadequate without fortified foods, that individuals were not able to meet normal nutritional requirements without fortified foods, and that the consumption of fortified foods would enable individuals to attain a higher level of nutrition and health than would be possible without fortified foods.

A further aspect of this problem representation was the rise of chronic disease and the suggestion that an "interest in fortification and related issues is also a consequence of the increased prevalence of diet-related diseases such as obesity, cardiovascular disease and diabetes" [CP/5]. It was not indicated though, how VF could have any impact on reducing the incidence of such diseases. Dietary guidelines and nutrition policies of both the Australian and New Zealand Governments were also noted to "promote a well-balanced diet consumed in moderation and comprising a variety of foods from the major food groups" [CP/7]. However, whilst such policies were stated to have primacy in the deliberations on VFP, there was no further consideration or mention of them in the remainder of the CP.

VF as a problem of commercial benefit

The CP also represented VF as a commercial problem, particularly a sales and marketing problem. One rationale for the possible use of VF was "that it provides a sales/marketing edge" [CP/7]. VF was considered to differ from MF by virtue of the fact that the "food industry makes the decision about whether to fortify a product" [CP/7]. However, this decision was "based on commercial factors such as economic return" [CP/10] as well as "the consumer's readiness to purchase a fortified product" [CP/10]. Further, one of the key factors identified in the consultation paper as

"underlying the need for a policy review" [CP/1] of VF, was the "increase in the number of industry applications to Food Standards Australia New Zealand (FSANZ) to voluntarily fortify foods" [CP/1]. Remarkably, despite this commercial rationale for VF, the proposed conditions that "might apply" [CP/7] to any VF permissions, were all expressed in nutrition, health and scientific terms. Also, those conditions were presented as much less restrictive than the ones proposed for MF and they were more open for change with consultation.

VF as a problem of commercial benefit also meant providing more consumer choice, because of "the importance placed on consumer choice in our society" [CP/9]. In addition, policy-makers considered that, "consumers are becoming increasingly interested in the foods they are eating and are expecting a greater choice of foods at the point of purchase" [CP/9] and that "rising interest and awareness in diets and the relationship between health and nutrition is fuelling a desire for more food choice" [CP/9]. Consumer choice therefore, was represented as "a key driver" [CP/9] for VF, but it was acknowledged that "providing for consumer choice needs to be balanced against changes to total food consumption patterns" [CP/9].

VF as a problem of risk

Despite the consultation paper representing VF as being potentially beneficial for health, it was also represented as a problem of risk to health. One of the suggested conditions for VF permissions, was a "low risk of excess vitamin or mineral intake or nutrient or other interactions" [CP/7]. Additionally, among the key policy issues identified in the paper for stakeholder consideration was "the possibility of both benefits and costs to public health" [CP/7]. Such costs or risks included, "the long-term effects on public health of greater amounts of vitamins and minerals in the food supply are unknown, or have the potential to be harmful" [CP/7] and, "the potential for fortification with a range of vitamins and minerals that might interact or that may be added at cumulative levels greater than the recommended daily intake" [CP/8]. There were also risks of "adversely altering dietary patterns" [CP/15] and effecting "changes to the food supply" [CP/15]. In addition to this, policy-makers indicated that "ensuring that the overarching principles of public health and safety are met, will require the development of regulatory tools to manage the risk of excessive or inadequate consumption" [CP/7].

VF as a problem of evidence

Finally, the CP represented VF as a problem of scientific evidence. According to policy-makers, one of the "key factors underlying the need for a regulatory review of fortification" [CP/5] was

"advancements in nutrition science and improvements in our understanding of health and nutrition" [CP/5]. Further, "science-based evidence" [CP/7] was identified as "one of the conditions (that) might apply to voluntary fortification" [CP/7]. Also, the first of the proposed high order principles for fortification was "to protect public health and safety within a risk management framework and through a science-based approach" [CP/12]. Thus, it appears policy-makers viewed scientific evidence as important for justifying the use of VF, as well as for identifying and managing any risks created by voluntarily fortifying foods and drinks.

The 'problem' of mandatory food fortification

In contrast to VF, the CP represented the problem of MF as a highly significant health and scientific issue that was very risky, and that would only be allowed under the strictest of circumstances. Terms and phrases such as "evidence of a significant health need", "high probability …(of) an improved public health outcome", "net benefit to the community", "science-based evidence", "low risk", and "high level of certainty" [CP/6] were all used to describe the rationale for, and possible conditions under which MF would be allowed. Decision-making for MF permissions was "most likely to be acceptable when it will produce the greatest public health gain, in the most efficient way, and with the least risk" [CP/13]. Thus, the problem of MF was framed as being more dangerous and harmful than VF, and considerable deliberation was required before its use would be permitted.

Recap of 'problem' representations in the FRSC Consultation Paper

Thus far the data show the overarching policy 'problem' in the FRSC CP was represented to be the conditions under which VF should be permitted in foods and drinks in the food supplies of Australia and New Zealand. Indeed, its more liberal use was represented as desirable. VF itself, was represented as a problem of public health, commercial benefit, risk and evidence. It was framed as 'potentially' beneficial for health and important for addressing nutritional inadequacies in both the food supply as well as individual dietary intakes. However, there was also a strong commercial imperative to allow an increased range of VFF, with sales and marketing and consumer choice represented as providing key drivers for permissions. In addition, risk to health via changes to the nutrient profile of the food supply, altered dietary patterns and adverse nutrient interactions were represented as problematic. Scientific evidence was important for identifying such risks as well as justifying the use of VF. For MF there was an initial question of whether to continue to permit its use or not, but for VF it was assumed that permissions should continue and be expanded. MF was also represented as a health and scientific issue that was

particularly risky and would only be allowed under strict and predetermined conditions of use.

4.2.2 Stakeholder submissions

When the 2003 FRSC *Fortification of the Food Supply with Vitamins and Minerals: Consultation Paper on Draft Policy Guidelines* (Food Regulation Standing Committee 2003) was released, stakeholders were invited to submit a response. Consequently, the four main categories of stakeholders provided submissions in early 2004. Within these submissions, each group represented the 'problem' of VF in a range of ways.

The following section provides a synopsis of the predominant problem representations determined from the 53 submissions obtained under FOI legislation, that contributed to the debate on VF. Results are firstly presented according to stakeholder category in Table 4.3, and then in a description of the problem representations used by each group. This is followed by a comparative presentation of results that considers the predominant problem representations within and between the four stakeholder groups.

Table 4.3: Predominant representations of the policy 'problem' in the stakeholder submissions presented in order of priority for each stakeholder category

Stakeholder Category	Problem Representation					
Citizens	PUBLIC HEALTH	*NOT COMMERCIAL BENEFIT	RISK	EVIDENCE	PROTECT CONSUMERS	POLICY CONSISTENCY
Government	RISK	EVIDENCE	PUBLIC HEALTH	*NOT COMMERCIAL BENEFIT	PROTECT CONSUMERS	POLICY CONSISTENCY
Industry	COMMERCIAL BENEFIT	RISK	EVIDENCE	PUBLIC HEALTH		
Public Health	EVIDENCE	PUBLIC HEALTH	RISK	POLICY CONSISTENCY	*NOT COMMERCIAL BENEFIT	PROTECT CONSUMERS

* 'NOT' means stakeholders represented the problem of VF as something that should not be for commercial benefit.

Citizens

Submissions from citizens stakeholders predominantly represented VF as a problem of protecting public health, and something that should be used for public benefit, not commercial gain. VF for public health reasons was viewed as responsible policy, whilst VF for commercial reasons was considered irresponsible policy. VF was also represented as a potential risk to health, and a problem that should be based on scientific evidence, to ensure any permissions were beneficial rather than detrimental to the health of the population. Citizens were concerned that VF policy

should protect consumers from being misled or deceived by “inflated claims of benefit” [C9/1] by the use of compulsory labelling, a strong regulatory framework, and monitoring and evaluation. Finally, citizens suggested policy-makers should strive to ensure policy consistency between VF and other national and international nutrition and food regulatory policy.

Government

For government stakeholders, the problem of VF was primarily represented as one of risk, particularly risk to public health. Submitters suggested that VF permissions should be based on up-to-date and adequate scientific evidence, as well as be used to address demonstrated public health needs or nutrient deficiencies at the population level. Additionally, VF was represented as something that should not be used for commercial benefit for the food industry, and consumers needed to be protected from being misled, deceived, or confused by labelling and advertising claims. Indeed, some submitters questioned who was in charge of policy development (that is, government or industry), whether there was actually a policy ‘problem’ that required a new policy, and whether it was “proper that public funding should be spent” [G4/5] on its development. Finally, for this stakeholder group, VF was represented as a problem of policy consistency with national and international nutrition and food regulatory policy.

Industry

Submissions from industry stakeholders predominantly represented the problem of VF as one of gaining commercial benefit. Appropriate VFP would provide this via opportunities for product innovation, sales and trade, removal of restrictive regulation, enabling nutrition and health labelling claims, responding to consumer demand, and providing consumer choice. However, the problem of VF was also prominently represented in public health terms. For example, VFP should ensure minimal risk to public health and safety, base decisions on appropriate scientific evidence, and improve the nutrition and health status of the population in response to what were viewed as nutritionally inadequate dietary intakes and a nutritionally inadequate food supply.

Public health

The public health stakeholder group primarily represented VF as a problem of evidence and of public health. This meant submitters framed VF permissions as needing to be based on up-to-date, adequate, scientific evidence. They also needed to be used in response to population wide nutrient deficiencies and/or demonstrated public health need/s. Another problem representation of VF used by public health submitters was minimising risk to public health from excess nutrient intake. This was particularly given stakeholder concerns regarding the unknown, long-term

consequences of greater amounts of vitamins and minerals in the food supply. In addition, VF was represented as a problem of ensuring policy consistency with national and international nutrition and food regulatory policy and guidelines such as Codex principles. Public health stakeholders also represented VF as something that should not be used for commercial gain, although this was believed to be the genuine reason for the proposed policy. As a consequence of this view, submitters represented VF as a problem of consumer protection, suggesting citizens needed shielding from misleading and deceptive food industry behaviour. This should occur through the use of compulsory labelling, a strong regulatory framework, and regular monitoring and evaluation of the impact of any VFP.

Comparison of Problem Representations between Stakeholder Categories

Considering the predominant problem representations for the four stakeholder categories overall, three representations of the policy 'problem' were common to all groups. These were public health, risk and evidence. A fourth problem representation - providing or not providing commercial benefit for industry - was also predominant for all groups, but three groups held the opposite view to the fourth.

Because of the predominance and commonality of these four problem representations, they will now be the focus of a more detailed consideration of the key document results. The meaning of each of the problem representations, and how they were used, varied between, and sometimes within, stakeholder categories. Thus, such commonalities and differences will be examined for each of the four main problem representations in turn.

However, brief mention will also be given to two further representations of the policy problem because of their common use by three stakeholder groups, as well as their relevance to the four predominant problem representations. These include protecting consumers from misleading and deceptive behaviour and ensuring policy consistency with national and international nutrition and food regulatory policy.

VF as a problem of public health

For the citizen stakeholder group, the problem of public health meant protecting the health and safety of the public, improving the "food-related health problems" [C2/1] of all age groups, and minimising any negative effects of VF on health. For government stakeholders, VF was represented as a "serious health-related decision which should be made on health grounds" [G4/6] and should be "permitted where a demonstrated population nutritional need (as per Codex

principles), can be established as well as for restoration and nutritional equivalence purposes" [G4/1]. Similarly, public health stakeholders claimed "significance to public health (demonstrated need or benefit) should be the primary reason for voluntary fortification" [PH2/2].

Both government and public health submitters rejected the use of VF on the basis of a 'potential nutritional benefit' as suggested in the CP and by industry stakeholders. They also disputed the proposition that VF could be used to address the health needs of individuals rather than the population, or that it might be used to reduce the prevalence and cost of chronic diseases, such as obesity, heart disease, diabetes and some cancers. These submitters considered 'potential nutritional benefit' to be a "vague term that could easily be inappropriately applied" [PH2/3] and something that was "nebulous… and could lead to increased consumer confusion" [PH7/3]. They also suggested any revised VFP would exacerbate existing, as well as create new, public health problems.

For submitters in the industry stakeholder category though, the representation of VF as a problem of public health, did mean providing a 'potential nutritional benefit', and VF was viewed as a means of nutritionally enhancing foods that had an intended health benefit. Thus, for industry, 'optimising' health and nutrient intakes, and promoting health and well-being for both individuals as well as the wider community, was an important meaning of this problem representation. Submitters claimed, "nutritional knowledge advances are increasingly showing the growing importance and value of vitamins and minerals in maintaining optimal health and preventing many diseases" [IN19/10].

Industry stakeholders believed customers should be provided with the opportunity to achieve optimal health and nutrition, and consequently recommended that a specific policy principle addressing nutrient enrichment be included in any VFP, rather than just the traditional fortification concepts of restoration and nutrition equivalence. Submitters also suggested VF could play a role in preventing chronic disease and reducing associated health care costs. As one submitter stated, "the needs of Australians have changed, with a shift from 'solely' the prevention of classic nutrient-deficiency diseases to also optimising nutrient intakes for the prevention of chronic diseases and for overall health and well-being" [IN16/7]. Another claimed, "meeting a demonstrated need and/or a potential nutritional benefit…can only but enhance public health" [IN19/9].

VF as a problem of nutritional inadequacy was another important meaning of the representation

of VF as a problem of public health for industry submitters. Individual foods, individual diets and the general food supply were all viewed as nutritionally inadequate. Widespread inadequate micronutrient intake among the general population was considered to be the consequence of a range of factors. These included increasingly busy and pressured lives, different family structures, changing dietary needs and changing dietary intakes, the "gap between the ideal and what people actually eat" [IN18/2], increased consumption of processed, takeaway and convenience foods, inadequate consumption of fruits and vegetables, deficiencies in Australian and New Zealand soils, seasonal variation in the nutrient content of raw ingredients, and micronutrients lost or depleted in food processing.

Whilst most industry stakeholders believed it was possible to obtain a well-balanced nutrient intake from a well-balanced diet, they asserted that dietary intakes in the community were not ideal. This meant nutrient intakes were sub-optimal, and fortification was necessary to ensure adequate nutrient intakes for all. For example, one submitter claimed, "foods to which vitamins and minerals have been added voluntarily make a contribution, sometimes significantly to achieving adequate intake for the population and consequently reducing the risk of sub-optimal intakes" [IN23/6]. Another believed, "one of the most effective ways of ensuring the nutritional status of populations and individuals is by adding nutrients to food" [IN18/3].

Public health and government stakeholders disagreed with this view, claiming "where sub-optimal intakes of micronutrients are identified in the population, the first intervention should be directed towards increasing the availability of foods which are natural sources of the micronutrient and education of the public to increase intakes of these foods" [PH4/2]. These submitters were also concerned the proposed policy changes would drive food consumption by the public toward a more highly processed and less nutritious diet, that would then contribute to the epidemic of obesity and associated chronic diseases. Submitters were worried that the impact of this would "lead to increased health costs" [PH3/4]. Further, submitters believed that "evidenced-based [*sic*] public health nutrition policies and programs have significantly more potential to reduce hospital waiting lists and health care costs" [PH3/7] than VF. Submitters suggested "it would be better if this time, money and effort was directed towards genuine public health nutrition issues, principally equitable food access – at least for basic foods throughout Australia (urban, rural, remote), rather than relying on fortified foods to correct this need" [PH4/2].

For industry, a further meaning of the representation of VF as a problem of public health, was the

proposition that current recommended dietary intake (RDI) levels for vitamins and minerals were no longer adequate for attaining the best possible health and well-being among the population. Submitters claimed that knowledge of nutritional requirements was increasingly showing the importance of an increased micronutrient intake in maintaining optimal health and preventing chronic disease. For example, one submitter suggested, "there is substantial evidence to indicate that intakes of certain vitamins greater than RDI are beneficial to health and could reduce the risk of certain chronic diseases" [IN18/3], whilst another claimed, "with an understanding of the concept of 'optimal nutrition' the RDI levels are conservative" [IN22/13].

VF as a problem of evidence

The use of suitable evidence to support VF permissions, was another representation of the policy problem used by all stakeholder groups. Whilst all stakeholders appeared to agree that scientific evidence should be used to determine VF approvals, disagreement occurred regarding what constituted appropriate evidence, how it should be used, and whether sufficient up-to-date evidence was available to make VF decisions. For three stakeholder groups (citizen, government and public health), the proposed policy changes should have been, but were not adequately based on up-to-date scientific evidence. For the industry stakeholder group however, other types of evidence - such as international experience, market data and consumer research - were also considered suitable for supporting VF permissions. Conversely, some government and public health submitters were concerned about the impact any potential expansion of VF permissions would have on the accuracy and validity of food and nutrition research, and the maintenance of up-to-date and precise food composition databases.

For the citizen stakeholder group, allowing fortification on the basis of a 'potential nutritional benefit' was considered inappropriate for evidence-based policy. For example, one submitter:

> *does not believe that a 'potential' health benefit is sufficient reason to permit voluntary fortification. There must be a demonstrated need and evidence that voluntary fortification will address this. [C5/3]*

Government and public health groups agreed that the concept of a 'potential nutritional benefit' was unscientific and "a nonsense" [G9/8 and PH6/1] that had "no place in evidence-based science and food regulation" [G9/8 and PH6/1]. These submitters where keen to emphasise the difference between a scientifically demonstrated need for VF and a 'potential' need. They argued that a demonstrated need considered the type of evidence required (including biochemical assays and

dietary intake data), what constituted sub-optimal nutrient intake, and what proportion of the population was affected. On the other hand, a potential nutritional benefit could not be fully quantified and therefore was "merely a concept" and "not a term used in nutrition science" [PH6/1]. For these stakeholders, fortification should only be allowed "where there is a demonstrated public health need based on scientifically evaluated evidence of clinical or sub-clinical deficiency" [PH3/1]. Further, the policy problem should be the level of scientific evidence required to justify fortification permissions, and that level should be the same for both mandatory and VF.

Another key aspect of the representation of VF as a problem of evidence for both government and public health stakeholders, was the lack of scientific evidence available on which to base any policy development. Submitters were concerned that there was insufficient, up-to-date, scientific evidence (particularly dietary data) to justify any policy change, and that any "regulatory decisions will be uninformed and non-evidence based" [PH3/3 and PH6/5]. Public health and government stakeholder groups, along with one submitter in the citizen stakeholder category, also expressed concern that, at the time of the consultation, Australian dietary intake data were nearly a decade old. Consequently, these submitters asserted that "before an evidence-based policy decision on food fortification can be made, the first priority needs to be the immediate funding of a comprehensive national food and nutrition survey" [PH3/3 and PH4/3].

The lack of available data, and absence of a plan to collect the data considered necessary for use in the policy development process, was also considered by both government and public health stakeholders, to be irresponsible and flawed government practice. Submitters maintained, "the inadequate up-to-date dietary intake and food composition data on which to base policy decisions is a serious flaw with this policy development and as such is not responsible practice" [G4/3, and similar statement in G9/3]. Others added, "it is irresponsible to consider the role of voluntary fortification of the Australian food supply without adequate information" [G8/4, 8] and "an expanded fortification policy at this point in time will not be responsible government practice" [PH3/3]. Government and public health submitters also implored policymakers to consider the implications of VF on existing food and nutrition databases and monitoring systems, which were important for the accuracy and validity of food and nutrition research, as well as for gathering the evidence required to demonstrate a need for VF.

Stakeholders in the industry category agreed that permissions for VF needed to be scientifically

justifiable, or “based on solid scientific proof” [IN17/9]. As one submitter claimed, industry wanted to “ensure that the policies are based on the best scientific evidence, to enable provision of a safe and healthy food supply” [IN24/2]. However, as the majority of this stakeholder group believed it was appropriate that VF be permitted on the basis of providing ‘potential nutritional benefits’ for both individuals and populations, suitable evidence was also described as “evolving generally accepted scientific knowledge” [IN18/2,6 and IN4/4], “evolving plausible scientific knowledge” [IN2/1 and IN4/2], and “credible science” [IN13/3].

For industry submitters, evidence was represented as an important means of demonstrating and justifying the need for VF. It was also important for rationalising whether there should be some or no exclusion of nutrients or foods from VF permissions, and it was a means of identifying and dealing with any possible impacts of VF (whether positive or negative). As such, some industry submitters agreed with other stakeholder groups, that the evidence required for these purposes was currently lacking, particularly the need for up-to-date and regular monitoring of national dietary intakes and eating habits. Current dietary patterns were represented as not well understood, along with the impact of VF on food choices, and consumer understanding of information provided about VFF. It was suggested that more consumer research was required to better understand these issues, although one submitter claimed “much knowledge of consumer behaviour and eating patterns resides within the food industry” [IN13/3].

Evidence other than scientific evidence was also important for this representation of the policy problem by industry stakeholders. Evidence considered appropriate included, industry experience from within Australia and overseas, national and international sales and market research data, as well as consumer research. Such evidence was not just considered important for supporting permissions for VF but was also used to counter concerns and claims made about the benefits and risks of VF by other stakeholder groups.

VF as a problem of risk

The representation of VF as a problem of risk was used by all stakeholder groups to refer to ensuring “a reasonable certainty of minimal risk to public health” [IN2/1]. The main risk to health identified was the potential for excess vitamin and mineral intake to occur among the community, as a consequence of an increased range of VFF in the marketplace.

For the citizen, government and public health stakeholder groups, there were a range of other risks of VF that were viewed as having ultimate consequences for long-term public health. These

included factors such as, adverse micronutrient interactions, interactions of fortificants with medications, unknown bioavailability of nutrients in fortified foods, and emerging evidence of unexpected health consequences from increased nutrient intakes. Several submitters cited studies illustrating emerging risks, for example where "supplements of beta-carotene were expected to reduce risk of cancer, but instead were found to increase the risk" [PH3/5]. Others spoke more generally, saying:

> *There must be a low risk of excess vitamin or mineral intake or adverse nutrient interaction for all population groups. However, in some cases the long-term effects on public health of lifetime exposure to greater amounts of vitamins and minerals in the food supply are unknown. Policy options must be considered within a sound risk-based approach. [C4/2]*

However, most were concerned about how such risks could be identified and managed. They indicated that, "given the paucity and only recently emerging information on the risks of supplementation, it will be difficult to apply a risk management framework (i.e. the risks are largely unknown or are only recently being discovered)" [G4/3, G8/4].

Stakeholders from the citizen, government and public health groups were also anxious about risks such as a loss of integrity of the food supply, limited availability of non-fortified foods, population dietary intakes and consumption patterns being adversely altered away from core foods toward more highly processed VFF, and a consequential increase in risk of chronic disease from the altered food supply and associated changes in dietary patterns. As one submitter said:

> *At a time when there is a national effort to address obesity and promote a message of healthy weight for the population, it should be recognised that a range of voluntarily fortified foods increases the risk of adversely affecting the food supply. It has been demonstrated that altering dietary patterns toward a more highly processed, unhealthy diet, will contribute to the epidemic of overweight and concomitant increased risk of chronic diseases and associated health care costs. [G7/2]*

Whilst a few submitters in the industry stakeholder category shared some of these additional concerns, many did not. Apart from risk to public health and safety, key for the majority of industry submitters was reducing the risk of sub-optimal nutrient intakes among the population through the use of VFF. As one submitter said, "foods to which vitamins and minerals have been added voluntarily make a contribution, sometimes significantly to achieving adequate intake for the population and consequently reducing the risk of sub-optimal intakes" [IN23/6]. Additionally,

it was suggested that, “certain long-standing voluntary fortification practices…may be central to the maintenance of nutritional adequacy in the population” [IN23/6].

Several industry submitters went so far as to argue that concerns about the risk of adverse impacts from VF were unfounded. These submitters used the experience of other countries with long-standing, liberal fortification policies, to declare there was no evidence of any type of risk from the use of VFF. It was also suggested that, “there is substantial evidence to indicate that intakes of certain vitamins greater than RDI are beneficial to health and could reduce the risk of certain chronic diseases” [IN18/3]. Further, if any risk did exist, they believed it would be mitigated through the development and use of “*responsible* fortification procedures” [IN18/4, *emphasis added*] and policy. And, stakeholders argued that unless VF was likely to have a deleterious effect on public health, there should be no limit on food vehicles permitted to be fortified.

For one industry submitter, minimising the risk of excess nutrient consumption from VFF was viewed as an individual responsibility. This was because information available on the food label was believed to provide customers with the tools they needed to avoid such risk. However, another industry submitter disagreed, suggesting that warning statements should be required on the labels of foods containing added nutrients. This was believed necessary because of possible adverse or unknown risks from interactions between the fortificant and other nutrients or medications, which was also suggested by other stakeholder groups.

For citizen, government and public health stakeholder groups, another aspect of VF as a problem of risk, related to customers being misled by deceptive and unregulated food industry behaviour, and ambiguous marketing and advertising. For stakeholders this meant, “the potential to increase consumer confusion about food and nutrition issues” [G4/3], such as a balanced diet and healthy food choices. Submitters were concerned that persons purchasing and consuming VFF would essentially be eating ‘junk’ foods with added nutrients, which would ultimately lead to the development of chronic diseases. Further, a blurred legal line between foods and drugs would also exacerbate consumer confusion. Given that, “FSANZ research has already indicated that consumers are confused about the nutrition information currently provided on food labels” [G4/3] stakeholders were concerned that, “voluntary fortification is likely to exacerbate that confusion” [G4/3].

For government and public health stakeholders, the risk of insufficient scientific data available for use in food regulatory risk assessment and risk management procedures was also problematic.

Such processes were used by FSANZ to assess whether permission to voluntarily fortify specific foods and/or drinks would be granted to an applicant, and limited availability of up-to-date, relevant evidence, might risk drawing inaccurate or inappropriate conclusions. Public health submitters proposed that the usual risk assessment conducted for food regulatory permissions, "go beyond the evaluation of single nutrients to include the impact of food fortification on eating and disease patterns over the long-term" [PH3/6]. They also urged that strict regulation, monitoring, evaluation and enforcement systems be put into place before any expansion of VF permissions was sanctioned.

For industry, a science and evidence-based risk management framework applied to VF regulation, was the means of protecting the public from any possible risks or safety concerns. One submitter suggested that not all nutrients have equal risk, and "a much better evidence-based approach" [IN24/4] would be to divide fortificants into different categories and ascribe distinctive regulatory approaches for each category, based on the associated level of risk.

Another meaning of the representation of VF as a problem of risk for industry, was financial risk. Financial risk was the risk involved in developing a new product when there may be limited uptake of that product in the marketplace. Such products may be removed from supermarket shelves in less than six months after launch, thereby not providing the anticipated economic return for investment in product development.

VF as a problem of commercial benefit

For the majority of stakeholders in the industry category VF was represented as an opportunity for gaining commercial benefit. Submitters viewed food as a commodity. Therefore, VF presented opportunities for product innovation which was a particularly important aspect of creating commercial benefit. As one submitter said, VF "encourages fair trade, industry growth, innovation and international trade" [IN19/9]. For another, "these innovative opportunities should enable the industry to evolve rather than have its future commercial and economic prospects restricted" [IN20/3].

Part of the problem representation of commercial benefit for industry stakeholders, was responding to what were described as both the threats and opportunities of market forces, globalisation and global trends. One submitter depicted part of their organisational remit as advancing policy that enabled "businesses to tackle the threats and grasp the dual opportunities of globalisation and changing consumer demands" [IN24/5]. Another proposed that:

> *Providing domestically produced fortified products comply with international food regulation and as [sic] the uptake of fortified foods expands worldwide there will be [sic] also be increased export opportunities and incentive for our local enterprises to be entrepreneurial and to compete in global markets. [IN20/4]*

Additional important aspects of this problem representation for industry included, ensuring equitable opportunity for all manufacturers and all food products to be voluntarily fortified, and ensuring the credibility of both the food industry and VFF was secured. Credibility was viewed as vital for developing long-term markets. For some submitters, credibility could be achieved by allowing VF only where there was "valid reason" [IN7/3]. However, for others, any regulation regarding demonstration of benefit, should not restrict innovation.

What were labelled "arbitrary" [IN22/9, IN21/9], "restrictive" [IN18/6, [IN6/2] and "paternalistic" [IN17/4,6] limitations on the types of foods that could be fortified and the use of associated labelling claims, were viewed by industry submitters as detrimental to product innovation and consumer needs. One submitter said, "arbitrary restrictions will unnecessarily inhibit product innovation and communication programs to assist consumers in meeting their needs" [IN22/9]. Another agreed that, "arbitrary limitations in regard to specific foods being permitted to be fortified with vitamins and minerals will unnecessarily restrict product innovation to meet consumer needs" [IN21/9]. However, other stakeholders suggested restriction regarding food vehicles was necessary for ensuring consumer trust and confidence in VFF.

An additional key aspect of the representation of VF as a problem of commercial benefit for industry, was that of responding to 'consumer demand' and providing for 'consumer choice'. Thus, VF was viewed as "ultimately a response to consumer demand/need" [IN10/3]. Further, an increase in sales of voluntarily fortified products was viewed as evidence of such demand, and innovation using VF was represented as the appropriate response. One submitter claimed:

> *There is clearly a consumer demand for fortified products, both in Australia and world-wide. This is seen in the growth of the segment of fortified beverages sold in Australia, having been produced (in) or imported from New Zealand [IN14/4].*

Stakeholders also suggested VF could provide alternative options for changing consumer needs, by enabling more choice. Submitters believed customers had the right to choose the type of products they consumed, and tailor them to their individual needs. As one submitter said, "Voluntary fortification provides an opportunity for more consumer choice. Informed consumers will be able

to select from a wider range of foods based on their nutritional needs" [IN21/11].

Despite the majority of industry stakeholders representing VF as a problem of commercial benefit, for one submitter in this stakeholder category, VF was a problem of commercial and economic threat. For this submitter, VF encroached on their members' business of over-the-counter micronutrient supplements. They feared that should the public believe they could now obtain the vitamins and minerals they needed or wanted via VFF rather than supplements, sales of over-the-counter nutrient formulations would be affected. Also, as supplements were regulated under a different system to foods, whereby health and nutrition claims were permitted on supplement labels but not food labels, the possibility of VFF being allowed to use claims, provided a further threat to the supplement business.

For citizen, government and public health submitters, "voluntary fortification should not be allowed where the purpose was solely for commercial gain" [C6/2]. For these submitters, VF as a problem of providing commercial benefit for industry was the antithesis of VF as a problem of public health and was irresponsible policy. Stakeholders claimed, "the decision to fortify should be made on public health grounds in the first instance, not on commercial grounds" [G6/4]. Further, "factors such as the sales/marketing edge on fortified foods and food industry innovation may be a consequence but should not determine voluntary fortification" [PH2/2].

These submitters further defined this problem representation as providing a sales and marketing edge for industry. Whilst they were fervently opposed to it being the policy problem, or indeed even a valid reason for policy change, the majority recognised it as the 'real' reason the policy was being developed. As one submitter said:

> *decisions on product development and innovation (are) not primarily about improving the health of consumers, but about establishing a new and possibly niche product in order to gain a competitive marketing and financial edge [C5/6].*

Another suggested:

> *A major driver of voluntary fortification appears to be that it provides a sales/marketing edge. The paper could be honest and state this explicitly. [G9/9]*

An additional concern underlying this opposition to VF being a problem of commercial benefit, was the belief that the exploitation of public confusion about the health benefits of VFF, would be used to promote sales, whilst not providing any actual health benefit for the customer. Submitters

also suggested that commercial benefit for industry was the issue that underscored the consultation paper's representation of the policy problem as providing a 'potential' health benefit for the public. Allowing VF for reasons of 'potential nutritional benefit' was viewed as enabling fortification for misleading reasons. This concern appeared to be validated by one government submitter that did support VF for reasons of commercial benefit, who claimed:

> *A 'potential nutritional benefit' may not necessarily address a specific need or deliver a specific benefit. If the concept of 'potential nutritional benefit' is intended to allow industry innovation, a benefit may not be delivered even though potentially it could. [G5/5]*

Citizen, government and public health stakeholders questioned the role of 'consumer demand' and 'consumer choice' as key drivers for change in VFP. In the representation of VF as a problem of commercial benefit, they suggested there was no evidence that VF was desired by customers, and that the likely loss of choice of non-fortified foods would be of greater concern. As one submitter commented:

> *Please provide the evidence that consumers are 'expecting a greater choice'. A restricted availability of non-fortified foods is a real issue for consumers. For example, in a whole supermarket aisle devoted to breakfast cereals, there are now only one or two choices that remain unfortified. Furthermore, recent supermarket policy is narrowing consumer choice down to one or two main brands and a 'home' brand. [G4/4]*

Another stakeholder suggested:

> *The consultation paper states that consumer choice is the key driver for voluntary fortification. Increased choice should not be the driving force behind fortification… While increased choice may be a benefit it should not be a key driver for fortification. Consumers have a vast array of food products to choose from, capable of meeting everyone's nutritional requirements… Greater variety is not the answer. [C5/5]*

Responsible policy development was also raised as an important issue within this problem representation. Commercial gain was considered an irresponsible reason for allowing VF, whilst public health was considered a responsible reason for allowing VF. As one submitter stated, "this supports the principle of responsible fortification for public health rather than commercial gain" [C3/3].

However, not all submitters in the government and public health stakeholder categories were

against VF for commercial gain. For one government and two public health submitters, allowing VF for reasons of commercial benefit was a valid as well as a predominant representation of the policy problem. For these submitters, "voluntary fortification should enable industry innovation while ensuring public health and safety" [G5/6].

VF as a problem of protecting consumers

Where protecting consumers was viewed as the policy problem, citizen, government and public health submitters were particularly concerned that the food and marketing industries would mislead and deceive consumers with respect to the need for, bioavailability of nutrients in, and 'healthiness' of, VFF. It was important to stakeholders "that consumers' perception of a well-balanced diet is not altered to view foods as a 'magic bullet' solution" [C4/2], or that they "be misled about 'healthy' food choices" [C4/3] and what constituted a balanced diet.

Stakeholders were concerned that industry would create increased confusion for customers through the use of non-evidence-based nutrition and health claims, and "the promotion of non-evidence-based so-called 'potential nutritional benefits'" [G4/2 and G7/2]. Further, stakeholders suggested:

> *Fortification and the subsequent marketing of fortified foods has the capacity to mislead or deceive consumers. The use of health and nutrient claims to sell these products will send the message to consumers that they need to consume fortified foods in order to be 'healthy', and that a fortified product is 'better for you' than the non-fortified equivalent. [C5/1]*

Submitters from these groups also suggested manufacturers would use existing public confusion about food and nutrition to mislead and deceive customers into purchasing VFF that were essentially 'junk' foods. In turn, increased consumption of such voluntarily fortified 'junk' foods would ultimately lead to the development of chronic disease, and exacerbation of existing public health problems.

Considerable concern was expressed by these stakeholders that "the issue (of) misleading conduct and deceptive practices is not mentioned in the current high order principles" [PH6/4] proposed in the CP. They represented this inclusion as vital "if consumers are to be confident that fortification is in their best interests, not just in the interests of the food industry" [C5/1]. In addition, submitters claimed that Codex principles (which included such protection) have been proven to and would "help prevent practices which may mislead or deceive the consumer" [G7/1].

Underlying these concerns, was the belief that the exploitation of public confusion about the health benefits of VFF would be used to promote sales, and provide commercial benefit for the food industry, whilst not providing any actual health benefit for the customer. Thus, stakeholders asserted, "clarity for consumers is essential" [G4/4].

VF as a problem of policy consistency

Whilst the representation of VF as a problem of policy consistency was only prominent for three of the stakeholder groups, it was still evident within the fourth group, but with a variation in meaning. For the majority of stakeholders in the citizen, government, and public health categories, consistency of fortification policy with national and international food and nutrition policy was particularly important and was related to the representation of VF as a problem of public health. Submitters contended that permissions to voluntarily fortify foods should "be consistent with nutrition policy and dietary guidelines" [C5/2] and "fortification policy needs to be consistent with other national nutrition policy (Food and Nutrition Policy, Eat Well Australia, Dietary Guidelines, Australian Guide to Healthy Eating)" [G9/6].

However, a few submitters in these stakeholder groups, questioned whether it was actually possible for fortification policy to be consistent with food and nutrition policy. This was because food and nutrition policy was generally based on whole foods, whilst fortification policy was related to nutrients. For example, submitters claimed:

> *Dietary guidelines are food based not nutrient based - therefore it is difficult to see how the addition of vitamins and minerals to foods (not normally containing these nutrients) can be consistent with increasing consumption of fruits and vegetables for instance, particularly given the lack of understanding of efficacy of nutrients removed from their food substrate. [G9/9 and similar statement in PH6/2, emphasis existing]*

For one government submitter that represented the problem of VF as creating a commercial benefit for industry, consistency with food and nutrition policy should not have been a policy principle for VF at all. This was because consistency with such policy would mean food type dietary supplements (FTDS) would require a separate policy and not be able to be incorporated under VFP.

While most industry submitters represented policy consistency with national nutrition and health promotion policies and guidelines as appropriate and important, caveats were placed on this

support. These included, “providing those policies are soundly based on current scientific evidence” [IN22/13], and:

> *National nutrition polices must keep track of changing eating patterns and intakes and adapt to meet the present situation. Educators must be flexible and adaptive to be able to effectively communicate with their audience. Lifestyles today do not allow for the eating practices of 50 years ago. [IN21/10]*

A few industry submitters though, asked “how can national nutrition policies be applied to individual foods?” [IN4/4]. These submitters suggested, “National nutrition policies are relevant to the total diet only. They do not, and cannot, relate to one specific food” [IN7/3].

For most submitters in the citizen, government and public health stakeholder groups, VF as a problem of policy consistency also referred to consistency with other national and international food regulatory policies. National policies specifically mentioned included, health claims, novel foods and FTDS. As one submitter noted, “it is difficult to discuss the issue of fortification without considering policy on food-type dietary supplements and health claims” [C5/5]. Another claimed:

> *this policy must be progressed in conjunction with (not in isolation) policies on food type dietary supplements and nutrition, health and related claims. They are integrally linked and this paper has not adequately considered progress of either of the other policies. [G4/5]*

Consistency with other food regulatory policy was also represented as important by industry stakeholders. In particular, submitters suggested “FTDS need to be reviewed in conjunction with fortification and health and related claim policies” [IN19/4]. Industry also declared they had “made the point, on many occasions, that fortification, nutrition and health related claims are matters that cannot be reviewed in isolation” [IN19/4].

However, the food regulatory policy most commonly mentioned by citizen, government and public health stakeholders as needing to be consistent with Australian and New Zealand VFP, was Codex policy. Several submitters specifically endorsed the Codex policy principles on fortification as preferable to the policy principles proposed by FRSC in the CP. Indeed, a number of submitters specifically quoted some or all of the Codex policy principles in their submissions, claiming they were “the most appropriate in relation to these deliberations” [PH6/6], and that stakeholders “would like to see better acknowledgement regarding these in the (consultation) document”

[PH6/6]. Others suggested they would only support "a fortification policy based on the Codex principles for fortification" [C5/2].

In contrast, rather than existing international food regulatory policy, industry stakeholders recommended consistency with international fortification and health claims policies that were in the process of being developed or reviewed at the time of the 2003/4 Australian VFP consultation. For example, the *Codex Draft Guidelines for the Use of Health and Nutrition Claims (Step 8)*, the *European Union (EU) Draft Regulation on Nutrition, Functional and Health Claims Made on Foods*, and the *EU Draft Regulation on Fortification*, were policies being developed that were specifically mentioned by submitters.

Another important aspect of this problem representation for industry stakeholders, was policy consistency within food regulatory standards as well as between and within food groups. For one submitter, "the voluntary fortification of the food supply is currently permitted in a somewhat *ad hoc* manner in the Australian and New Zealand Food Standards Code" [IN13/7]. It was suggested that regulation should "be consistent within the standard and non-discriminatory by food groups" [IN23/17]. It should also "not discriminate within food groups" [IN13/3].

For industry stakeholders though, VF as a problem of policy consistency, also meant consistency with national economic policy such as guidelines and legislation on fair trading, industry growth, international trade and innovation. Indeed, for these submitters, this was represented as equally, if not more important for VFP, as consistency with nutrition and/or food regulatory policies. Whatever the direction taken by FRSC with respect to policy consistency though, for industry stakeholders VFP should "draw on the best elements of international regulatory systems and be responsive to future trends and developments" [IN23/17]. Also, "no one or group of policies should exclude or constrain another" [IN4/2 and IN19/8].

Recap of 'problem' representations in the stakeholder submissions

This component of the key document data demonstrated that in responding to the 2003 FRSC *Consultation Paper on The Draft Policy Guidelines for Fortification of the Food Supply with Vitamins and Minerals*, four categories of stakeholders represented the 'problem' of VF in a variety of ways. Three predominant problem representations, including VF as a problem of public health, a problem of evidence and a problem of risk, were common across all stakeholder groups. A fourth representation of the policy problem; VF as a problem of commercial benefit, was also important for all groups, but for very conflicting reasons.

For citizen, government and public health stakeholders, VF as a problem of public health meant addressing serious, demonstrated, population wide, health and/or nutritional needs. Industry submitters however, viewed this representation of the policy problem, as an opportunity to provide 'potential nutritional benefits' for individuals in order to 'optimise' their health and well-being. These stakeholders also represented VF as necessary to address what were viewed as nutritionally inadequate individual and population dietary intakes and a nutritionally inadequate food supply.

All stakeholder groups used the representation of VF as a problem of evidence, to refer to the need to use scientific evidence to underscore VFP. However, disagreement occurred regarding what constituted appropriate evidence. Citizen, government and public health stakeholder groups claimed up-to-date, scientific evidence was required to support VF permissions, whilst industry stakeholders represented evidence such as international experience, market data and consumer research as also suitable.

VF represented as a problem of risk was used by all stakeholder groups to mean minimising risk to public health, particularly the risk of excess vitamin and mineral intake occurring as a consequence of a greater availability and range of VFF and drinks in the food supply. Industry submitters though, also believed the risk of sub-optimal micronutrient intakes without more VFF was greater than the risk of excess nutrient consumption with VFF. However, the other stakeholder groups expressed the need for caution because of the possibility of a range of additional adverse and unknown, long-term public health consequences occurring with increased micronutrient intakes.

The fourth representation of VF as a problem of commercial benefit, was particularly prominent for industry stakeholders, and acknowledged as the 'real' policy problem by other groups. As a consequence of this problem representation though, citizen, government and public health stakeholders also represented VF as a problem of protecting consumers via the prevention of misleading and deceptive conduct by industry when in the pursuit of commercial gain.

Underlying all of these problem representations, was the representation of VF as a problem of policy consistency. Consistency with national and international food and nutrition, and food regulatory policy was viewed as important by all stakeholder groups. However, for industry, consistency with national and international economic policy was also imperative.

4.2.3 FRSC Summary Analysis of Submissions

In early 2004 the stakeholder responses to the FRSC fortification CP considered above, were read and summarised by a FRSC working group on fortification. As previously discussed and shown in Tables 4.1 and 4.2, the working group categorised all submissions received into four major stakeholder groups, that were similar to the ones identified in the present study. The opinions, concerns and preferred policy options expressed in the submissions were then summarised by the FRSC working group, and presented according to each stakeholder category, in a brief précis document called *Fortification of the Food Supply with Vitamins and Minerals: Summary Analysis of Submissions* (SAS) (Food Regulation Standing Committee 2004).

The following section in this thesis, examines that SAS document and describes the way in which the FRSC working group represented the policy 'problem' of VF, based on the submissions from each of those four stakeholder groups. Results are firstly presented according to stakeholder category in Table 4.4, and then in a description of the problem representations used by each group. The names given to each stakeholder category in this section, are those assigned by the FRSC working group, rather than those previously identified for the present study.

Table 4.4: Predominant policy 'problem' representations presented in order of priority for each stakeholder group in the FRSC SAS document (Food Regulation Standing Committee 2004)

Stakeholder Group	**Problem Representation**				
Citizens	RISK	PROTECT CONSUMERS	POLICY CONSISTENCY		
Government	PUBLIC HEALTH	EVIDENCE	RISK	PROTECT CONSUMERS	SOCIAL EQUITY
Industry	COMMERCIAL BENEFIT	RISK			
Public Health	PUBLIC HEALTH	*NOT COMMERCIAL BENEFIT	RISK	EVIDENCE	PROTECT CONSUMERS

***** '**NOT**' means stakeholders represented the problem of VF as something that should not be for commercial benefit.

Consumers and Consumer Groups

According to the FRSC working group, citizens, or 'consumers and consumer groups', mainly represented the problem of VF as minimising risk to public health and protecting consumers from being misled. With respect to minimising risk to public health, concern was expressed regarding the "long-term, adverse effects of excessive intake of vitamins and minerals" [SAS/6]. The FRSC working group indicated some submitters thought a lack of relevant nutrition monitoring and surveillance data made it difficult "for Governments to monitor dietary patterns for excessive

intakes of vitamins and minerals" [SAS/6]. There was also concern expressed that a large range of fortified foods in the food supply would mean a risk of citizens unwittingly exceeding upper safety limits for micronutrient intakes.

The representation of VF as a problem of protecting consumers from being misled, was related to ensuring the bioavailability of fortificants, providing clear labelling of VFF, and delivering appropriate education for the public. Citizens indicated that foods of "poor nutritional value" [SAS/6] should be excluded from VF permissions, and "the fortificant in the food vehicles must also be able to be absorbed by the body otherwise consumers will be mislead [sic]" [SAS/6]. Further, VFF needed to be clearly identifiable, "health claims should not be allowed" [SAS/6], and "strict labelling requirements regarding statements should apply" [SAS/6]. Additionally, it was suggested that, there was "the need for better consumer nutrition education" [SAS/6] to assist citizens with making "informed decisions regarding (VF) food choices" [SAS/6].

For one citizen submitter though, the FRSC working group represented the problem of VF as one of policy inconsistency with New Zealand. This was because of "the current differences between the New Zealand dietary supplementary regulations and the Food Standards Code" [SAS/7]. According to this submitter, "it was important that this loophole was closed" [SAS/7].

Government Groups

The FRSC SAS document provides several representations of the 'problem' of VF for the government stakeholder group. These included public health, scientific evidence, risk, protecting consumers and social equity.

Thus, according to the FRSC working group, for government stakeholders, VF as a problem of public health meant fortification should only be permitted where there was a demonstrated population health need, rather than for a "potential nutritional benefit" [SAS/7]. Also, VF should be "consistent with dietary guidelines" [SAS/8], and "only core foods should be allowed to be fortified" [SAS/7]. In addition, it was important that "the integrity of the food supply must be maintained" [SAS/8], and "that if voluntary fortification were left uncontrolled the food supply would become distorted" [SAS/8]. Further, government stakeholders considered it critical that VF did not "further direct consumers away from eating habits encouraged by dietary guidelines" [SAS/8]. According to the SAS, some submitters were more specific than this and supported the:

> *restriction of fortification vehicles to foods consistent with dietary guidelines and only where the vitamins/minerals occur naturally in the food. Foods of poor nutritional*

qualities should not be allowed to be fortified. [SAS/8]

Another aspect of the representation of VF as a problem of public health was the concern of government stakeholders that "voluntary fortification also has the potential to direct funds away from other public health strategies" [SAS/8].

For the FRSC working group, government stakeholders representing VF as a problem of scientific evidence, meant ensuring policy decisions were underpinned with adequate, up-to-date scientific data. The SAS document indicated that:

> *A number of submissions commented on the lack, or inadequacy of, current dietary/food composition data and questioned the ability to make evidence or science-based decisions on inadequate or excessive intake and dietary patterns. [SAS/8]*

It was also noted that one submitter "supported maintaining the status quo until the necessary diet/food compositional data on which to base decisions was available" [SAS/7]. Another part of this problem representation was the need for monitoring of VF permissions, as well as any associated labelling claims. However, it was additionally indicated that submitters thought, "governments will possibly bear the cost for enforcement and monitoring" [SAS/8].

The representation of VF as a problem of risk by government stakeholders in the SAS, was particularly focussed on the risk of excessive nutrient intake by the population. As the FRSC working group noted, "most of the submissions commented on emerging evidence that there could be a risk of excessive intake of some vitamins and minerals" [SAS/8]. However, submitters were also observed to be concerned that, "an expanded fortification system could blur the distinction between the drug and food regulation systems" [SAS/8] in Australia and New Zealand. Thus, the FRSC working group suggested that stakeholders reasoned, "any fortification policy would need clearly defined parameters" [SAS/7].

A further representation of the problem of VF for government stakeholders in the FRSC SAS document, was protecting consumers from possible misleading and deceptive conduct by industry. This was because "consumer confusion could increase because of industry marketing" [SAS/8]. Thus, submitters "recommended that fortified foods be clearly identifiable from non-fortified" [SAS/8]. According to the FRSC working group, some submitters suggested that, "advisory statements should be included on the label" [SAS/8], while others indicated "consumer education programs will be needed" [SAS/8]. Such information was recommended for advising citizens of the role of VFF in the context of an overall, balanced diet.

A final representation of the problem of VF by government stakeholders evident in the FRSC SAS document, was that of social equity. Stakeholders were concerned that the price of VFF would preclude citizens with low incomes from obtaining any benefit there might be from consuming them. As the SAS document indicated:

> *A number of submissions commented on the likelihood that consumers would pay a premium price for the fortified food. The possible increase in price may provide a barrier to low social income groups. [SAS/8]*

Industry and Business Groups

The FRSC working group represented the industry and business stakeholder group's view of the 'problem' of VF as predominantly one of providing a commercial benefit for industry. The industry's support for VF was represented as being based on providing "industry with the incentive to support vitamin and mineral research, product innovation and fair trade, while still maintaining the high order principle of (protecting) public health and safety" [SAS/2]. There was also a view that ultimately "market dynamics would determine" [SAS/3] whether there would be a demand for both voluntarily fortified and non-fortified foods.

A further aspect of this representation of VF as a problem of commercial benefit, was framing VF as a means of reducing regulatory burden for industry, by providing policy consistency with international food regulations, particularly those of the EU. This was because the EU included "bioactive substances" [SAS/2] other than vitamins and minerals within their fortification policy, and thereby "remove(d) the need for a standard for Food-Type Dietary Supplements" [SAS/2].

Another representation of the problem of VF for industry stakeholders evident in the FRSC SAS document, was ensuring minimal risk to public health. The majority of industry submitters (19 of 25) were shown to support the third policy option provided in the CP, whereby VF would be permitted wherever there was minimal risk to public health. A few submitters however, expressed concern about risk to public health where "the risk level is unclear" [SAS/2] or limited safety information was available. However, minimising risk to public health was also related to the problem representation of commercial benefit, with the SAS indicating submitters thought "the *credibility* of the food industry must be maintained and any addition of vitamins and minerals should not be permitted if there is a risk to public health" [SAS/3, *emphasis added*].

Public Health and Professional Groups

According to the FRSC working group, public health stakeholders represented the problem of VF in

several ways. These included VF as a problem of public health, not a problem of commercial benefit, a problem of risk, a problem of scientific evidence and a problem of protecting citizens.

The predominant representation of the 'problem' of VF for public health stakeholders, was public health. The SAS document indicated that submitters suggested VF permissions should be consistent with public health principles such as demonstrated need, nutrient restoration and nutritional equivalence. Public health stakeholders also believed fortification, whether mandatory or voluntary, "should be in line with Codex principles" [SAS/4] and that "consistency with nutrition guidelines should be maintained" [SAS/5]. Further, the FRSC working group conveyed that submitters thought "voluntary fortification shouldn't affect the integrity of the food supply" [SAS/5], and that qualifying and disqualifying criteria should be applied to ensure food vehicles for VF were nutritious and "at least a moderate source of the nutrient being fortified" [SAS/5].

For public health stakeholders, the SAS document also indicated that VF was represented as something that should *not* be a problem of commercial benefit. Submitters were concerned that "voluntary fortification should be implemented in cases where commercial preference doesn't take precedence over public health and [sic] unbalanced diets or potential nutrition imbalances will occur" [SAS/4]. In addition, according to the FRSC working group, public health stakeholders suggested that if VF was viewed as a commercial problem, it would "actually decrease consumer choice, as the availability of non-fortified foods will become limited" [SAS/5]. Submitters were further concerned that a commercial view of VF would "result in increased cost to consumers" [SAS/5] and any "perceived benefits will not reach those with less market power" [SAS/5].

Another representation of the policy problem for public health submitters in the FRSC SAS document was minimising the risk to health of any excess nutrient intake, or unknown or long-term effect of increased nutrient intake or nutrient interactions from VFF. Submitters also suggested citizens should be made aware of any risks associated with VF, so they "know exactly what they are purchasing" [SAS/5] and subsequently eating.

A fourth representation of the problem of VF by public health stakeholders in the FRSC SAS document, was scientific evidence. Submitters represented VF as something that needed to be underpinned by evidence, and that "comprehensive and current scientific evidence is required to inform this policy decision" [SAS/5]. Accordingly, "most submissions questioned the concept of '*potential* nutritional benefit' and requested clarification… as to what this actually means" [SAS/4, *emphasis added*]. Stakeholders also expressed concern that "the only dietary intake/food

compositional information available is ten years old" [SAS/5] and thus, new data were required before any expansion of VF be allowed. Further, the FRSC working group indicated that public health submitters believed "governments should be responsible for the monitoring of voluntary fortification in terms of levels of fortification, realisation of benefit and claims made by manufacturers" [SAS/5].

Finally, the SAS document displayed public health stakeholders as representing VF as a problem of protecting consumers. Citizens were particularly represented as needing protection from misleading marketing and labelling of VFF. Submitters suggested, "claims should be truthful, concise and not inflated claims of benefit" [SAS/5]. The FRSC working group indicated that citizens were represented as particularly vulnerable to misleading claims because of a lack of knowledge about fortification. Consequently, public health stakeholders considered that an:

> *Education campaign should inform changes to the food supply and consequences regarding food choices. The potential for diets to become distorted in favour of fortified products is of concern. [SAS/5]*

Preferred policy option

A prominent aspect of the FRSC SAS document was the identification of the preferred policy option for fortification permissions by each stakeholder group. Whilst the option preferred for VF by each group contributed to their representation of the policy 'problem', of particular note was the differing views on this matter, both within and between groups.

For citizen, government and public health stakeholders, inconsistency within each group in the choice of preferred policy option for VF was stark. Support was divided between each of the three policy options proposed in the CP[3], and stakeholders in each group also suggested two or three alternative policy options as their first choice. Thus, preferences within each group were divided between up to six policy options, ranging from no VF permitted at all, through to VF being allowed wherever there was reasonable certainty of minimal risk to public health. This meant that based on preferred policy option alone, the representation of the problem of VF within these each of these stakeholder groups, ranged from no problem, to public health, evidence and risk.

In contrast, a clear majority of industry stakeholders supported the same policy option; that is, VF would be permitted wherever there was reasonable certainty of minimal risk to public health.

[3] ibid.

Thus, there was unity of opinion and representation of the policy 'problem' (risk) as expressed in the preferred policy option for industry submitters. On the other hand, citizen, government and public health stakeholders were divided and lacked cohesion.

Recap of the 'problem' representations in the FRSC SAS document

This section revealed that in the SAS document, the FRSC working group represented the problem of VF in a range of ways for each stakeholder group, as shown in Table 4.4. Predominant problem representations included public health, risk, commercial benefit and protecting citizens from being misled by deceptive commercial practices. In addition, stakeholders from the citizen, government and public health groups were divided in their preferred policy option for VF, whilst industry stakeholders were united.

4.2.4 Ministerial Council *Policy Guidelines*

The culmination of the process of public consultation on the VFP in 2003/04 was the finalisation and endorsement of the ANZFRMC *Policy Guideline for the Fortification of Food with Vitamins and Minerals* (PG). This section considers the representation of the policy 'problem' in both the 2004 and the revised 2009 ANZFRMC PGs (Australia and New Zealand Food Regulation Ministerial Council 2004; Australia and New Zealand Food Regulation Ministerial Council 2009b). While the nomenclature used for quotes from these policies is according to what was outlined at the beginning of Section 4.2, the two policies are distinguished by the addition of a numeral for the relevant year. Thus, the 2004 PG is signified as PG4, and the 2009 PG as PG9.

The problem of VF in the ANZFRMC PGs, was represented to be the conditions under which the fortification of foods and drinks with vitamins and minerals should be allowed in Australia and New Zealand. In other words, a more liberal fortification policy was desirable. It was specifically stated that the "policy guideline provides guidance on development of *permissions* for the addition of vitamins and minerals to food" [PG4/1, PG9/1, *emphasis added*], that is, permissions being the 'problem', rather than omissions or exclusions, or even whether VF should be allowed at all. Further, the policy indicated there was "no intention to review the current permissions" [PG4/1, PG9/1] for fortification, and "the policy should only apply to new applications and proposals" [PG4/1, PG9/1]. Thus, the fortification of foods and drinks with vitamins and minerals was represented as an accepted food regulatory practice in both Australia and New Zealand, and there was no reason to question its continued and broadened use.

VF itself was represented as a good thing, a 'normal' thing, something that delivered a "health

benefit" [PG4/3, PG9/3]. It was not represented as a 'problem' per se, and there was no apparent risk associated with its use. Indeed, the policy seemed to promote the use of VF wherever it might be of benefit, rather than where benefit would be more assured by demonstration of public health need. For example, specific order principles for VF indicated its use was appropriate "where data indicates [sic] that deficiencies in the intake of a vitamin or mineral in one or more population groups are *likely* to develop…" [PG4/3, PG9/3, *emphasis added*], and "the permitted fortification has the *potential* to address the deficit or deliver the benefit to a population group…" [PG4/3, PG9/3, *emphasis added*].

By way of contrast, MF was represented as a problem that was very 'risky' and requiring of stringent regulation. Terminology such as "be required", "be consistent", "ensure that" [PG4/2, PG9/2] was used in the MF specific order policy principles, while the VF specific order principles were phrased as "to enable" and "permissions to fortify should ensure" [PG4/3, PG9/3]. MF was also to "be required only in response to *demonstrated significant* population health need taking into account both the *severity* and the *prevalence* of the health problem to be addressed" [PG4/2, PG9/2, *emphasis added*]. VF on the other hand, was more predictive than reactive, and to be sanctioned in instances such as:

> *where there is a need for increasing the intake of a vitamin or mineral in one or more population groups…*
>
> *or*
>
> *where there is generally accepted scientific evidence that an increase in the intake of a vitamin and/or mineral can deliver a health benefit [PG4/3, PG9/3].*

Further, any "agreement to require mandatory fortification also requires that it be monitored and formally reviewed" [PG9/3], while "A permission to voluntary fortify *should* require that it be monitored and formally reviewed" [PG4/4, PG9/4, *emphasis added*]. Interestingly, the 2004 PG had only indicated that MF permissions "should require" [PG4/2] monitoring and surveillance, and this was altered for the 2009 PG. However, this change does seem to emphasise the greater risk associated with MF, and the importance of underpinning it with evidence, when compared with VF, for the ANZFRMC.

The reader of the PGs was assumed to be very familiar with the concept of fortification, as there was no explanation or definition of it in the policy apart from a brief footnote that stated, "within the context of this policy Fortification [sic] is to be taken to mean all additions of vitamins and

minerals to food including for equivalence or restoration" [PG4/1, PG9/1]. The notion that the reader was familiar with the concept of fortification, and related terms like equivalence and restoration, supported the observation that fortification itself was not represented to be the policy 'problem'.

The policies did seem to represent as problematic any VF permissions inconsistent with national nutrition policies and guidelines. For example, the PG stated, "permission to fortify should not promote consumption patterns inconsistent with the nutrition policies and guidelines…" [PG4/3, PG9/3] and "permission to fortify should not promote increased consumption of foods high in salt, sugar or fat…" [PG4/3, PG9/3]. However, the double negative language used in the policies, made it difficult to interpret the precise meaning of these statements with confidence; should VF be consistent with nutrition policies and guidelines and not be permitted in non-nutritious foods, or was the use of "*not* … *inconsistent* with" [PG4/3, PG9/3, emphasis added], meant to allow more flexibility and leniency?

There was little change to the wording between the 2004 and 2009 policies with respect to VF. The main alterations were in relation to MF. The only change for VF was in the specific order policy principles, where the 2004 statement "permission to fortify should not promote increased consumption of foods high in salt, sugar or fat" [PG4/3] was extended in 2009 with "or foods with little or no nutritional value that have no other demonstrated health benefit" [PG9/3]. This addition appeared to suggest that between 2004 and 2009, one or more VF permissions were granted for non-nutritious food/s that were considered inconsistent with the policy intent. Therefore, this change implied that any VF permissions that were incompatible with health and nutrition recommendations were problematic for the ANZFRMC. However, at the same time, it suggested policy-makers' original representation of VF as something that provided a 'health benefit', was dependent on the use of nutritious food vehicles to provide that benefit. Further, given no other changes were made to VFP principles between 2004 and 2009, it seemed policy-makers did not consider any other aspects of VF to be problematic or in need of review.

While there was no specific mention of either policy superseding or building on previous policies, it was apparent that this was the case by the use of statements such as "there is no intention to review the current permissions" [PG4/1, PG9/1]. There was also reference to previous work done in the area by FSANZ in an advisory footnote used in both policies. Despite this, there was no specifically identified problem or concern with any previously existing policy that would have

required a new policy to be developed in 2004, or for it to be reviewed in 2009. It is possible though, that the 'new' food regulatory system instigated two years prior to the development of the 2004 policy, required a 'new' policy be written by the recently formed ANZFRMC, as opposed to continuing with previous policies written by FSANZ under the 'old' system. However, there is no indication of this in the PG.

Recap of the 'problem' representations in the Policy Guidelines

In summary, the policy 'problem' in both the 2004 and 2009 ANZFRMC PGs, was represented to be the conditions under which fortification should be permitted in foods and drinks in Australia and New Zealand, in order to enable a more liberal VFP than had previously been the case. VF was represented as being beneficial for health, with no apparent risks, and was to be permitted where there might be benefit, rather than where benefit was more assured by evidence of need. In contrast, MF was represented as something that was risky and requiring of stringent regulatory control, as well as monitoring and surveillance. Some caution was expressed for VF with respect to consistency with nutrition policies and guidelines, however, the 'health benefit' of VF also seemed dependent on the use of nutritious food vehicles. Moreover, a prior knowledge of fortification was assumed, and the policy was not identified as building on, or developing from, earlier policies or efforts in this area, although this did seem to be the case.

4.3 Summary of key document results

This chapter has detailed the results of the key document data identified as relevant to the development of VFP in Australia between 2002 and 2012. Analysis of the data identified four key stakeholder groups, including citizens, government, industry and public health. The predominant representations of the policy 'problem' were then determined for each of these stakeholder groups, and the meaning and use of these problem representations considered within and between the key stakeholder groups.

The predominant representations of the problem of VF identified in the key documents, included commercial benefit, public health, risk and evidence. VF as a problem of commercial benefit meant it was represented as something that was beneficial for sales and marketing, customer choice, product innovation, industry growth and international trade. This was important for industry stakeholders, but for citizen, government and public health stakeholder groups, the use of VF for these purposes was not supported. For these groups, VF was a problem of public health that should only be used in accordance with traditional Codex Principles, or where there was a

demonstrated public health need.

VF as a problem of risk in the key documents meant ensuring minimal risk to health. For citizen, government and public health stakeholders, this was particularly with respect to the unknown, long-term impacts of greater amounts of micronutrients in the food supply, as well as the possible distortion of the food supply and population dietary intakes. For industry stakeholders though, the risk of inadequate dietary intakes without the presence of VFF in the food supply, outweighed other concerns. Where VF was represented to be a problem of evidence in the key documents, it referred to the need for scientific evidence to support any VF permissions, but also to ensure minimal risk to public health.

Of particular note in the key documents, was the similar way in which the 'problem' of VF was represented in both the initial stakeholder consultation document and the final policy document. In both these data sources, current VF permissions were represented as being too restrictive and thus a more liberal policy approach that aided commercial objectives was desirable. This similarity of 'problem' representation at both the beginning and end of the policy process was despite a period of 'formal' consultation with stakeholders and apparent consideration of their views.

The results of the key documents presented in this chapter were used to inform a series of semi-structured, in-depth telephone interviews with key informants. The results of these interviews will be considered in the next chapter.

CHAPTER 5: RESULTS – KEY INFORMANT INTERVIEWS

The previous chapter detailed the results from the key document data collected in relation to the development of VFP in Australia between 2002 and 2012. It considered the predominant representations of the policy 'problem' in those documents, both within and between stakeholder groups.

This chapter provides the results from the in-depth telephone interviews that were conducted with key informants who had expertise in VFP. The chapter begins with an outline of the response given by key informants invited to participate in the semi-structured interviews (Section 5.1). This section also includes some information about those key informants who were able to participate, and their distribution across the four key stakeholder groups.

Section 5.2 details the predominant representations of the 'problem' of VF used by key informants. The problem representations are firstly considered according to stakeholder group, whereby comparisons are made within each category. The remainder of the section considers the three main problem representations, comparing and contrasting their use between stakeholder groups.

5.1 Key informant interview participants

A total of 17 key informants were invited to participate in a semi-structured, in-depth telephone interview. Three declined the invitation from the outset and one accepted then later declined, leaving a total of 13 key informants agreeing to participate.

Interviews varied in length between 25 minutes and one hour and 34 minutes, depending on the participant's availability and the amount and type of information elicited. All key informants were from Australia, except one who provided a New Zealand perspective.

Key informants were categorised according to the four key stakeholder groups previously identified in the key documents, as outlined in Chapter 4. However, the skills and professional background of some key informants, meant they could have been categorised into more than one group. For example, key informants with a public health background that worked in government, could have been categorised as either public health or government stakeholders. For this analysis though, key informants were placed in the stakeholder group for which the research team considered they had the strongest voice with respect to VF.

The distribution of key informants invited to participate in a semi-structured, in-depth telephone interview, by stakeholder category is presented in Table 5.1.

Table 5.1: Distribution of key informants invited to participate in an interview by stakeholder category

Key informant stakeholder category	Invited to participate	Interviewed
Citizen	3	3
Government	7	4
Industry	4	3
Public Health	3	3
Total	17	13

Government stakeholders were most likely to decline the invitation to participate, citing concerns regarding the potential discussion of 'government in confidence' matters. Those that did participate from this group were also concerned about their choice of words, with two government participants being the only interviewees electing to read and approve their interview transcript before its use in data analysis. One industry key informant declined to participate because of perceived negative experiences in previous public health debates and consequent concerns regarding how their views would be interpreted by researchers. These hesitations regarding participation by some key informants may be an indication of the politicised and contested nature of the field of food regulation.

A list of pseudonyms used for key informant interviewees, and the stakeholder category to which they belonged, is presented in Table 5.2. A brief description of each key informant is also given but is limited to ensure anonymity is retained.

5.2 Predominant problem representations

Key informants represented the 'problem' of VF in a range of ways. A summary of the predominant problem representations used by each key informant stakeholder group is shown in Table 5.3. Representations of the policy problem within each stakeholder category, are then expounded in more detail in sections 5.2.1 to 5.2.4.

Table 5.2: Key informant pseudonyms used by stakeholder category

Key informant stakeholder category	Key informant pseudonyms and brief description
Citizen	Laura - consumer group advocate Charlotte - consumer group advocate Rebecca - citizen representative
Government	Isabel - government stakeholder Natalie - government stakeholder Matilda - government stakeholder Gabriella - government stakeholder
Industry	Nicholas - industry representative Harry - industry representative Chantelle - industry consultant
Public health	Jessica - public health academic Jack - public health academic Bridget - public health academic

Table 5.3: Predominant problem representations used by key informants and presented in order of priority for each stakeholder category

Key informant stakeholder category	Predominant problem representations					
Citizen	COMMERCIAL BENEFIT	#NOT PUBLIC HEALTH	POWER	POLITICAL CONTEXT	CONSULTATION BIAS	VESTED INTERESTS
Government	COMMERCIAL BENEFIT	#NOT PUBLIC HEALTH	LOSS OF EXPERTISE	POLICY INTERPRETATION	POLITICS	ROLE OF FOOD REGULATION & REGULATORY PROCESS
Industry	POWER	PUBLIC HEALTH	COMMERCIAL BENEFIT	EVIDENCE		
Public Health	POWER	COMMERCIAL BENEFIT	#NOT PUBLIC HEALTH	LOSS OF EXPERTISE	POLITICS	

'NOT' means key informants represented the problem of VF as something that should be public health, but this was not the case.

5.2.1 Citizen key informants

For all citizen key informants, the predominant representation of the 'problem' of VF was as a commercial problem; something that was important for the food industry to market products, increase sales, and promote trade. Citizens were particularly concerned that the use of VF in conjunction with nutrition and health claims created a 'health halo' on fortified products, making

them more attractive to customers. As one informant said, “most of the ways in which this will be used will be for manufacturers who just want to make marketing claims on whatever the latest fad is” [Laura]. Another asserted, “I mean it just increases sales; the ‘health halo’ works” [Rebecca].

Concerns about commercial interests in fortification and the use of a ‘health halo’ on VFF, created apprehension among key informants that customers would be misled regarding the nutritional quality of fortified foods. There was also concern it would increase confusion regarding general healthy eating principles. For example:

> *And I think potentially a little bit of distrust in industry that they <u>were</u>[4] going to use, in this case, fortification as a marketing opportunity, and that there would be the risk of consumers being <u>misled</u> by claims that imply or state health benefits associated with some of the nutrients that might be added, but not necessarily added at levels that would be significant. And then also the concern about, what implications that might have for the public’s perception of what a healthy diet is and what healthy foods are and why particular food groups are important [Charlotte].*

The concept of consumer choice was another component of the representation of VF as a commercial problem for citizen key informants. However, it was portrayed as important for industry innovation and competition, rather than as a genuine consumer need. For example:

> *What also used to come out regularly was this theme around consumer choice and giving consumers more choice and that was always going to be a good thing … yet you know there’s also the flip side to that, (which) is by simply creating these things the industry is creating demand for them. Therefore, it seems like consumers are demanding these products but they’re actually, it’s the marketing that’s creating the demand for the products. So often the choice aspect was conveyed as a rationale for doing these sorts of things [Charlotte].*

International trade was also an important part of the representation of VF as a commercial problem. As Rebecca said, “there’s much more voice given to food industry and trade concerns”. She later added, “Trade is so important now to FSANZ and to food law. It mentions it all the time. It’s very important to the food industry as well” [Rebecca].

For citizen key informants however, VF was represented as something that *should* have been a

[4] Where text is <u>*underlined*</u> in a block quote, or *italicised* in an in-text quote, key informants have placed particular emphasis on the relevant word or phrase. This emphasis was evidenced by factors such as the tone, enunciation, accentuation, expression and inflection of voice, as well as protracted speech.

public health problem, but that VF policy and standards were not supportive of this. One informant claimed, "I don't think they support public health at all. I mean is there any public health reason for using a highly-sugared product like (product name) and adding nutrients to it? I mean is this really the right thing to do?" [Rebecca]. Concern was also expressed that VFP was too "open slather" [Charlotte] and lacking in clarity "as to what is consistent with nutrition policies" [Charlotte] making interpretation problematic. VF was represented as unjustified by public health need or scientific evidence, and current permissions were considered contrary to Dietary Guidelines. Additionally, significant concern was expressed that public health considerations had been sidelined and excluded from food regulation decision making. "We're just concerned that health is, sort of, seems to be dropping off the back of the wagon" [Rebecca].

Another representation of the problem of VF for citizen key informants was power. The food industry, particularly the AFGC, was represented as having immense power and influence in food regulatory policy decision-making, with industry boasting of having "friends in high places" [Rebecca] and using bullying tactics (both verbal and physical) to silence and intimidate other stakeholders. For example, an incident was recalled where:

> *I went down to argue the case for why the changes to FSANZ shouldn't happen… and was… almost physically attacked you might say [LAUGHS] …by someone from the food industry [LAUGHS]. Who I like to say almost, because (person), it was actually the head of (organisation) at the time, and (person) sort of cornered me in a very small space and stuck (their) face two inches away from mine, and screamed (their), yelled (their) head off at (me)… I was going out and I think (person) was lifting up (their) hand to open the door, but another (person) came along and said, 'are you alright?' and I said 'yes, I'm quite sure (person's) lifting (their) hand to open the door, not to hit me' [CHUCKLES]. [Rebecca]*

However, key decision-making bureaucrats were also represented as wielding significant power and influence, as well as using intimidation tactics at times. Charlotte recalled an initial encounter with a high-level public service representative that she indicated was known for "pushing back on health people". She said:

> *that (person) did chair a particular meeting, consultation meeting in (place). And that was my first interaction with (person) [LAUGHS]. I know (person) actually shot down a comment that I made; quite, quite some, blast I thought it was. That was my first conversation, first interaction with (person), and (person) was quite happy to put me in*

my place [LAUGHS]. [Charlotte]

Food Regulatory Ministers were also represented as exerting power and authority over FSANZ, particularly in challenging FSANZ decisions. FSANZ itself was represented as having had its power, influence and independence removed. According to Rebecca, "they only get to do what someone else tells them to do". Another citizen informant though, suggested FSANZ was lacking in leadership, despite its limited power and a difficult policy environment. She said, "If FSANZ was playing a leadership role, it could have done this more creatively first-time round. But, it didn't and it never, and it almost never does" [Laura].

Even though industry and some government organisations and employees were represented as the main food regulatory powerbrokers, a few health-related organisations, particularly medical groups, were also represented as wielding substantial power and influence. Collaboration between such powerful groups was represented as "probably likely to achieve something" [Rebecca] with respect to influencing policy decision-making.

Other representations of the problem of VF for some citizen key informants, that were relevant to the problem representation of power, included vested interests, consultation bias and political context. Concern was expressed that relevant politicians and some health-related organisations had conflicts of interest with the food industry, which significantly impacted on decision-making. For example, "somebody or other had unearthed the fact that (Health Minister) was actually acting at times, in a paid capacity, as a lobbyist for (food company)" [Rebecca]. Laura also mentioned a case where another "Minister federally, you know, (person) nearly lost (person's) head over (issue), over carrying the industry's can on (issue)".

Consultation bias toward industry, and away from other stakeholder groups, was also framed as problematic. For example, "we were all complaining that we thought food industry *dominated* what food standards did, and what food industry wanted food industry generally got" [Rebecca]. Another informant considered consultation with consumer organisations was obligatory rather than genuine. They also believed consumer representatives were at the bottom of the hierarchy of consultation importance:

> *My general experience was we were consulted because we were the (type) consumer group. So, there was an element of we have to, that's why we're asking you. I think also feeling much lower in the pecking order compared to industry groups, government, sort of other government jurisdictions… or public health even. So, then I would put the*

consumer, sort of the consumer group really, as the lower, lower level of priority when it comes to who you need to make happy [Charlotte].

With respect to VF as a problem of political context, citizen key informants represented the Conservative side of politics as generally unsupportive of public health. Charlotte said, "I think that we always sort of were of the view that a Liberal Government was going to be more aligned with industry interests". Rebecca added, "and it was the Coalition Government that really sort of changed FSANZ's role, so that they became what I always call the 'handmaiden'". However, it was also indicated that support received by the Labor Party when in Opposition, did not always translate into action when Labor were in Government, and it was only on the rare occasion that a particularly strong-willed politician was willing to act on scientific evidence rather than food industry lobbying.

In summary, citizen key informants represented VF as predominantly a commercial problem that was important for marketing, sales and trade. Citizen advocates considered that VF should be a public health problem, but that the policy was not supportive. They positioned the food industry, senior bureaucrats and Government Ministers as having considerable power and influence in food regulatory policy development, whilst also citing vested interests, consultation bias and political context as influencing VFP processes.

5.2.2 Government key informants

Government key informants represented the problem of VF in a number of different ways. However, there was no problem representation predominant among all informants, as was the case with other key informant groups. This was possibly the consequence of the diverse professional backgrounds of, and the varied Government Departments represented by, key informants in this category. Despite this, several problem representations of note were apparent in the data.

For two government key informants, VF was mainly represented as a commercial problem. This meant VF was desired by the food industry to innovate and to add value to food products for sales and marketing purposes. It was also sought for creating a 'health halo' around VFF which were then promoted using nutrition and health claims:

Look, I think there is a lot of push from industry to be able to value add to products. And I think there's a lot of interest in nutrition in the community and therefore the opportunity to use fortification as a marketing tool. [Natalie]

Gabriella concurred, claiming "obviously, they do it to sell product or they wouldn't do it". However, both key informants were also concerned about the 'health halo' effect of VF. Unease was expressed about the industry:

> *not appropriately representing the, I guess nutrition quality of the food vehicle; the (food product). And you know, there's a 'halo effect' about whether if you make a claim like that it would make the whole of the product look healthier than it is [Gabriella].*

The push for product innovation and differentiation was further exacerbated by a narrowing of the delineation between foods and dietary supplements, with supplement companies also making applications to add nutrients to foods. For example:

> *the interesting thing … about the vitamin D in breakfast cereal. If you look at who the applicant for that is; it's not a food manufacturer and it's not a government… it's a vitamin company, who wants to sell more vitamins. So, you know of course … it's all driven by money, isn't it? [Natalie]*

The representation of VF as a commercial problem though, was also framed by government key informants as being a consequence of a global food supply and the associated need for harmonisation of international food regulations to enable trade. For one informant, trade agreements with New Zealand were problematic, "where basically foods with vitamins and minerals in, made in New Zealand, where those… could actually come into Australia, but you couldn't actually fortify in Australia" [Gabriella]. According to another though, such issues were more global:

> *The other contextual thing is that we live in a global food supply now…harmonisation with Europe and the US and China and wherever else is also really important. So, it's difficult to have a higher level of protection in Australia when other Food Standards Agencies have moved on things. So, I think it's a global problem rather than a local problem [Natalie].*

Connected with this problem representation of VF was the requirement for reducing regulatory burden for industry, and the precedence that took over other considerations when developing policy. As one government informant explained:

> *We have decision-making bodies like the Office of Best Practice Regulation that make sure that we're only putting in place regulations where they are going to have proven benefits. And so, it's very difficult to get regulations through unless you can prove that*

it's got definite benefits. So sometimes even with all the best will in the world from the public health people on FRSC and at FSANZ, it might be the Office of Best Practice Regulation that says this is too much of an impost on industry. [Natalie]

However, this desire for reducing regulatory burden, was represented as emanating from the community, not just government and industry. As Natalie suggested, "there is a lot of rhetoric in the community around that there's too much 'red tape' already, so wherever possible there is a desire to reduce 'red tape'".

For government key informants that represented VF as a commercial problem though, fortification was also framed as something that *should* have been a public health problem. In their view, existing VFP was not supportive of public health and was significantly influenced by the food industry. MF was also considered the most appropriate response to address any nutrient inadequacies in the food supply, or any dietary inadequacies among the population. VF was represented as unnecessary for public health and likely to result in a distortion of the food supply, rather than provide any improved health outcomes. As Natalie indicated, "I'm not a big fan of voluntary fortification I have to say. I'd rather there wasn't any". She later added:

The problem with voluntary is you don't know whether it's gonna be picked up by one manufacturer, two manufacturers or all manufacturers. So, it's very difficult to then predict whether it's going to have any benefit to the community or whether it's gonna have any risks. And, so my view has always been that if there's a serious public health issue that needs to be resolved, then we should do it properly and it should be mandatory. [Natalie]

Nevertheless, for these key informants, the overriding commercial drive for VF meant the public health intent of any VFP became the prevention of any fortification of 'junk food', or the distortion of the food supply with the indiscriminate addition of micronutrients. As one remarked:

We were very anxious as a jurisdiction that we didn't just get a proliferation of a whole lot of nutrients getting chucked into the food supply, and that we could, we didn't want to have 'crap' food being able to be turned into healthy food by virtue of it having had a few nutrients thrown into it. So, we were pretty keen to try and find ways to stop that happening. [Natalie]

She added, "the problem is though we've got, one day we have an application for this, the next day we have an application for that, the next minute we have an application for that, and if you add that, that and that up, you could end up getting too much of some nutrients in the food

supply and you get distortion as a result" [Natalie].

The primary problem representation of VF for one government key informant however, was reflective of the debate surrounding the overarching role of public health in food regulatory policy; that is, whether the public health role was to prevent immediate harm from food-borne illness or to prevent long-term harm from chronic disease. For Matilda, this question was key. She commented:

> *I think that's at the heart of it. Because it is this question about, well at the one end is, no well you shouldn't allow fortification of everything, anything at all, because what you should be doing is getting people to eat the right diet, through to the other end of the conversation which is, well, is regulation really just about making sure that you're not gonna eat anything that is gonna kill you? [Matilda]*

On the other hand, Gabriella believed that the overarching food regulatory policy had already specified that public health considerations such as chronic disease, not just food safety, should be incorporated into all policies. At the same time though, she viewed food regulatory policy as something not to be used as a proactive or preventative public health tool, but something that should not actively counteract public health initiatives:

> *It's not always the role of the food regulation system to fix something, but we can play our part, we can do our bit… And a lot of the time it's not about proactively doing things; it's about not actively working against. [Gabriella]*

She later added, "It's not about acting to actually put something in place and play a big role, but it's being cognisant when you make decisions, that we're not acting against maybe the Dietary Guidelines or other nutrition and public health interventions" [Gabriella].

A couple of government key informants represented VF as a problem of the loss of technical expertise, particularly public health and nutrition expertise, among policy advisors and policy decision-makers. As Natalie lamented, "the problem is [SIGH] our (public health nutrition) positions around the country have been shrinking recently". Informants believed such losses were due to the ongoing outsourcing and devaluing of such technical expertise, which then impacted on the quality of food regulatory policy.

> *I think there is unfortunately a problem at the moment, and I don't think I'm out of order saying this, in governments outsourcing their technical expertise. And so, you get decisions being made within government …. but they're not getting the right amount and*

input from technical experts. And to be fair, some technical experts are unable to 'helicopter up' to taking a more policy approach, so there's a sort of policy technical divide that I think is emerging and where policy people are devoid of technical knowledge and technical people are criticised for being too detailed. And I think somehow, we have to bridge that gap and make sure that governments continue to invest in good quality, high level technical advice and valuing it at a high level. [Natalie]

According to Matilda, this lack of understanding and devaluing of technical expertise among high-level decision-makers, was related to the complexity of the issue and the lack of definitive scientific evidence of long-term harm. She suggested it was far quicker and easier for the non-technical person to understand immediate harm from food-borne illness, than make the link between current dietary intake and long-term health outcomes.

So, I think this is a really, really complex issue. And when you try and ask politicians to make decisions about something as complex as how regulation impacts on consumption patterns at this level of complexity, it's pretty hard to actually know what the right decision is…. It's really hard to understand what you're talking about. You know, as a non-nutritionist, for me, it took me, I'd probably even say years, to really get a good understanding about why we were even talking about this stuff. [Matilda]

Consequently, Matilda believed the ongoing debate about food regulatory policy became emotional and philosophical rather than evidential. As she suggested, "it's an emotional area, and you have so much more influence of emotion, than you might in some other spaces…like defence policy or something" [Matilda]. She later added:

You either have a philosophical view about it or you don't…whether you let people make choices or you don't let people make choices and you protect them, is then a philosophical position. I think that when you come to this stuff, this policy space is riddled with that. [Matilda]

Another aspect of the representation of VF as a problem of loss of technical expertise, was the characterisation of Commonwealth Government policy staff as highly transient and having generalist knowledge rather than specialist expertise. Thus, they were completely reliant on State and Territory jurisdictions to provide the pertinent skills. However, at the same time, those jurisdictions were losing relevant expertise because of ongoing staff and funding cuts.

And I think that if you look at the Commonwealth nutrition section for instance, every five minutes there's a different person there. It's really hard to know how the

> *Commonwealth even works anymore. And so, it's left to jurisdictions in some ways to bring to the table the technical expertise, and most of us are trying to do that almost off the side of our desks. So, I think there needs to be greater investment in, and recognition and understanding of, the technical expertise in terms of the longer-term ramifications of fortification decision making. [Natalie]*

A final part of this problem representation was the view that nutrition knowledge was not recognised as a specialist field, because everyone has a relationship with food, and therefore everyone considers themselves an 'expert'. As Natalie commented, "the problem for nutrition I think is that everybody is an expert. And everybody likes to think they're an expert". She added, "Everybody eats and everybody want to have their views on food" [Natalie]. Matilda concurred:

> *We all put food in our mouth, so we all have a very clear view about how the food supply should be shaped and managed. And the personalities of the politicians involved in decision making in this space I think is very clearly connected to their personal experiences. [Matilda]*

On the other hand, Natalie also suggested that public health nutritionists needed a change of attitude because they were not well received by policy-makers and other stakeholders. She said, "I don't think nutritionists as a whole have a very good reputation at the moment in Australia… there can be a sort of self-righteous sort of attitude which is not going down well" [Natalie].

Another representation of the problem of VF used by a few government key informants was policy interpretation. This meant the gist of key policy wording, terms and phrases was considered unclear and therefore open to interpretation. Consequently, different stakeholders understood the policy wording differently, and had different expectations of the policy application and outcomes. One informant expressed concern about this, saying:

> *Ooo [SIGHS], I actually, I've struggled a lot of these policies. I think that the language in them is not particularly clear; there's lots of wriggle room…Like you know, what do you mean by 'should not promote increased consumption'? How do you prove that? Yeah, I just think… a lot of it is in the interpretation and a lot of it comes to FSANZ's interpretation. [Gabriella]*

It was similar for another informant who suggested, "with words like 'little or no nutritional value that have no other demonstrated health benefit', they're expressed in policy term(s), and when people have various expectations on whether you've followed that policy or not, they all have their own views on what that means" [Isabel]. Natalie also remembered, "having arguments about

the policy and the nuances of the words and that sort of stuff. I can't remember the detail (of) the arguments, but I remember having lots of debate within, between the jurisdictions around the wording".

The interpretation of VFP was particularly variable between Government Departments and FSANZ. FSANZ's interpretation of policy was based on different considerations than jurisdictions. Consequently, VFP was often developed or reviewed in response to FSANZ decisions that jurisdictions had not expected. Gabriella remembered a couple of cases where this occurred. This was particularly so for a 2004 decision that allowed calcium to be added to fruit juice, soups and savoury crackers, as well as a more recent decision regarding vitamin D in breakfast cereals. She explained:

> *Yes that, that was a seminal moment that. That a lot of jurisdictions thought that this policy guideline wouldn't permit calcium in orange juice. So therefore, what you've got is you have a policy developed, Ministers implement, agree to it, FSANZ was supposed to be using it in developing standards and looking at applications, and then the policy makers obviously came back and went well 'actually you obviously need a bit more clarity 'cause you're not doin' it right'. And then obviously, the same thing happened last year with the vitamin D in breakfast cereals. [Gabriella]*

For Isabel though, there was a legal explanation for such differences in interpretation between FSANZ and the jurisdictions. She indicated:

> *And one of the other things is where you talk about FSANZ implementing policy. This is an interesting area, and it goes back to Section 18 of the FSANZ Act…. And it talks about how (FSANZ) need to consider any policy, Ministerial Policy Guideline that (FSANZ) receive. And the language in the FSANZ Act is 'have regard to'. And (FSANZ) have had legal advice as to what does 'have regard to' mean? And my shorthand version is 'to give genuine consideration'. So, when people, sometimes people think that (FSANZ) follow every word of the policies because (FSANZ) have to, and that's not the case. (FSANZ) have more latitude than that. [Isabel]*

The problem of VF was also represented as a problem of politics by a couple of government key informants. Matilda said, "in the end the decisions were always shaped by the political climate of the day; in it's broad, in its small 'p' political sort of sense, rather than big 'P' political party view". Gabriella agreed, saying, "after all, the Ministers are all politicians!". VF was framed as a balancing act, whereby policy-makers had to find the middle ground between the very polarised views of

stakeholders. Occasionally though, Ministers had a strong, personal view that would be used to 'champion' specific issues or policies. However, in the end the final version of a policy came down to Ministerial Council votes. As Matilda explained, "I think it was always about votes. What could you get through? What, what do we really want it to look like?". For another informant though, Ministerial votes were also highly influenced by senior bureaucrats and FRSC members:

> *You know the whole FRSC and Food Regulation Standing Committee's got ten jurisdictions to get agreement on, and different jurisdictions come and go in terms of their you know, colours of political persuasion and involvement of whether it's Primary Industry being lead or Health being lead… So, it actually becomes quite challenging even to negotiate policy within government. But you know getting, in order to get something through Ministerial Council you need a majority vote. So, you need six out of the ten to agree to something to get something through. So, there's a fair bit of work that's needed to do to get everybody lined up [Natalie].*

Finally, for one government key informant VF was represented as a problem of the policy development process. Three issues of particular concern were described. Firstly, the minimal thought given to the long-term ramifications of policy decisions, or any precedent that would be set for future policy decision-making:

> *And I think that what we probably don't do well in policy, is think about the precedent setting and long-term ramifications of positions. And I think there's probably another step in the process that doesn't exist at the moment, of people thinking about, so what are the ramifications of this? And what are the perverse outcomes that might happen further down the track? And I really don't think enough thought is given to that. [Natalie]*

Secondly, concern was expressed that the burden of proof of harm lay with government and public health, rather than with industry:

> *So, in many respects we're often flouted by the fact that we have to prove that there is risk and harm associated with a proposal, when the applicant doesn't have to, you know? Where's the proof of the problem? They don't have to prove that it's safe. We have to prove that it's harmful. [Natalie]*

And thirdly, there was concern regarding the fact that food standard applications to FSANZ and Ministerial policies were considered in isolation, rather than in conjunction with others, or with a broader view of possible overlap and interaction. Again, Natalie remarked, "the way the system works is you assess each individual application as a one off, rather than in the overall scheme of

things". She added, "we still assess each application on its individual merits and we don't look at it in the context of, well how many other permissions for this nutrient are in the food supply?" [Natalie]. Thus, there was concern that the impact of a range of VF permissions on the nutrient profile of the food supply became highly unpredictable.

In summary, government key informants represented the problem of VF in a number of ways, with no particular problem representation being predominant among all informants. However, a couple of informants represented VF as a commercial problem that was important for product innovation and sales and marketing, particularly via the creation of a 'health halo' on VFF. Global trade, harmonisation of international regulations, as well as reducing regulatory burden on industry were also important aspects of this problem representation.

In addition, government key informants represented the problem of VF as something that *should* have been, but was not, a public health problem. For these key informants, it was important that VF permissions were not allowed for 'junk foods', and that the integrity of the food supply was not compromised by the indiscriminate addition of micronutrients. However, one key informant represented the problem of VF as reflective of the ongoing debate regarding the overarching public health role of food regulatory policy; whether that role was to prevent short-term or long-term harm.

Another problem representation of VF for some government key informants was the loss of technical expertise among policy staff and high-level decision-makers in all jurisdictions. Of particular concern, was the ongoing outsourcing of this technical expertise as well as the devaluing of public health and nutrition knowledge and experience. The diverse interpretation of VFP wording was another problem representation for some government key informants. Various jurisdictions and government bodies interpreted the meaning of key terms and phrases differently, with FSANZ applying a more legally-based approach than others. VF as a problem of politics was a further representation for some government key informants, with the final version of a policy always coming down to gaining a majority vote on the Ministerial Council. Finally, for one informant, VF was represented as a problem of the policy development process, with issues of precedent setting, burden of proof of harm, and policy overlap all causing concern.

5.2.3 Industry key informants

The representation of VF as a problem of power was used by all industry key informants to describe those stakeholders, committees and organisations that were believed to possess or not

possess decision-making power and influence in food regulatory policy development. The FRSC as well as public health and public health nutritionists working for relevant Government Departments, were represented as having considerable power, whilst the food industry and FSANZ were framed as having limited decision-making power.

The FRSC was represented as particularly powerful because "FRSC is where the (policy) development takes place" [Chantelle]. However, public health was also viewed as powerful because of its majority representation (eight of 10 jurisdictions) on both the FRSC and the Ministerial Council. For example:

> *Part of that is possibly attributed to food policy being handled in portfolios that are primarily health portfolios. And only in New South Wales is the portfolio, the lead Minister on the Forum, a non-Health Minister, or a Minister who does not also have health responsibilities. And so… it's a very strong public health view. [Chantelle]*

Indeed, Chantelle considered the public health view so powerful she went on to say:

> *So, there's probably, a question is really, is there any need for further public health engagement [CHUCKLE] when you've got such strong public health interests already reflected in the membership of the policy making arrangement for the joint system, and for Australia more generally? [Chantelle]*

The problem representation of the power and influence of public health in food regulatory decision-making, was also represented as emanating from public servants with public health and public health nutrition roles. This was because of what was believed to be both their intimate involvement in driving the policy process, and their possession of a high level of sway with Food Regulatory Ministers. Nicholas suggested, "it (the policy process) was very much driven by the public servants in the Department of Health" and, "the public health nutritionists who worked in the Department of Health were much more vocal and influential in getting their views put forward through the Minister to the Ministerial Council" [Nicholas].

Industry key informants represented their own level of power and influence in food regulatory decision-making as being less persuasive than that of public health. One informant claimed, "Generally, we find that our views are taken on board to a lesser and greater extent, but we don't get the traction that we would wish on policy issues when FRSC is developing them" [Harry]. He also believed that greater influence was held by "the public health sector… the nutritionists who are employed by the Departments, who ultimately have to brief the Ministers. I mean I don't really

blame the Ministers; they just, you know, they're heavily reliant on their advice ultimately from the Departments" [Harry].

One organisation represented by industry key informants as having limited power in decision-making, was FSANZ. Chantelle framed this as problematic for policy development. She said:

> *FSANZ is on, usually sits at the table on these (FRSC) working groups. And so, it can be quite frustrating at times if after policy guidelines are in place, there are concerns expressed by FSANZ about the opaqueness of them, or the difficulty of working with them, when they're actually at the table at the time that they're developed. [Chantelle]*

Another representation of the problem of VF that was significant for all industry key informants, was public health and nutrition need. The policy itself was considered very supportive of, strongly aligned with, and even skewed toward, public health. In response to an interview question that asked whether the policy was considered supportive of public health principles, Chantelle responded, "Oh absolutely! Absolutely!". She then outlined exactly how each specific policy principle in the VFP was believed to be supportive of public health, concluding that the policy had a "*very strong*[5] influence of public health policies and approaches" [Chantelle].

For other industry key informants, the representation of the problem of VF as one of public health and nutrition need, meant addressing nutritional inadequacies in both individual dietary intakes and the food supply more broadly. Thus, the "fundamental need" [Harry] of VF was framed as being:

> *the recognition that there are still pockets of consumers or you know, sub-groups of consumers or the population, which for one reason or another are sub-optimal in their vitamin intakes against recommendations. Now, I suspect you're always gonna get a few of those, but the pockets are too, too large to ignore, and the concerns are too great [Harry].*

However, another industry informant represented VF as necessary for addressing nutritional inadequacies more broadly across the food supply. Nicholas suggested that without VFF, the population would be at risk of dietary intakes low in micronutrients. He recalled a meeting where:

> *(person) gave a whole lot of data on modelling, showing how much, I particularly remember riboflavin, was contributed by fortified foods. And that if they were taken*

[5] ibid.

away, much greater proportion of people would (be) below the RDI, or you know some way at risk of that [Nicholas].

In addition to the problem representations of power and public health and nutrition need, two of the three industry key informants represented VF as a commercial problem; specifically, a problem of marketing and a problem of trade. Marketing purposes were represented as the genuine reason for the use of VF, which appeared contrary to the representation of the problem as one of promoting health. As Nicholas commented, "of course, I would parenthetically say, mostly people are doing this (VF) for marketing reasons really, not for public health reasons; let's be honest". VF as a problem of marketing was also framed as creating a point of difference from competing products. Again, Nicholas suggested, "It's just the marketing of it. You know, one company has said we're going to market our products and another one hasn't". He went on to describe the actions of a food company launching a new product as, "they were looking at a point of differentiation from (competing product) to try and you know, promote it" [Nicholas].

VF as a problem of marketing was also framed as useful for creating a 'health halo' around products in the minds of customers. Nicholas explained, "it's often putting a health halo around foods that themselves are not particularly healthy". He also commented:

My own view is that, particularly for vitamins and minerals, people are a bit blasé about it… they think it's a bit, oh well it's a generally healthy thing but they, they're not really looking at food as important supplements in the same way as they might take a (vitamin supplement). They just sort of think it adds to the general halo of healthiness [Nicholas].

However, whilst the problem of VF was represented as one of marketing, its use did not necessarily directly translate into sales. Once more Nicholas commented, "I think the impact of those things (VF) on sales is always pretty limited. Unless you've got something really unique, and it's probably not so much traditional vitamins and minerals".

Another part of the representation of VF as a commercial problem was the promotion of trade and the harmonisation of food regulations between countries in the pursuit of that goal. For one industry informant that was particularly important:

because New Zealand in particular, but also Australia to a slightly lesser degree, we are exporters of food. And to that extent having regard to the international standards which are established… for easing, making international trade more probable, possible… is very important. [Chantelle]

However, a trade goal more specific to the VFP setting between Australia and New Zealand was that of potentially incorporating the *DSR 1985* into the joint Australian and New Zealand FSC. These regulations had been operating in New Zealand for some years before the joint system was established and allowed for foods that had higher levels of vitamins and minerals in them than was permitted under Australian, and subsequently the joint regulations. As Chantelle explained:

> *One of the objectives of the joint system was to accommodate in the future, some, potentially all, of the arrangements that New Zealand had, so that we could have a broader opportunity for the food supply in Australia and New Zealand: a) to be homogenous; and b) to be broader and allow more voluntary vitamins and minerals to be added. And so, when the Food Standards Code was signed into commencement in 2002, the understanding from the New Zealand side, was that our provisions and our regulations around supplemented food, would sit in (the) wings, until such time as they could be accommodated within the Food Standards Code over time. [Chantelle]*

For New Zealand this was a particularly important objective:

> *So, that was the background with which New Zealand participated in the policy development. What we were wanting was a voluntary arrangement that would <u>allow</u> for those admissions to take place. So, there was a very, a very practical goal there. [Chantelle].*

Chantelle also suggested that from a New Zealand perspective, this goal had not been achieved, largely because of "the much stronger conservatism of view in the Australian jurisdictions, than is the case in New Zealand".

For some industry key informants, VF was represented as a problem of evidence, with science considered the ultimate authority for food regulatory decision-making. However, these informants complained that food regulation policy suffered from unwarranted and unscientific intrusion by key decision-makers. As one informant described when reflecting on changes to food regulation in recent decades, "I think it's become much more science based… much more rigorous in the sense of scientific assessment… 'Cause quite often it's a frustrating, non-science-based interference by politicians on some of the policy making" [Nicholas].

For Harry, such non-scientific intrusion on more recent VF decisions, originated in broader public health campaigns about reducing sugar consumption that were instigated by health promotion advocates. Harry represented this type of campaign as unscientific, as well as moralistic and

almost hysterical. He commented:

> *Now you know that was against the backdrop of an extremely rabid anti-sugar campaign that's now been going on for almost three years. And that in itself, is really unfounded in science; it's just a whipping up of the issue… against a very, very low evidence to support their views. But somehow or other the jurisdictions have got whipped up in it, and I suspect some of the politicians might be of that view as well [Harry].*

Harry went on to suggest that industry arguments were "extremely well thought out", "loaded with evidence" and presented with "much greater rigour than… the public health sector" [Harry]. Public health advocates were believed to "claim the high ground" [Harry] and adopt what was framed an "adversarial nature" [Harry] in debates that was considered unhelpful.

In summary, key informants from the industry stakeholder category represented the problem of VF as primarily a problem of power in decision-making, with public health viewed as having greater influence with important policy-makers than the food industry. However, key informants in this group also represented VF as a public health problem that was needed to address nutritional inadequacies in individual dietary intakes, as well as in the broader food supply. Additionally, VF was framed as a commercial problem, important for both marketing and trade, whilst the authority of scientific evidence rather than moral arguments in food regulatory decision-making was also represented as problematic.

5.2.4 Public health key informants

VFP in Australia was predominantly viewed by all public health key informants as a problem of power. It was represented as an example of the power and influence of the food industry in food regulatory decision-making, and particularly the power differential between public health and food industry stakeholders. The food industry was framed as having significantly more power and influence over VFP development than public health and citizen stakeholders, as well as having significant political power and influence in its own right. As one informant commented, "and the food industry has a lot of power. Don't think I mentioned that, but they do; political power and influence…" [Bridget]. Jack concurred. He remarked:

> *Voluntary fortification to me is a very strong marker of the power relationship between commercial interests and public health interests. It's a policy position that completely supports the interests of the commercial food sector, and in particular, the highly processed food sector, the unhealthy end of the food spectrum, and it completely*

undermines basic public health nutrition principles. So, it couldn't have a starker example of the undermining of public health protection and the promotion of commercial exploitation [Jack].

For public health key informants, VF represented as a problem of power meant public health views were less influential with policy decision-makers than industry views. For example, "Yes, my experience is that they're (public health views) not well received and I guess lack the sort of power that food industry groups might have" [Jessica]. In Jack's view though, this experience of having less influence on decisions was the consequence of industry views being more consistent with the overarching neoliberal government philosophy of pursuing economic growth via trade and deregulation. He lamented, "so those with the power, and by that, I mean those predominantly with a neoliberal way of thinking…" [Jack].

The representation of VF as a problem of power was further used by public health informants to suggest the involvement of influential and conflicted interests at each level of the food regulatory decision-making process. This was believed to advantage commercial views whilst at the same time disadvantage public health opinions. Jack described these vested interests as being:

…throughout the food regulatory system. So, it's within the staffing within FSANZ, within the executive within FSANZ. It's particularly prominent in the Board of FSANZ. That would be where it is perversely and obscenely established to privilege food manufacturers' interests. We've actually got those with food manufacturing interests being presented as representing public health interests, which is just an insult. And it carries on through the various levels right up to the Ministers. So that we've seen progressive weakening of the ability to address public health concerns at the Ministerial level [Jack].

In addition, public health key informants suggested there had been a shift in power since the turn of the century, when Agriculture Departments took on a greater role in the decision-making process and reduced the level of influence previously available to Health Departments. This was believed to impact on VFP, and for Jack was further evidence of the influence of vested interests. "We've now got a situation where non-Health Ministers have voting power on the Ministerial Council. Even when there are public health concerns, it can be Ministers with a clear conflict who can vote on those sorts of issues" [Jack]. Bridget agreed, however she noted that the shift in power was more evident around a particular time period. She suggested:

The other thing that strikes me with this is … in food regulation there seems to be a point of time where whole of government responses became more the norm. So, up until the

> *period of time, probably up until around '08 I think, there was [sic] more nutrition people would respond to nutrition relevant policies. And then … Ag Departments had to be more involved and had to agree to the position. And so, what happened is commercial interests became more evident in the policy process, because of course the Agriculture Department represents viable business. And so, I think the power shift, and the emphasis shift, occurred in food regulatory decision making at that time. [Bridget]*

Finally, with respect to VF represented as a problem of power, for one public health key informant it indicated there were struggles for supremacy of personal power between stakeholders in different groups. "The whole voluntary fortification issue was a clash of personalities, with very, very strong, different interests and different beliefs around what should happen with the food supply, and in particular the composition of the food supply" [Jack]. He added, "so, it was a clash of personalities and crude power in that sense" [Jack].

For all public health key informants, VF was also represented as a commercial problem that was necessary for sales, marketing and trade. Additionally, it was framed as the consequence of an overarching neoliberal government philosophy, and the concomitant increased scale and speed of global food trade in recent decades. As one informant said, "almost 99% of the time it's driven by commercial interests" [Bridget].

With respect to VF as a sales and marketing tool, the problem representation largely centred around the use of health as a promotional enticement for customers. Public health key informants indicated that the food industry viewed VF "as a selling point. And it fits well with the agenda in terms of making new products, and health is one of the selling factors" [Jessica]. Bridget concurred arguing, it would "be kind of nice to get rid of voluntary fortification. 'Cause the minute you have, the minute there's a mechanism for fortification and then a labelling of that fortification for benefit, then it's a marketing tool. And I think that's probably mostly where it's utilised" [Bridget].

VF as a commercial problem was additionally represented as important for the promotion of international trade. For Jessica, trade arrangements with New Zealand were particularly problematic and created pressure on the Australian Government to pursue commercial objectives in favour of public health principles. She said:

> *So, one would be the Trans-Tasman Mutual Recognition Agreement, or whatever it's called, and New Zealand not repealing their Dietary Supplements Regulation. And that's put a fair amount of pressure I would have thought, on Australian Ministers to kind of*

just accept that that's going to be the case. And even though they (NZ) had agreed to rescind it or repeal it or whatever. [Jessica]

However, for all public health key informants the main aspect of the representation of VF as a commercial problem, was that it was the consequence of an overarching neoliberal government philosophy pursuant of economic growth via deregulation and global food trade. For Jack, this was absolutely crucial. He explained:

You'd say over 80 or 90% can be explained by context. And, in particular it's a context of global food trade and needing to or wanting to pursue a harmonisation agenda with other regulatory authorities, particularly North America, to not create barriers for global food trade. And possibly even a stronger context was the neoliberal agenda of deregulation and attempting to remove so-called red tape for both policy-making, for writing policies and specifically making food standards. [Jack]

Yet, Jack went further, and represented the neoliberal influence on VF as an all-pervasive philosophy, that had become accepted and promoted as a positive practice by both the government and the broader community. This was particularly since its reintroduction into government policies in the 1980s:

The neoliberal agenda probably has been in various facets around for centuries as well. But since the 80s in particular, it's just been so much more extreme. And it's also interesting culturally that it's seen as a good thing. And I think relative to previous times this goes so much more unchallenged in the mainstream and it's just a business as usual, accepted as a common-good type approach. [Jack]

In addition, Jack framed this general acceptance of a neoliberal philosophy as something that had become self-perpetuating, particularly within government, making it very difficult for alternative viewpoints to be put forward. He observed:

I believe it's part and parcel of it; if you're going to pursue that agenda (neoliberalism), then you self-select, people self-select whether they will make themselves available for a position to exercise those contexts. But I think it weeds out people who don't play the game and pursue a deregulation and a commercial agenda and would prioritise public health over those. Those people tend to have opportunities removed. They tend to get subtle and not so subtle pressure put on them. [Jack]

Because of this framing of neoliberal ideals as all pervasive, public health key informants believed commercial interests dominated decision-making and made it difficult for public health views to

be given credence and due consideration in food regulatory debates. It was suggested:

> *While ever that (economic growth, global trade) is going to be an objective of the government at a high policy level, and claimed a commercial opportunity, it would be very unlikely that a lot of teeth and strength would be given to protecting public health concerns and interests in the context of that broader policy agenda. [Jack]*

For Jessica, this was reflected in the interpretation and implementation of the priority order objectives of FSANZ and the overall food regulatory system. She said, "I think there's also the other objectives that relate to trade and a level playing field and all of those sorts of things, that are also given the same kind of priority as public health and informing consumers, even though they are further down on the priority list" [Jessica].

Finally, with respect to the representation of VF as a commercial problem with a neoliberal focus, for public health key informants the policy outcome was unavoidable. They lamented, "inevitably the consequences being that policy decisions and food standards have come out in terms of what the commercial interests have sought and generally not reflected consumer and public health interests. And voluntary food fortification case study is a very good example of that" [Jack]. Bridget agreed with Jack's appraisal but claimed a broader loss of vigilance by government in the assessment of food regulation policy and standards. She indicated:

> *with all of this assessment is the increasing focus on deregulation and cutting red tape, and the Office of Deregulation and all those sort of organisation, organisational perspectives. So, I think what that has done is somehow worked to undermine the caution and assessment that government would normally pay some things, in favour of industry self-regulation. [Bridget]*

For public health key informants, another way the problem of VF was represented was as something that *should* be a public health problem, but that was not. Informants believed that public health concerns were generally questioned, disputed, rejected, ignored, not understood, and not taken seriously by decision-makers. For example:

> *I don't think they (public health views) have been considered well, generally. I think there's often an attempt to kind of, not belittle, but not take them very seriously. I think there's often much more credence given to food industry views. I think they're basically, in many cases, they've just missed problems that might be raised by submissions that we might have put in, and sometimes they're just not even acknowledged. [Jessica]*

For Bridget, decision-makers were more inclined to take heed of food safety concerns than longer-term public health issues, such as obesity and chronic disease. Further, the impact of VF on these conditions was not regarded as significant. She suggested, "the seriousness or *weight* of the arguments that were provided around nutrition, were not considered important unless there was some immediate human risk" [Bridget]. She also believed that public health "was seen as more of a moral motherhood kind of statement/argument rather than a scientific argument. It was seen as not really having that much impact" [Bridget].

Part of this problem representation was a perceived ignorance and lack of comprehension by policy-makers regarding what key informants considered the fundamental public health aspects of VF, as well as evidence-based and generally well accepted population health principles. For example, public health professionals considered that national Dietary Guidelines and international Codex Principles of the time, were important constructs for VF permissions. However, they were not very well understood by policy-makers. For Bridget, "those principles had to be *defended*, versus, considered the main party". She also found that "often there's some contesting of the importance or relevance of points that are brought up" [Bridget], adding that public health principles were "certainly contested and debated, dismissed at times" [Bridget].

Consequently, related to the representation of VF as something that should be, but was not, a public health problem, key informants also framed the problem as a loss of expertise among policy staff within government. Public health informants believed decision-makers had been stripped of skill, quality and diversity, in favour of more generically skilled personnel. It was noted:

> *And so both the personality level and the technical level of staffing within the food regulatory system, and the quality and diversity of expertise narrows, and public health skills and expertise has [sic] been flicked out of many of the decision-making positions within the food regulatory system, and replaced with just generic, people with generic skills or expertise, and skills that don't threaten the commercial agenda. [Jack]*

Subsequently, key informants believed this made it difficult for policy-makers to understand key public health principles, or to frame debates in order to protect public health and safety.

Further concern was expressed by public health key informants regarding the dramatic loss of government-based public health nutrition positions across the country. This loss in recent years, was considered to have both created and exacerbated, the difficulty of having public health nutrition expertise recognised and accepted as an important part of the food regulatory system.

Informants lamented:

> *when we had SIGNAL (Strategic Inter-Governmental Nutrition Alliance) years back… it was really obvious then that there needed to be a specialist expertise. And I think, so I just have to say that my belief is that expertise that was around the table then, is slowly diminishing. Although in some jurisdictions it's still there, but there was a time where there was quite strong representation in every jurisdiction. And I think, now more and more, they're just relying on one or two or where they have someone who has expertise who's still employed. [Bridget]*

The final representation of VF for public health key informants was as a problem of politics. Informants considered that food regulatory decisions were based on political imperatives rather than scientific evidence. Concerns were articulated as, "you know part of all this regulatory stuff is, it is the politics… And so, we have a situation where the evidence says one thing, but the politicians are not agreeing with it, or not accepting it, and making decisions based on political imperatives" [Jessica]. Bridget pointed out that Government Ministers were rarely willing to stand-alone in decision-making and "will wanna know what other Ministers are suggesting" because they preferred to support the majority view. However, she also indicated, "who the Minister is, what their position is, what government is in, really does seem to impact on the weight of big public health issues" [Bridget]. Thus, stakeholders generally viewed Labor Governments as more supportive of public health than Liberal Governments.

To summarise, public health key informants represented the problem of VF in several ways. VF was predominantly represented as a problem of power, particularly the power and influence of the food industry on food regulatory decision-making. However, all key informants in this group also represented VF as a commercial problem, important for sales, marketing and trade, and the consequence of government pursuit of neoliberal economic principles. It was considered that VF should be a public health problem, but that the relevance and importance of this representation was dismissed by policy-makers. This was because of what public health key informants framed as a loss of expertise and skill among government-based decision-making staff. The problem of VF was also viewed as political, with politics rather than scientific evidence determining policy outcomes.

5.2.5 Comparison of problem representations between stakeholder categories

Among the four categories of in-depth interview key informants there were three particularly prominent problem representations for VF. These were commercial benefit, public health and

power. Each of these will now be considered by comparing results between stakeholder groups.

VF as a problem of commercial benefit

All of the key informant stakeholder groups represented VF as a problem of commercial benefit. Thus, all groups considered VF important for product innovation, sales, marketing and global trade.

The majority of key informants represented commercial benefit as the primary, and in most cases the only, reason for VF. This was particularly because of its role in promoting sales. As one government informant commented, "voluntary (fortification)…is dependent on the manufacturer determining that they will spend the money and recoup it through their sales and competition" [Isabel]. A citizen informant concurred:

> *So, naturally enough, I mean this is inevitable. The food industry's aim is to sell products and aim to sell profitable products. And the profitable products are the ones that have as little as possible of the expensive ingredients, and as much as possible of the cheap ingredients… and that even applies to which vitamins are gonna go into foods. You put plenty of the, you know, B1, B2, B3; they're cheap as chips. So, you can stick huge amounts of them into it, give the product a good 'health halo'. [Rebecca]*

Marketing was another important part of this representation of the problem. A government representative suggested, "Look, I think there is a lot of push from industry to be able to value add to products. And I think there's a lot of interest in nutrition in the community and therefore the opportunity to use fortification as a marketing tool" [Natalie]. An industry informant agreed, "there's no real logic for that. It's just the marketing of it" [Nicholas].

For most key informants in the citizen, government and public health groups, the use of VF for commercial purposes was of great concern. This was because VF was represented as being used by industry to create a 'health halo' on foods, which was viewed as likely to mislead citizens regarding the nutritional quality of such products. As one citizen informant suggested, "we sort of push down this idea of giving the product a 'health halo' for no *valid* nutritional reason, in products that may be thirty-five, forty percent sugar" [Rebecca]. Another government representative believed, "there's a 'halo effect' about whether if you make a claim like that it would make the whole of the product look healthier than it is" [Gabriella].

However, for industry key informants, the use of VF for commercial benefit was intrinsic to their core function. As one indicated, it was important for other stakeholders to, "recognise that the

food industry is wealth generating; it does rely on being able to be competitive and to make money" [Harry]. Whilst other industry key informants agreed, one did acknowledge that, "there was definitely concern about, about that it (VF) was just again seen as a purely marketing thing, rather than really as a health you know in some way, a health intervention or policy of some kind" [Nicholas].

All key informant stakeholder groups agreed that international trade was an integral part of the representation of VF as a problem of commercial benefit. However, citizen, public health and some government informants viewed trade as a negative component of food regulatory policy, whilst industry informants represented trade as a positive influence. For example, for Rebecca, a citizen, international trade agreements reduced the quality of national food regulatory policies. She said, "if you've got a trade pact that says you can't do anything that would make the product unable to be sold in another country, then you have to really, you're going for the lowest common denominator" [Rebecca]. However, industry informant Chantelle, viewed trade agreements as an opportunity to broaden the policies of countries that were more conservative. She indicated:

> *New Zealand has a very long-term strategic view on how we approach policy in New Zealand, as well as internationally. And generally, what we would do, is position New Zealand at the place where we would like to see international development head towards over time. And that might be a ten-year view. And in the area of voluntary fortification, that's very much a long, very long-term view, because the positions in Codex are not as good as what the policy guideline here is. [Chantelle]*

Trade agreements with New Zealand were of particular concern for some key informants. Those from citizen, government and public health perspectives, expressed concern that the more liberal fortification policies of New Zealand, had pressured Australia to expand its VFP to accommodate commercial objectives. As one public health informant suggested:

> *part of the reason they were reviewing all of these things…was the whole idea that New Zealand didn't repeal their thing [DSR 1985] so now we just want to accept it and put it into our code. Well, that's what it read like. So yes, I saw that as being incredibly problematic, and not fantastic really. [Jessica]*

On the other hand, industry stakeholders were disappointed with the limited uptake of New Zealand's policies, particularly toward the FTDS end of the fortification spectrum. Indeed, Chantelle indicated that this was the only part of the joint Australia and New Zealand FSC that was outstanding with respect to achieving totally harmonised regulations. She said:

> *I think it's about forty-four or forty-five of the fifty standards in the Food Standards Code that are shared between Australia and New Zealand, to try and align as far as possible, all the other requirements associated with food standards. So that all the labelling requirements, all the claims requirements, all of the identity, the ingredient listing, all of that, is now all completely aligned. The, basically the key exception, is in the area of fortification. [Chantelle]*

For one public health key informant, the focus on international trade in food regulatory policy was reflective of an overarching government neoliberal economic philosophy. This meant trade and neoliberalism operated side-by-side:

> *So, if you have a neoliberal agenda, it's a lot easier to remove what might be perceived as blockages for making it easier to do global food trade…yeh, blockages to global food trade. And similarly, if you've got a motivation to pursue larger volumes of food trade and diversified food trade, having a neoliberal agenda will create an incentive in which a regulatory and a political agenda can be managed efficiently. [Jack]*

Therefore, all key informant groups represented VF as a problem of ensuring commercial benefit for the food industry. For citizen, government and public health stakeholders, this was problematic because it was viewed as likely to mislead consumers with respect to the nutritional value of VFF, especially through the creation of a 'health halo' for marketing purposes. Industry key informants though, believed commercial benefit was an integral part of their business, and a way of providing customers with choice.

International trade was another significant aspect of this problem representation, with citizen, government and public health stakeholders expressing concern that prioritising trade and neoliberal ideals was detrimental to the nutritional quality of the food supply. Industry key informants however, viewed global food trade as a means of harmonising food standards and expanding commercial opportunities.

VF as a problem of public health

All key informant groups represented VF as a problem of public health. However, for citizen, government and public health groups, VFP was something that *should* have been a problem of public health but was not because of overriding commercial objectives. On the other hand, industry stakeholders considered the policy was supportive of, and indeed necessary for attaining 'optimal' health among the population.

Even though citizen, government and public health stakeholders viewed the fortification of foods with vitamins and minerals as a public health issue, they represented it as something that was only needed occasionally, and only in response to population-wide micronutrient deficiencies. As one public health informant said, "it's very rare that we see any of these actual clinical or sub-clinical evidence of deficiency, that sort of thing" [Bridget] that would be required to trigger a need for fortification. Another concurred:

> *in certain cases there is a place for fortification, but basically the whole idea of voluntary fortification where it's certainly not justified or where it's justified on the basis of poor evidence, is not something that we would have supported or still support, would still not support [Jessica]*

For stakeholders from these groups, where there was a public health need for fortification, MF was the preferred option. VF was viewed as an alternative only where the justification for mandatory was incomplete, or political will was lacking. As one citizen informant suggested:

> *one of the concerns about voluntary fortification is that it becomes piecemeal and determined by whatever industry wants to do, rather than still saying, well we can use voluntary fortification, or might be able to use voluntary fortification to address some health needs that aren't significant enough to warrant mandatory fortification. [Charlotte]*

However, where VF was warranted, stakeholders believed it should be consistent with Dietary Guidelines and National Nutrition Policies. This also meant, long-term public health considerations such as diet-related chronic disease, were represented as more important than more immediate food safety concerns. Indeed, some stakeholders viewed the whole food regulatory system as unsupportive of long-term public health. As one public health representative said:

> *I think public health in terms of food really looks like a population free from all, with reduced risk of chronic disease that are diet-related. That's not really apparent in the system. I think there would be a real reshaping of the system to emphasise different policy guidance, if that were the case. So, I think some of these applications and submissions that we get tied up with busy work for, are really not contributing to public health and are detrimental. So, I think there needs to be a reprioritising, and perhaps a review of the system and its impact for chronic disease prevention and health outputs. [Bridget]*

There was also concern that public health had been, and was increasingly, excluded from food

regulatory processes. Accordingly, Rebecca mentioned a recent change in the FSANZ governance framework that had recently removed the traditional public health focus. She indicated, "we were very concerned about that… 'cause it's actually sort of consumer confidence in the quality and safety of food produced, but the public health has gone" [Rebecca].

In contrast to these views, industry key informants represented VF as necessary to address what was considered to be nutritionally inadequate dietary intakes among parts of the population, as well as a nutritionally inadequate food supply. As one suggested:

> *So, the rationale behind it (VF) is that we, I suppose, is we now have the science which tells us that population intakes are sub-optimal in certain groups. And so, we can either have mandatory fortification or allow voluntary fortification to address that. [Harry]*

Industry informants also suggested some sections of the population had sub-optimal micronutrient intakes because of poor dietary choices, and that fortification was the best option to correct that deficiency. It was claimed:

> *if we cannot get consumers to eat the foods they eat, you know which are available and construct a balanced diet; in other words, if they're not getting the nutrients from the foods that they do eat because they refuse to eat the ones that they should eat, why don't we just fortify the foods that they do eat? [Harry]*

Interestingly, while industry key informants promoted the benefits of VF for public health, it was often existing MF permissions, particularly folic acid, that were used as examples of such benefit. However, industry stakeholders also believed that the use of VF over many years in products such as breakfast cereals, had been very beneficial for population health, by ensuring more nutritionally adequate dietary intakes than would have otherwise been the case. One informant asserted, "And you know the more recent data suggests that generation of child after child has benefited from that (VF) in Australia…and they wouldn't've been enjoying the health they currently do" [Harry].

Whilst citizen, government and public health stakeholders represented VFP as unsupportive of public health priorities, industry key informants viewed the policy as very supportive of public health. "I think on the whole, people were pretty happy with the standards, I mean with the policy that was developed. It certainly gave priority to public health and safety" [Nicholas]. Chantelle agreed, claiming "a very *strong* link with the nutrition policies of both countries". She also reiterated throughout her interview the belief of "a *very strong* public health view" [Chantelle], "strong public health interests" [Chantelle], and a "*very strong* influence of public health policies

and approaches" [Chantelle] in the food regulatory system as well as VFP more specifically.

Thus, on the whole, citizen, government and public health key informants represented VF as something that was not, but should have been supportive of public health, particularly long-term public health. On the other hand, industry key informants viewed VFP as both necessary and supportive of population health, particularly to ensure nutritionally adequate dietary intakes for all sectors of the community.

VF as a problem of power

For three of the four key informant stakeholder groups, one of the predominant representations of the problem of VF was power. Whilst this problem representation was common amongst these groups, their framing of who wielded power in the food regulatory system, differed significantly.

Citizen and public health key informants represented the food industry as having the most power and influence in food regulatory decision-making, with some stakeholders describing the use of both verbal and physical bullying tactics to silence and intimidate other stakeholders. However, high-level bureaucrats were also represented as wielding power and using intimidation tactics at times. The Ministerial Council too, was framed as exerting significant power and authority.

One public health key informant explained his view of food industry power in the following way:

> *So, there's a very strong and clear differential between food interests sought and whether food interests are listened to and acted upon. So, food industry and in particular large multi-national, transnational in fact, food manufacturers, have significantly more access to decision-makers and policymakers in the food regulatory system than those stakeholders with consumer or public health interest. [Jack]*

Whilst power was not a predominant representation of the problem of VF for government stakeholders, there was still acknowledgement of the industry's power and influence. When discussing the impact of the *DSR 1985* and other relevant trade agreements with New Zealand on VFP, one informant commented, "they were actually gonna resolve that a few years ago, but I guess that industry is just too powerful" [Gabriella]. Isabel also noted the sway industry had with political leaders in influencing policy and standard decisions. She indicated the impetus for developing some standards also related to agreements with New Zealand:

> *what tends to happen politically and happened with the (product name) and the energy drinks, was that those products were originally dietary supplements in New Zealand, and*

> *they were being imported into Australia. And because they would be very popular, the industry here said to the Industry Minister, that we needed to put a standard in the code, because otherwise there could be no local competition. [Isabel]*

In contrast, industry key informants represented public health stakeholders as having the most significant power and influence on VFP. This was for two reasons. Firstly, public servants with public health backgrounds were represented as having direct access to FRSC members, which was viewed as the main place where policy development occurred. Secondly, the majority of jurisdictions were represented by Health Departments on both the FRSC and the Ministerial Council, and industry key informants believed this gave the public health perspective from within governments, greater influence in policy debates.

Public servants with the public health backgrounds were represented by industry as particularly powerful because they were viewed as driving the policy process and also having a high level of influence with Ministers. As one informant claimed:

> *Of course, the thing to say about that too, is once it did get to that level there was the Ministerial Council, which included Ministerial representation from each of the jurisdictions … there was much more of an influence from public health nutritionists in particular States [Nicholas].*

Harry considered that public health advocates both inside and outside government, presumed such power that they had an "adversarial nature" and held "a degree of double standards" [Harry] in policy debates. In fact, these debates were often so contestable in nature that several key informants used military language such as "battling" [Harry, Bridget, Natalie] and putting one's head "above the parapet" [Harry] to describe them.

Industry key informants also viewed the public health perspective as having an advantage over commercial viewpoints by the fact that the majority of jurisdictions were represented on both FRSC and ANZFRMC by Health Departments rather than Agriculture or Industry Departments. Health Departments were considered to have employees with public health backgrounds who brought that perspective to the table. One informant said, "I think that what we have round the table or what we have seen round the table in the development of guidelines is a mix of FRSC members, who are generally public, from public health portfolios" [Chantelle].

However, public health and government key informants considered that any power advantage from the majority representation of Health Departments on FRSC and ANZFRMC was overridden

by the OBPR, which was viewed as powerfully representing industry perspectives. Informants noted that this organisation had significant power and influence over food regulatory policy decisions. A government informant suggested, "sometimes even with all the best will in the world from the public health people on FRSC and that FSANZ, it might be the Office of Best Practice Regulation that says this is too much of an impost on industry" [Natalie].

Representation of VF as a problem of power though, was also about loss of power. For example, most key informant groups agreed that FSANZ had had its power and influence removed, and that Ministers exerted significant power and authority over FSANZ's decision-making process, particularly by challenging and overturning decisions they did not agree with. As a citizen representative lamented:

> *I think FSANZ was, should be given far more responsibility for actually doing things rather than just doing someone else's, whatever the government of the day says they have to do. I would like them to be an independent authority, who can do what needs to be done… They only get to do what someone else tell them to do, which means that they always have to really be subservient to whichever party is in government. And I think that's absolutely the wrong way to set food law up. [Rebecca]*

An industry informant concurred, expressing frustration that advice from FSANZ was often ignored, even though "FSANZ are experts in their own right, and their input is highly valuable" [Chantelle].

However, some government key informants were quite adamant that Ministers were in charge, not FSANZ. In their view, policies were developed by Ministers to give guidance to FSANZ, particularly in regard to any amendment, interpretation or implementation of the FSC. As Gabriella indicated, "Ministers are there to set policy, and FSANZ is to develop standards based on that policy". She added, "it's definitely about Ministers giving guidance to FSANZ about what they need to do in either developing standards or reviewing standards" [Gabriella].

In summary, VF as a problem of power was a predominant representation among most key informant stakeholder groups. Views differed as to who had the most power and influence in the food regulatory decision-making process. Citizen, public health and some government stakeholders represented the food industry as most influential. However, food industry key informants represented public health advocates, particularly those in the public service, as more powerful. This power was aided by the majority representation of Health Departments on FRSC

and the Ministerial Council.

5.3 Summary of key informant interview results

Chapters 4 and 5 have detailed the results of this research. Analysis of key documents used in the development of VFP outlined in the previous chapter, identified the key stakeholder groups as citizens, government, industry and public health. The predominant representations of the policy 'problem' in this data were identified as public health, commercial benefit, risk and evidence.

These results were used to inform a series of semi-structured, in-depth telephone interviews with key informants, who were defined as persons with in-depth knowledge and expertise in the development and implementation of VFP in Australia and/or New Zealand. The predominant representations of the policy problem used by each key informant stakeholder group were then ascertained, and the meaning and use of these problem representations considered within and between the key groups.

The results of the key informant interviews outlined in this chapter, revealed some similar and additional representations of the policy 'problem' to those found in the key documents. All key informant stakeholder groups represented the problem of VF as commercial benefit and public health. However, for citizen, government and public health informants, whilst VF *should* have been a problem of public health, it was believed that this was not the case, and that the VFP was mainly supportive of commercial objectives. Industry key informants agreed that the problem was one of commercial benefit, but viewed the policy as still being supportive of public health.

Another representation of the policy problem evident in the key informant interview data, that had not emerged from the key document data, was power. For citizen, public health and some government key informants, the food industry held significant power and influence over VFP decisions. Industry key informants disagreed though, representing public health advocates, particularly those employed within government, as having the most power and influence on food regulatory policy decisions.

Of particular note in the key informant interview data was this representation of public health advocates as having significant power and influence in the food regulatory policy process. This was related to what industry informants viewed as the direct access public sector employed public health nutritionists have with key government decision-makers, such as FRSC members and the Ministerial Council. It was also because of the majority voting rights of Health Ministers rather

than Agriculture Ministers on the ANZMFFR.

The next chapter will consider the significance of the results presented in both Chapters 4 and 5. It will use these findings to assess how each of the research questions has been addressed. In doing so, the results will be compared with other relevant work and pertinent literature, before concluding with any recommendations for future practice and research, that can be drawn from the present study.

CHAPTER 6: DISCUSSION

This research project has sought to understand how the policy 'problem' is represented in food regulation decision-making processes, and the implications of this for public health nutrition participation in, and engagement with, policy development. In order to achieve this, the following objectives were established.

1. To examine how the policy 'problem' is represented in food regulatory decision-making processes.
2. To determine how stakeholder views are reflected in the resultant food regulatory policy.
3. To explore how contextual factors impact on food regulatory processes and decisions.
4. To identify opportunities to advance public health nutrition priorities in food regulatory processes and policies.

In order to address these aims and objectives, a case study of voluntary food fortification policy in Australia between 2002 and 2012 was examined. A Bacchi (2009; 1999) "what's the problem represented to be?" method of discourse analysis was applied to 57 key documents used in the development of VFP. It was also applied to the transcripts of 13 semi-structured, in-depth, telephone interviews, conducted with a purposeful sample of key informants who were identified as having in-depth knowledge and expertise in the development and implementation of VFP in Australia.

Stakeholder groups of citizens, government, industry and public health were identified in the key documents and among key informants. For the key documents, predominant representations of the policy 'problem' included commercial benefit, public health, risk and evidence. Key informants also represented the 'problem' of VF as one of commercial benefit and public health, however the other prominent problem representation for key informants was power.

This chapter will consider how each of the objectives of this research have been addressed, by comparing and contrasting the predominant problem representations within and between the two data sources and the four stakeholder groups. The results will also be critically discussed in comparison with relevant literature and applicable theoretical models outlined in the earlier chapters of this thesis.

Thus, in Section 6.1, the results will be discussed in relation to the first research objective of how the 'problem' of VF was represented in the policy development process. The section will focus on

four of the predominant problem representations identified in Chapters 4 and 5. Then, Section 6.2 will consider how the stakeholder views expressed during the policy process were reflected in the final VFP. This will be followed by a discussion of the impact of contextual factors on food regulatory decision-making in Section 6.3. Conclusions from the research will be drawn in Section 6.4, where opportunities for advancing public health priorities in food regulatory processes will be highlighted. This will be achieved by identifying strategies for public health nutrition engagement in food regulatory policy development, that have emerged from the results of this study.

The chapter will conclude with a consideration of the strengths and limitations of this research in Section 6.5. Issues of rigour, participant recall, and sampling will be discussed. Finally, a section on reflexivity (Section 6.6) will indicate how reflexive practice has been demonstrated throughout the research process.

6.1 Representation of the policy 'problem' in the VFP decision-making process

To facilitate addressing the first research objective, a comparison of the predominant representations of the policy 'problem' in the key documents with those in the key informant interviews is presented in Table 6.1. Two prominent representations of the policy 'problem' of VF that appeared to be consistent in both forms of data, were public health and commercial benefit (whether stakeholders were for or against these concepts as policy 'problems'). However, the other major problem representations appeared in one data source, with risk and evidence most apparent in the key documents, and power and politics seemingly more important to interview key informants.

Although there were a number of different representations of the policy problem evident in the data (as presented in Chapters 4 and 5, as well as Appendices 5 and 6), for this discussion of the results, four will be considered. This was for the following reasons:

- the problem representations were the most prominent in each data source and for each stakeholder group;
- they were the 'problems' most written about in the key documents and/or spoken about in the key informant interviews;
- two of the problem representations appeared in both the key document and the key informant interview data;
- when the problem representations appeared in only one data source they seemed to have

a certain degree of importance to stakeholders;

- when they appeared in only one data source, they seemed to have a connection with one or more of the other problem representations that were prominent in both data sources.

Therefore, the four problem representations that will be considered are commercial benefit, public health, risk and power. The problem representations of commercial benefit and public health were chosen because of their prominence in both forms of data, and their perceived importance to all stakeholder groups. Power was chosen because of its prominence in the interviews, and because it appeared to be intimately connected with both the problem representations of public health and commercial benefit. Risk was chosen because of its prominence in the key documents, and its seeming connection with the problem representation of public health.

Table 6.1: Main problem representations in the key documents and key informant interviews

Stakeholder Group	Key Problem Representations of VF							
	Key Documents				Interviews			
Citizens	PUBLIC HEALTH	*NOT COMMERCIAL BENEFIT	RISK	EVIDENCE	COMMERCIAL BENEFIT	#NOT PUBLIC HEALTH	POWER	POLITICS
Government	PUBLIC HEALTH	*NOT COMMERCIAL BENEFIT	RISK	EVIDENCE	COMMERCIAL BENEFIT	#NOT PUBLIC HEALTH		POLITICS
Industry	PUBLIC HEALTH	COMMERCIAL BENEFIT	RISK	EVIDENCE	COMMERCIAL BENEFIT	PUBLIC HEALTH	POWER	EVIDENCE
Public Health	PUBLIC HEALTH	*NOT COMMERCIAL BENEFIT	RISK	EVIDENCE	COMMERCIAL BENEFIT	#NOT PUBLIC HEALTH	POWER	POLITICS

***** '**NOT**' means stakeholders and key informants represented the problem as something that should not be for commercial benefit.

'**NOT**' means stakeholders and key informants represented the problem of VF as something that should be public health, but this was not the case.

The following section (6.1.1) will discuss these and other comparisons between and within the two sources of data and the four stakeholder groups in more detail. Then Sections 6.1.2 to 6.1.5 will consider the four problem representations chosen, in comparison to relevant literature.

6.1.1 Comparison of problem representations within and between data sources and within and between stakeholder groups

The variation in problem representation between the two data sources, is possibly explained by a few factors. For example, written submissions by stakeholders are likely to contain the 'official' or public position of stakeholders, whilst interviews represent their more private, less formal

thoughts and considerations on food regulatory decisions and processes. Consistent with this possibility, problem representations in the key documents may also have characterised what stakeholders believed the policy problem *should* be, whilst in the interviews, key informants felt freer to express what they thought was the *actual* problem in VFP, as well as its development and subsequent implementation. Alternatively, the time delay between the written submissions and the interviews may have meant stakeholders had a different recollection of their view of VF, or the policy development process. This would seem unlikely though, given the passion and depth of feeling with which many key informants spoke about VFP and other food regulatory issues, and the possible association between what is important to people and accuracy of recall (Dex 1995; Robertson 2000).

Whilst these or other explanations might account for the difference between results from the two sources of data, it does reinforce the methodological importance of triangulation and using more than one data source in qualitative research (Maxwell 2013; Patton 1999). With only one data source the results would have provided an incomplete view of the case study. However, finding such inconsistencies between the two data sources shows the nuances between different types of qualitative inquiry. It also offers an opportunity for deeper insight into the way the problem of VF is represented and what this might mean for future public health nutrition involvement in food regulatory policy development (Maxwell 2013; Patton 1999).

An observation from within the key document data that was noteworthy, was the similarity in representation of the policy problem of VF at both the beginning and end of the policy development process. Accordingly, in both the initial FRSC stakeholder CP on VF in 2002 (Food Regulation Standing Committee 2003), and the final ANZFRMC PG originally endorsed in 2004 (Australia and New Zealand Food Regulation Ministerial Council 2004; Australia and New Zealand Food Regulation Ministerial Council 2009b), the main representation of the policy problem was that existing regulations were too restrictive, and a more liberal policy approach was desirable. Thus, for both FRSC and ANZFRMC, the overarching representation of the problem of VF was commercial benefit, and, despite consultation with stakeholders, the representation of the problem did not change between the outset and conclusion of the policy development process.

This outcome was similar to that observed by Thuraisingam, Riddell et al (2009) when assessing the 2004 NHMRC Nutrient Reference Value consultation. They found that despite the use of a stakeholder consultation process, the 2006 NHMRC Nutrient Reference Value document showed

little consequential change between the draft and final versions. Carey, Caraher et al (2015) also found that even with two rounds of public consultation comprising of over 400 stakeholder submissions during the development of Australia's national food policy between 2011 and 2013, the essence of the policy did not change between the issues paper and the final policy. It is possible therefore, that as seems to be the situation in these two studies, in the case of VF, the representation of the policy problem had consciously or unconsciously been determined by decision-makers at the outset of the policy process, prior to any public consultation.

This would be consistent with what has been described as the tokenistic nature of public consultation in many modern democracies (Bishop and Davis 2002). According to some policy theorists, while public consultation is the most common form of citizen participation, it is considered to be at the non or minimal participatory end of a continuum of options for including the public in policy development (Bishop and Davis 2002). It is also reflective of Colebatch's (2006; 2009) view of the policy process, whereby the limitations of the VFP consultation process mirror the horizontal, vertical and scene setting dimensions of the authoritative choice, structured interaction and social construction theories of the policy process (as outlined in Chapter 2.4).

Further, this result also supports the contention that the initial articulation of a 'problem' frames the way in which the 'problem' is originally discussed, thereby setting the tone of the debate, and potentially influencing the views of stakeholders and the outcome or 'solution' to the problem. As Jones (1971) said, "Whosoever initially identifies a [social] problem shapes the initial terms in which it will be debated". Further, according to Hall, Crichter et al (1978) while opposing arguments may be put forward, it is difficult to change the terms of a debate because the initial representation of the problem is converted into 'common sense' through its repetition, reinforcement and the apparent credibility of those advocating it.

As well as these differences in problem representation between data sources, and within the key document data, differences in problem representation within stakeholder categories were noted. For example, despite government stakeholder submissions and some government key informant interviewees representing the problem of VF as one of public health, this was contrary to the representation of the problem as one of commercial benefit by other government stakeholders in both the FRSC CP and the final ANZFRMC PG. Given both the CP and the PG were prepared for and approved by FRSC (which is made up of high-level Government Officials - Departmental Director Generals or their representatives) before final endorsement by ANZFRMC, it is possible that the

viewpoint of lower-level public servants was not consistent with those of higher-level bureaucrats and Ministers.

These differences might be explained by the greater impact of contextual factors such as high-level government policy on trade and regulation, on the view taken by FRSC representatives, than would be the case for their subordinates. FRSC members and Ministers would also be subject to more lobbying from interest groups with vested interests than would be the case for lower-level staff, which may consciously or unconsciously influence their views. Further, Directors-General and their representatives are also in a highly complex place in the policy-making process; at the pivotal point between the policy process and the political process. Therefore, their perspectives, pressures and considerations would necessarily be different to those at the lower-levels of public service (Colley 2001; Mulgan 1998; Mulgan 2007).

There is also the possibility that such differences in view, could simply be explained by variations in professional background. Participants from the lower-levels of the public service that would prepare submissions to a consultation paper, are likely to come from departments of environmental health, public health or nutrition, and therefore have the associated professional backgrounds. Directors-General or their representatives may have more managerial or generalist backgrounds that take a broader view of the policy environment when making decisions. While Ministers would also come from a range of professional backgrounds, their views would be more likely to be affected by the wider political context surrounding food and food regulation (Althaus, Bridgeman et al. 2018).

6.1.2 VF represented as a problem of public health

The representation of VF as a problem of public health by all stakeholder groups is not particularly surprising. For public health, government and citizen stakeholders, it is likely an extension of the success of the historical use of fortification in food staples, to address widespread nutrient deficiency diseases such as rickets, pellagra and beri beri (Lawrence 2013; Nestle 2013). It would also be consistent with traditional WHO/FAO and Codex principles for the use of fortification in restoring nutrients lost in processing, ensuring the nutritional quality of substitute foods, and addressing population-wide nutrient deficiencies (Codex Alimentarius Commission 1991; World Health Organization and Food and Agriculture Organization of the United Nations 2006a).

For industry stakeholders though, VF as a problem of public health is more likely related to the *saleability* of the health and nutrition benefits of food, which is also reliant on the ability of

manufacturers to use nutrition and health claims on food labels (Lawrence 2013; Nestle 2013). Without the use of such claims, there would be little incentive for manufacturers to use VF, as they would not be able to communicate the perceived benefits of specific nutrients to customers. This may be particularly the case for some food products more than others. For example, VF has been identified as especially prevalent in breakfast cereals in the USA (Environmental Working Group 2014) and Al-Ani, Devi et al (2016) found that 90% of breakfast cereals in New Zealand, including about a quarter of the 'less healthy' products, were promoted using nutrition claims. This was significantly greater than for other food categories investigated. Further, Devi, Eyles et al (2014) found that nutrition claims (including micronutrient claims) accounted for 58% of all claims on breakfast cereals (including 'less healthy' products). When such micronutrient claims are associated with added, rather than naturally occurring nutrients, this highlights the importance of the saleability of health and nutrition to industry for the promotion of VFF.

However, the industry representation of VF as a problem of public health is also consistent with what is termed to be a 'reductionist' view of nutrition, whereby the health benefits of foods are reduced to the individual components they contain, rather than considering the food as a whole (Lawrence 2013; Nestle 2013; Scrinis 2016). It also situates the development of a more liberal VFP as a necessary step toward the recent development and use of some front-of-pack labelling schemes such as the industry initiated Dietary Intake Guide or 'thumbnail' and the Commonwealth Government-endorsed HSR. Without VF, some products would not be eligible for, or able to attain, favourable ratings by these schemes (Health Star Rating Advisory Committee 2018).

Some authors consider this sort of nutrient-based framing of public health nutrition to be inconsistent with food-based guides such as the Australian Dietary Guidelines (National Health and Medical Research Council 2013a) and therefore reductionist in approach (Lawrence, Dickie et al. 2018; Lawrence and Woods 2018; Stanton 2016). Thus, the usefulness of such front-of-pack labelling schemes has been questioned by these public health nutritionists as it is believed they provide limited ability to direct population dietary intakes away from highly processed foods and toward fresh foods (Lawrence, Dickie et al. 2018; Stanton 2016). Others however, have found the schemes beneficial for encouraging product reformulation of processed foods by manufacturers and have encouraged its broader application across the food supply (Ni Mhurchu, Eyles et al. 2017). The former view though, is consistent with the way citizen, public health and government stakeholders framed the use of market-driven VF in the present study.

The difference in account by citizen, government and public health stakeholders regarding whether VF was a problem of public health or not, that was observed between the key document data and the key informant interviews, was unexpected. As outlined earlier, this change of view may be related to the time period between the two data sets, or be an official versus private view of stakeholders, or reflect the belief that VF should be a problem of public health, but that this was not the case in the final VFP.

Evidence of such a change of view occurring within the same stakeholder group/s in other public policy research, is limited. In many cases, this is for methodological reasons (i.e. analysing different types of key documents or conducting a range of key informant interviews, rather than using both). Baker, Gill et al (2017) though, used both document and interview data in their examination of frames that generate political priority for regulatory interventions to address obesity prevention between 1990 and 2011. While they found the framing of the policy problem within stakeholder groups changed with time and political context, the essence of the 'problem' representation remained the same. For example, industry stakeholders used frames consistent with a neoliberal view of individual responsibility and cost to business, while public health advocates promoted frames consistent with a social paradigm of health, focussing on obesogenic environments and protecting children. Thus, it would seem that in this present study, the apparent change of view by citizen, government and public health stakeholders, is more likely related to their assessment of the final VFP and the policy development process, rather than a personal change of opinion.

6.1.3 VF represented as a problem of commercial benefit

The fact that VF was represented as a problem of commercial benefit in the data was also unsurprising. Whilst it was not expected that citizen, government and public health stakeholders would represent the 'problem' of VF differently between key document and interview data, for industry stakeholders, VF as a problem of commercial benefit was always important. This result is consistent with the range of market research documents available that espouse the benefits and profits to be made from adding vitamins and minerals to foods and beverages (Mannar and Hurrell 2018; Research and Markets 2017 ; Research and Markets 2018a; Research and Markets 2018b). It is also consistent with the political context of neoliberalism within which this policy was developed (Ayo 2012).

While there is limited research on VF per se, or indeed other food regulatory areas, the importance of marketing and trade for the promotion of foods of little or no nutritional value

worldwide, is acknowledged by many authors (Cobiac, Veerman et al. 2013; Lawrence 2013; Nestle 2013). Despite the limited food regulatory research, work in other areas of public health nutrition policy has also found the 'problem' to be consistent with commercial benefit objectives (Baker, Gill et al. 2017; Carey, Caraher et al. 2015; Cullerton, Donnet et al. 2016b; Jenkin, Signal et al. 2011; Jenkin, Signal et al. 2012).

However, even though industry stakeholders were consistent in their representation of VF as a problem of commercial benefit, their very open discussion about the use of VF for marketing and trade purposes in the interviews was unexpected. As part of this openness, industry key informants indicated the importance of nutrition, health and related claims for the commercial promotion of VF to customers, as well as the importance of a liberal VFP for global trade. While these elements of the problem representation were also apparent in the key documents, they were less overt in that data format. For example, in the key documents, industry represented the health benefits of VF as the main motivation for promoting more VF permissions, with the marketing and trade advantages represented as being of secondary importance. Yet in the interviews, only one key informant espoused the health advantages as the main incentive for VF. The other industry informants suggested the more "honest" [Nicholas] reason for desiring VF was for marketing purposes. This variation may be to do with the less formal nature of the interviews that allowed more private views of stakeholders to be expressed, but also because the policy had been finalised for some years and the interviewer had no influence over any future VFP development. Other work with similar observations though, was not found.

6.1.4 VF represented as a problem of risk

The representation of VF as a problem of risk was very prominent in the key documents, but in the interviews had largely disappeared. Whilst some industry key informants expressed concern that inadequate nutrient intake remained problematic in selected sectors of the population, for other key informant groups, apprehension regarding the possible risk of excess vitamin and mineral intake among the population had been replaced with concerns that broader public health issues were ignored in the policy.

Whilst the passing of time and changing of priorities could explain the alternative focus of these stakeholders, it is worth noting that in the years since the VFP development and implementation, evidence has appeared of some of the risks of VF that citizen, government and public health stakeholders had identified in the key documents. For example, VFF in 21st century America and

much of Europe, have become so prolific that accumulating evidence is indicating significant numbers of children younger than eight are consuming excessive amounts of some micronutrients (Environmental Working Group 2014; Meltzer, Aro et al. 2003; Sacco, Dodd et al. 2013). In the US, as is the case in Australia, the amount added as well as the labelling of vitamins and minerals in foods, reflect adult rather than age-appropriate daily requirements, making it is much easier for children to overconsume micronutrients. In the US, vitamin A, zinc and niacin (for which the number one food source is fortified breakfast cereals) are being consumed by young children at levels greater than recommended upper limits (Environmental Working Group 2014; Meltzer, Aro et al. 2003; Sacco, Dodd et al. 2013). Furthermore, accruing evidence regarding the impact of excess vitamin and mineral intake on increasing rather than decreasing risk of mortality and morbidity from several chronic diseases in adults, has confirmed the need for caution in the continuing use of cumulative VF approvals (Gong, Ambrosone et al. 2014; Goodman, Thornquist et al. 2004; Kristal, Darke et al. 2014; Liu 2003; Omenn 2007).

In contrast, concern regarding inadequate nutrient intake in some population sub-groups as expressed by industry stakeholders, is supported by the most recent Australian national nutrition survey in 2011-2013 (Australian Bureau of Statistics and Food Standards Australia New Zealand 2015). The most widespread micronutrient inadequacies observed in this survey were for calcium and iron, with iron mainly being of significance for children and females of reproductive age. While small pockets of the population demonstrated inadequacies in other micronutrients, these were the two nutrients of most universal concern at that time.

It is important to note though, that regular national dietary intake data are not collected in Australia, and therefore long-term trends are difficult to observe or confirm (Webb, Rutishauser et al. 2006). This would be particularly the case for small population subgroups and nutrients of less concern among the wider population. Further, some health professionals have expressed disquiet about the impracticality of achieving the high levels of some current recommended nutrient intakes, even when eating in line with Dietary Guideline recommendations (Nestle 2013; Thuraisingam, Riddell et al. 2009). Thus, attaining some recommended nutrient intakes is likely to require the consumption of VFF, which is considered unnecessary by these authors.

An additional concern for public health advocates is highlighted by the results of the 2011-2012 national nutrition survey. This investigation determined that 35% of the Australian population's dietary intake comes from discretionary rather than core foods, with only 7% meeting

recommended vegetable intakes and 54% meeting recommended fruit intakes (Australian Bureau of Statistics 2014). One consequence of such a dietary profile is a low intake of essential micronutrients. Whilst such results would support industry calls for increased numbers of VFF in the food supply to offset these inadequacies, this solution is also reductionist in approach and ignores the importance of consuming whole foods rather than a mixture of their component parts, for the prevention of disease and the promotion of good health (Lawrence, Dickie et al. 2018; Scrinis and Monteiro 2017; Stanton 2016).

6.1.5 VF represented as a problem of power

The representation of VF as a problem of power was only apparent in the key informant interview data. It was not evident in the key document data. This was somewhat surprising given the deeply conflicting views held by those stakeholders who represented VF as a public health issue and those who represented it as a commercial problem in both the key document and the interview data.

The result may be a consequence of factors already mentioned with respect to other differences between the two datasets, but there could also have been an exacerbation, or greater awareness, of the power differential between these groups in a broader range of food policy areas in the years since the original VFP development (Baker, Gill et al. 2017; Clapp and Scrinis 2017). For example, recent work suggests the food industry has gained increased influence over national and international food and nutrition policy through extensive lobbying, direct access to decision-makers, cohesive and collective action and arguments, public-private partnerships, investment in nutritionally-enhanced foods and active participation in public debates and forums on nutrition related issues (Baker, Gill et al. 2017; Clapp and Scrinis 2017; Cullerton, Donnet et al. 2016a). Of particular concern is the effect of this sort of power and influence in shifting public and political attention away from broader public health issues, such as the long-term health consequences of continued increased consumption of highly processed foods (Clapp and Scrinis 2017) or the use of regulatory interventions to contend with public health problems such as escalating obesity rates (Baker, Gill et al. 2017).

The power struggle between the interests of citizen, government and public health key informants and food industry key informants, was very pronounced in the in-depth interviews of the present study. On the one hand, public health, citizen and government key informants represented the food industry as wielding significant power and influence over policy debates and outcomes. On the other hand, the food industry represented public health, and public health nutritionists in

particular, as having greater power in policy debates than industry advocates. This result was unexpected, particularly the industry's representation of public health as having considerable power and influence in food regulatory policy debates.

The power and influence of the food industry in public health nutrition policy is a more common theme in the literature than the power of public health (Baker, Gill et al. 2017; Baum and Fisher 2014; Cullerton, Donnet et al. 2016a). For example, recent work by Cullerton, Donnet et al (2016a; 2016b; 2017) found that the food industry has significantly more power and influence over nutrition policy than public health nutritionists. This power and influence emanated from the greater number and higher-level links food industry advocates had with key policy decision-makers. Nutrition professionals, scientists and other public interest groups were found to be advocating with each other on the sidelines rather than in the centre of the policy debate, which limited their ability to influence policy-makers (Cullerton, Donnet et al. 2016a).

However, the results of Cullerton, Donnet et al (2016a; 2016b; 2017) may also help explain why the food industry considered public health to be such a powerful policy influence in food regulation. One of the specifically named reasons industry key informants represented public health as being powerful, was their direct access to FRSC members and Ministers via relevant positions in the public service. All industry key informants indicated this as a significant point of power and influence in food regulatory policy that was held by public health professionals and public health nutritionists within the civil service. Thus, such links with high level decision-makers within the food regulatory system may be an important source of power and influence for public health advocates. This would also be supported by the work of Moore, Yeatman et al (2013) who recommended the development and maintenance of influential relationships as an important step in successful public health advocacy.

It is tempting to think that because of the significant reduction in numbers of public health nutrition staff and concomitant loss of expertise caused by jurisdictional budgetary cutbacks in Australia in the last decade (Adam and Vidgen 2013), this potential power and influence with policy-makers has been lost. However, given that industry key informants described the power of public servants in the context of VFP development during the early 2000s, as well as with respect to the more recent 2015 clarification of the intent of VFP (Australia and New Zealand Ministerial Forum on Food Regulation 2015b), it would suggest that those still employed in the area, might have significantly more power and influence than previously realised. It is possible though, that

such access to decision-makers does not always translate into influence over policy outcomes, which would be consistent with criticisms of the normative or ideal-type policy process theories that ignore the complex reality of public policy development, as discussed in Chapter 2.4 (Colebatch 2009; Maddison and Denniss 2013; Sabatier 2007).

Another point of power and influence for public health more broadly that was mentioned by industry key informants, was the majority representation of Health Departments on both FRSC and ANZMFFR. FRSC was viewed as particularly powerful, because food regulatory policy was directed, managed and approved by this Committee before being presented to the Ministerial Council for consideration and possible endorsement. However, the fact that representatives on both committees were in the main representative of a public health rather than commercial point of view, was from an industry perspective, a disadvantage to their objectives. Consequently, in accordance with the results of Cullerton, Donnet et al (2016a), this result would suggest the importance of ensuring the lead role of Health Departments in food regulation, as well as the value in cultivating relationships with relevant committee members, for advocating public health nutrition objectives in the future.

6.2 Stakeholder views reflected in the VFP

The second objective of this research was to determine how stakeholder views are reflected in food regulatory policy. As noted earlier, the overarching representation of the policy problem in both the FRSC CP and the 2004 and 2009 versions of the VFP, was liberalising previous regulations that were considered to be restrictive, in order to enable a more supportive environment for the achievement of commercial objectives. This is consistent with dominant discourse around neoliberal government policy and practice regarding regulation at this time (Edwards 2007; Edwards 2013).

Despite three of the four stakeholder groups representing VF as a public health issue and something that should not be supportive of commercial benefit in their written submissions, there seems to be limited account taken of this view in the final policy. Further, in the interviews, all key informant groups represented VF as a problem of commercial benefit, possibly signalling that citizen, government and public health stakeholders had resigned themselves to the belief that VFP was more aligned with industry interests than their own. It seems then, that despite the consultation process held by the FRSC, the final policy was dominated by industry framing of the problem more than that of any other stakeholder group.

This result reflects work done by Jenkin, Signal et al (2011; 2012) who clearly demonstrated the outcomes of a 2006-07 New Zealand Government Inquiry into the problem of obesity and type 2 diabetes, as more closely aligned with the way industry, rather than public health, framed the problem. Their results showed that three of four government policy domains implemented after the Inquiry, were consistent with the food and advertising industry views, and only one with public health views. This led Jenkin, Signal et al (2012) to conclude that New Zealand national nutrition policy had not given equal consideration to food industry and public health interests.

Similarly, an investigation into the development of the 2013 Australian National Food Plan by Carey, Caraher et al (2015), determined that views from the public health and civil society stakeholders were ignored in favour of those from the food retail, manufacturing and farming sectors. Further, over 90% of the $42.8 million allocated for implementing the plan was allocated to the Plan's commercially beneficial objectives of 'growing exports' and 'thriving industry', demonstrating the dominance of these views.

The lack of change in policy 'problem' between the beginning and end of the VF policy process also reflects the results of Thuraisingam, Riddell et al (2009), who found that despite a consultation process, stakeholder views were largely left unaddressed in the final version of the NHMRC 2006 Nutrient Reference Value document. Further, stakeholders expressed concern with at least one of three steps in the policy development process, which reflects what has been described as the tokenistic nature of public consultation in many policy development processes (Bishop and Davis 2002). However, it also reflects the disquiet expressed by citizen and public health key informants in the present study, who described their views as being "ignored" [Jessica], "gone" [Rebecca] and sidelined.

Despite the results of the present study and those of the above authors suggesting that even after public consultation, food and nutrition policies often seem more aligned with industry views than public health perspectives, it must be noted that most key informants spoke of a 2015 VFP development that clearly altered the way VF was framed. Whilst outside the time period used for this case study, the change appeared to make the problem of VF more aligned with a public health point of view than had previously been the case.

This amendment in VFP occurred at the November 2015 meeting of the Ministerial Council, when a Communique was issued with a statement clarifying the intent of the 2004/09 policies (Australia and New Zealand Ministerial Forum on Food Regulation 2015b). This statement specified that the

intent of the policy was "to *not* permit voluntary fortification" *[emphasis added]* of foods and beverages "high in salt, sugar or fat, or foods with little or no nutritional value" (Australia and New Zealand Ministerial Forum on Food Regulation 2015b, p2). According to key informants, this development was the consequence of an industry application to FSANZ to allow fortification of breakfast cereals with vitamin D, which the Ministers considered to be inconsistent with the original policy (Australia and New Zealand Ministerial Forum on Food Regulation 2015a). Consequently, the ANZMFFR agreed to clarify the intent of the policy, and this was done without additional stakeholder consultation.

The reason given for the lack of consultation on this amendment, was that Ministers considered the statement to be a clarification rather than a change in policy (Australia and New Zealand Ministerial Forum on Food Regulation 2015b). Industry stakeholders however, took quite a different view of both the clarification statement and its development. Both Chantelle and Harry expressed intense anger and annoyance at the "impropriety of process" [Chantelle] used by Ministers to put the clarification into effect. Because industry key informants considered the statement a significant change of policy rather than just a clarification, they believed it should have been subject to more broad and transparent discussion and consultation through a policy development process. This may suggest that industry stakeholders view a consultation process as an important opportunity to express their views and influence food regulatory policy, because they hold the opinion that public health voices have continual access and sway with decision-makers through their roles in relevant government departments. It also supports suggestions that a risk of using public consultation when developing policy, is its use by some committed, but not broadly representative, voices to dominate the policy process (Althaus, Bridgeman et al. 2018; Bishop and Davis 2002).

Key informants from the citizen, government and public health stakeholder categories, however, were quite supportive of the 2015 policy clarification and the change in representation of the 'problem' of VF. Laura, a citizen key informant, suggested the Ministers were annoyed with the industry proposal to add vitamin D to breakfast cereals, particularly for those products that had limited nutritional value. She asserted that the clarifying statement was a response to this displeasure, as well as the consequence of policy-makers responding to the problem of chronic diet-related disease. She claimed Ministers were increasingly focussed on the public health cost of food regulation and that consequently, the clarification was in response to that concern.

While it is acknowledged that this 2015 development in VFP and the associated data are outside the scope of the present case study, it does both affirm and contradict some of the findings of this research. Firstly, it supports the observation that food regulatory policy frequently favours one stakeholder group's views over another. It is possible that the view that prevails in policy debates, is often, but not always, dependent on the power and influence of that group, although it may also be that such power and influence waxes and wanes. Even though the predominant problem representation in the 2015 VFP clarification contradicts the finding in the present study, that VFP between 2002 and 2012 was more aligned with food industry views than the opinions of public health and other stakeholders, this may be an uncommon occurrence. One of the few examples of this occurring was with the introduction of NIPs on food labels (Australia New Zealand Food Authority 1999; Woods 2018). However, other evidence of public health views taking precedence over industry opinions in food regulatory or in other food and nutrition policy is rare (Baker, Gill et al. 2017; Cullerton, Donnet et al. 2016a).

Secondly, despite the common use of consultation in a policy development process, how the policy 'problem' is represented at the outset of the process, is important for determining the final outcome. Again, this reflects what Jones (1971) argued, that "whosoever initially identifies a [social] problem shapes the initial terms in which it will be debated". It is also consistent with social construction theories of the policy process (Bacchi 2009; Colebatch 2009), and other work on food and nutrition policy (Carey, Caraher et al. 2015; Thuraisingam, Riddell et al. 2009). Further, it reflects concerns expressed by some key informants in the present study that stakeholder views are not always incorporated into policies, and on occasion are not even sought by decision-makers.

Finally, the example of the 2015 VFP clarification, supports previous observations regarding the power and influence of the FRSC and Ministerial Council in food regulatory decision-making, that are consistent with authoritative choice policy theory where decisions are the viewed as the responsibility of authorised decision-makers (Colebatch 2006; Colebatch 2009). Thus, these committees have considerable power and authority in the food regulatory policy-making process and may choose to use this to clarify or alter policy without consultation or warning. Consequently, it would seem important to ensure regular and effective access to, and communication with, these decision-makers in order to attain influence on food regulatory policy in the future.

6.3 The impact of contextual factors on food regulatory policy

As part of addressing the third research objective, key informants were questioned about their views on any contextual factors they considered to impact on food regulatory decision-making and policy development (Appendix D, Q3). While this was not overtly reported in the key informant interview results (Chapter 5), many of the issues identified were inherent in the way key informants represented the 'problem' of VF. For example, key informants that represented VF as a problem of commercial benefit, identified contextual factors that were reflective of a neoliberal ideology intrinsic to that problem representation. Thus, they suggested factors such as rapidly increasing international trade and trade agreements, globalisation, harmonisation of international regulations, the political persuasion of the government of the day, and the recent loss of public health skill and expertise or 'hollowing out' of the public service.

Consequently, analysing the discourse used by key informants on this issue, served to reinforce the problem representations of VF identified in both sets of data. However, it also served to highlight the usefulness of exploring some of the additional questions in the Bacchi WPR discourse analysis framework, as a beneficial means of identifying and understanding relevant contextual factors and the impact they had on VFP. In particular, the second, third and fourth questions that consider the presuppositions and assumptions underlying a representation of the policy problem, how the problem representation has come about, and the effects of the problem representation, assist with this task (Bacchi 2009). Thus, thinking about the styles of governing underpinning a policy problem, the conditions that made it possible for one problem representation to succeed over another, and the resultant effects, contributed to a deeper understanding of the VFP case study (Bacchi 2016).

This section therefore, will explore these questions for the main problem representations of VF and their associated contextual factors. Thus, where VF was represented as a problem of public health, contextual factors related to whether health was viewed through a biomedical, lifestyle or social paradigm. As identified earlier, the major context of VF as a problem of commercial benefit was an ideology of neoliberalism. For risk, contextual factors related to who was represented as responsible for managing that risk; individuals or society. In contrast to the other problem representations though, power appeared to be both a problem representation and a contextual factor. As a contextual factor it was important to consider both the location and the outcome of that power.

6.3.1 The context of health paradigms

The way in which health is perceived impacts the way in which it is represented as a 'problem' in public policy, and subsequently, who is responsible for addressing that 'problem', the focus of solutions offered, the desired outcomes, and the means of measuring policy 'successes' (Lawrence and Worsley 2007). Where VF is represented as a problem of public health in this study, there are generally two or three competing paradigms or foci of attention underlying the way health itself is framed. These include what have been termed biomedical, lifestyle and social paradigms (Bacchi 2009; Lawrence and Worsley 2007).

Within a biomedical paradigm, health is considered to be the absence of disease, and the primary concern is treatment of the physical aspects of disease for individuals. This paradigm is curative in focus, but may also have a preventive dimension (e.g. immunisation) (Bacchi 2009; Baum 2016). What has been labelled a lifestyle or capitalist paradigm, is where health is viewed as an obligation, and maintaining health is an important part of being a 'good' citizen. Individuals are obliged to follow advice regarding lifestyle or risk factors, in order to prevent illness and not become an economic burden on the broader community (Baum 2016; Lawrence and Worsley 2007). A social paradigm views health more holistically, with physical, mental and social well-being considered more important than just the absence of disease. Health is represented as being impacted by complex social and environmental factors. This paradigm usually has a mostly preventive focus with an emphasis on addressing 'upstream' or structural issues such as shelter, education, income and government policy. Thus, the focus is on populations rather than individuals (Bacchi 2009; Baum 2016).

For public health, citizen and government stakeholder groups in this study, the representation of VF as a problem of public health is consistent with both biomedical and social paradigms of health. Consequently, the use of fortification is viewed as something to treat existing, demonstrated nutrient deficiencies and/or prevent inadequate nutrient intake within whole or population sub-groups (Lawrence 2013). The importance of biomedicine and biomedical evidence in fortification policy was also observed in the work of Begley and Coveney (2010) on mandatory folate fortification, and demonstrates the dominance of this framing of the policy problem and its significance as a context of VFP for these stakeholders.

However, despite the associated requirement for, and belief in the ultimate authority and objectivity of biomedical evidence to support VF policy, traditional fortification interventions are

also recognised as responding to broad, social and environmental factors (Zimmermann, Jooste et al. 2008) and therefore demonstrate components of a social paradigm of health. In this view, accountability for public health lies with governments, industry and the community as a whole, rather than individuals (Bacchi 2009). Moreover, the need for fortification to address a health problem, is presumed to be important over the long-term, rather than just in the immediate circumstance. Thus, for key informants in this study who represented VF as a problem of public health, an important contextual factor identified was diet-related chronic disease, and its associated cost to the community.

The use of more than one health paradigm by proponents of VF as a problem of public health though, highlights the importance of ensuring consistency of discourse within a policy debate. For example, work by both Baum and Fisher (2014) and Salas, Forhan et al (2017), illustrates the tendency for public health policy to 'drift downstream' between the presentation of background or policy papers and pronouncement of policy solutions. Consequently, while there might be discussion of the evidence regarding the impact of social and environmental factors on health, policy solutions are more likely to be based on biomedical and lifestyle paradigms of health that place the responsibility for 'fixing' the problem onto individuals rather than the broader community. This drift was evident in the key document data of this study, whereby even though some stakeholders represented VF as a broad, social problem of public health, had their view been dominant in policy debates, it may have still resulted in regulation that incorporated only individualistic strategies such as providing adequate labelling of VFF and nutrition education.

Whereas public health, government and citizen stakeholders in this research represented VF as a problem of public health in line with biomedical and social health paradigms of health, industry stakeholders firmly placed the representation of VF as a problem of public health within the capitalist or lifestyle paradigm of health. Consequently, in this context individuals are represented as being responsible for their own health by eating VFF in accordance with an overall 'healthy' diet. Individuals should achieve this by attending to nutrition education messages, as well as reading, understanding and acting on information provided on food labels. Those that do not comply are represented as irresponsible by industry stakeholders, for "refusing" [Harry] to play their part as a good moral citizen that looks after their health so as not to be a burden on the broader society (Bastian and Coveney 2013).

A lifestyle view of VF as a problem of public health is also consistent with neoliberalist ideals that

will be examined in more detail in section 6.3.2. However, at this point it is important to note that framing the problem of VF in this way, deflects responsibility for health away from both governments and corporations (Bastian 2011b; Bastian and Coveney 2013; Henderson, Coveney et al. 2009). Further, this understanding of VF is very individualistic and ignores wider social contexts that impact on individual behaviour (Bacchi 2016).

Viewing health as a social phenomenon has its origins in WHO policies such as the 1978 Alma Ata Declaration of Health for All and the 1986 Ottawa Charter for Health Promotion (Baum 2016). This was an important foundation for what is called the 'new public health' era that began in the 1980s, and promotes public health through the use of public policy, community involvement, specific settings such as schools, and social justice (World Health Organization 1986). Paralleled in the new public health paradigm, a 'new nutrition science' paradigm emerged at the beginning of the 21st century, as outlined in The Giessen Declaration of 2005 (Beauman, Cannon et al. 2005; Lawrence and Worsley 2007). In this paradigm, social and environmental dimensions of nutritional health are combined with traditional biomedical dimensions, to address nutrition-related population health issues. This approach is distinguished from the 'reductionist' approach to nutrition, whereby the relationship between food and health is dissected into its constituent parts, such as specific nutrients and metabolic pathways (Begley and Coveney 2010; Scrinis 2016).

VF is generally considered an example of a reductionist approach to nutrition and health (Scrinis 2016). Thus, specific nutrients are added to individual foods or food groups, in an attempt to correct perceived nutritional imbalances among the population, and 'fix' the food supply (Begley and Coveney 2010). Proponents of the new nutrition science paradigm challenge this view claiming people eat whole foods, not individual nutrients, and consequently suggest VF for public health reasons is rarely necessary (Lawrence, Dickie et al. 2018; Stanton 2016).

In this study, public health, government and citizen stakeholders mostly represented VF as a problem of public health in line with a new nutrition science paradigm, while industry stakeholders were again resolute in their representation of VF as a problem of public health within a reductionist context. Public health, government and citizen stakeholders were concerned about VF impacting on the nutritional integrity of the food supply, and VF being allowed in foods of poor nutritional quality. These concerns reflect both new nutrition science and reductionist paradigms.

No matter which health or nutrition paradigm is favoured, all are grounded within the premise of evidence-based medicine (Bacchi, 2009, Lawrence and Worsley, 2007). This means that whether a

proposed response to ill-health is preventive or curative, social and environmental or individual, holistic (new nutrition science) or reductionist, it is believed there should be evidence that it will produce the desired outcome. Evidence, it is contended, can challenge ideologically-driven policy by focussing on efficiency and effectiveness. However, questions have been raised about the limited forms of evidence that are considered acceptable, with some forms of research (such as randomised control trials) holding a privileged status over other forms (Begley and Coveney 2010; Lawrence 2013). Further, the actual influence and role of evidence in policy-making has been contested, and often found to be overshadowed by the inherently political nature of policy-making (Baum and Fisher 2014; Cullerton, Donnet et al. 2018; Lawrence 2013; Newman 2017).

Despite these concerns, the concept of evidence-based medicine and evidence-based policy is consistent with, and reflects, the representation of VF as a problem of public health and as a problem of evidence in the present study. In addition, stakeholders in this research represented as problematic the associated context that the food regulatory system places the burden of proof of harm on the government, rather than the burden of proof of benefit on industry. This is consistent with the observations of others (Lawrence 2009b), and suggests that without evidence of actual (rather than potential) harm of VF on the population, it is difficult to argue against the liberalisation of food regulations.

6.3.2 The context of neoliberal ideology

The representation of VF as a 'problem' of commercial benefit, particularly by industry stakeholders in this study, demonstrates an underlying neoliberal context to the policy problem. Neoliberal or economic rationalist ideology promotes a free market economy, a small role for government, and the safeguarding of individual liberties (Bastian and Coveney 2013). All of these contextual factors are evident in the discourses used by stakeholders in this research and are consistent with the results of others (Ayo 2012; Begley and Coveney 2010; Cullerton, Donnet et al. 2016b; Henderson, Coveney et al. 2009).

The neoliberal worldview stems from the French term laissez-faire meaning 'leave them to do', which was first used in the 18th century to sanction against the interference of government with trade (Maddison and Denniss 2013). A particular advocate of this view was the Scottish economist Adam Smith, who in 1776 suggested the 'invisible hand' of the market would drive people to act in self-interest, thereby producing a spontaneous social order that would also benefit public interest (Edwards 2007; Edwards 2013; Maddison and Denniss 2013). Laissez-faire ideology advocates the

notion that a capitalist economy will resolve economic inefficiencies more effectively than the government. It suggests that a free market is the most efficient generator of wealth, and this is only hindered by government interference. This theory remained influential until the 20th century when two World Wars and the Great Depression forced governments to take a more active role in economic management (Maddison and Denniss 2013). In the 1980s however, laissez-faire economics experienced a strong revival, particularly in high-income democracies, and consequently in these countries societal priority is given to the economy, whilst the political order and social order are relegated to second and third respectively (Edwards 2007; Edwards 2013; Maddison and Denniss 2013).

In the context of neoliberalism, the representation of VF as a problem of commercial benefit, assumes it is appropriate to use market forces and any associated customer demand as a basis for decisions on fortification. VF itself therefore, is not considered the policy problem per se, but rather a means to an end for commercial benefit. This raises certain ethical and moral questions around the use of VF and appropriate standards for conducting business (Bastian and Coveney 2013). It also supports suggestions that an important social determinant of health is the role of corporate practices (Freudenberg and Galea 2008). Further, it illustrates the way industry promotes fear of government regulation and threats to individual freedoms among the community, as a means of maintaining its own dominance and profits (Moore, Yeatman et al. 2015).

Most key informants in this study identified neoliberal ideals and practices as important contexts for food regulatory policy and standards. They also suggested the structure of food regulatory system was supportive of neoliberal ideology, with all policy and standards needing to be approved by the OBPR before final ratification by Ministers (Legislative and Governance Forum on Food Regulation 2012). Similarly, FSANZ is required to notify the WTO where any new or modified standards are likely to pose an impost on global free trade (World Trade Organization 2014). This made it difficult for the public health voice to challenge or change the representation of VF as a problem of commercial benefit in relevant food regulatory policy. Such difficulties are likely exacerbated by the 'hidden' nature of such economic influences in policy considerations, with official representations of the food regulatory system failing to acknowledge such influence from the OBPR and the WTO (Australia and New Zealand Ministerial Forum on Food Regulation 2016a; Australia and New Zealand Ministerial Forum on Food Regulation 2016b; Food Regulation Secretariat no date).Another aspect of the neoliberal context for food regulation observed in the

present study was the concept of individuals being responsible for making "informed choices" of VFF based on the provision of "adequate information" on food labels [CP/3]. They were also represented as being collectively responsible for the balance of fortified and non-fortified foods in the marketplace, because of choices made at the point of purchase. Further, customers were depicted as active participants in the business transaction, which was reflected in the continued use of the term 'consumer' in the discourse of this and other studies (Ryan 2001). Thus, citizens are in many ways 'marketised' by being represented as 'consumers', or partakers in a commercial enterprise, rather than as part of a community or society. There is also an assumption that individuals are genuinely free to make an informed choice when a full range of products, information, support, opportunity, ability and time may not be available to them (Moore, Yeatman et al. 2015). This has implications for the relationship between corporate entities, government and the public, and has the effect of deflecting the burden of responsibility for both the use and potential consequence of consuming VFF, away from the business community and onto the individual.

A similar context of neoliberalism is evident in more recent food and health policy, such as the National Strategic Framework for Chronic Conditions which is very focussed on responsibility for health at the individual and community level and places little responsibility for the obesogenic environment on industry or corporate practices (Australian Health Ministers' Advisory Council 2017b). According to Carey, Caraher et al (2015), the 2013 National Food Plan, although discontinued after a change of government, also clearly placed the burden of responsibility for food choice onto individuals, with the mantras of freedom of choice, informed choice and free and open markets as central pillars of the plan, reflecting a strong neoliberal foundation.

Comparable neoliberal contexts have been observed by others using Bacchi analysis in other public health related subject areas such as childhood obesity, food security and 'fast' food advertising to children, whereby responsibility for the problem becomes the responsibility of individuals rather than industry or government (Bastian 2011b; Bastian and Coveney 2013; Henderson, Coveney et al. 2009). However, in more recent work, it is not just within the context of neoliberalism that individuals are represented as being responsible for long-term health, but also within public health plans to address obesity. Salas, Forhan et al (2017) found that while public health rhetoric framed the problem of obesity in a social context, policy solutions were individualistic. This reiterates the importance of public health advocates ensuring they do not suffer from 'downstream drift' in their discourse, by framing VF or other food regulatory policy

problems within the context of a social paradigm of health, then offering solutions that are more consistent with a neoliberal context of individual responsibility (Baum and Fisher 2014).

An additional feature of the representation of VF as a problem of commercial benefit that reflects the context of neoliberalism in this study, was the discussion by several key informants on the significant loss of public health nutrition expertise in many Australian jurisdictions in recent years. This was consistent with the almost 90% loss of preventive nutrition-related public sector positions in Queensland found by Adam and Vidgen (2013). It also demonstrates aspects of the 'hollowing out' of the state that have been noted in other areas of expertise (Beer, Clower et al. 2005; Rhodes 1994; Wilson, Spies-Butcher et al. 2013). Authors considering such 'hollowing out' have commented on factors including, losses of function, scope, power and independence in the public sector as a consequence of privatisation, alternative service models such as the use of agencies, transfer of decision-making upwards toward international regulatory bodies and downwards via decentralisation, as well as closer ties with political decision-makers (Food Ethics Council 2005; Rhodes 1994). When asked about contextual factors for VFP in this study, key informants noted some of these aspects of 'hollowing out', such as harmonisation of regulations internationally through trade agreements and Codex, interstate governmental agreements, and the structure of the system making food regulatory decisions more closely aligned with the political persuasion of individual Ministers and the government of the day than with public service recommendations.

Despite these significant influences on food regulatory policy from the predominantly neoliberal context in Australia, it must be noted that citizen, government and public health stakeholder groups did not support neoliberal ideals as an appropriate context for VFP. These stakeholders presumed that citizens needed protection from the deceptive behaviour of industry used in the pursuit of commercial benefit. There was also an assumption that the responsibility for protecting customers from such behaviour lay with government (Bastian 2011b). Consequently, governments were represented as responsible for developing, implementing and monitoring relevant regulations to ensure the public was not misled. Work by Al-Ani, Devi et al (2016) regarding the use of nutrition and health claims on packaged foods in New Zealand supported this view. However, responsibility for ethical and honest business dealings by industry, was not presumed to be part of this framing of the problem of VF (Bastian and Coveney 2013).

6.3.3 The context of responsibility for risk

The representation of VF as a problem of risk in the key documents, assumes that VF is dangerous, particularly for public health, and therefore it needs to be appropriately managed. Representing VF as a problem of risk, promotes the idea that VF may become a problem rather than a solution for health and nutrition at both the individual and population level (Begley and Coveney 2010). However, some submitters in this study were also concerned about the risk a neoliberal ideology poses for citizens who are confused by, and have a limited understanding of, complex health and nutrition issues. The consequence of these presuppositions underlying the representation of VF as a problem of risk, is that an important context for VFP is the issue of responsibility, and whether individuals or society are responsible for the 'safe' consumption of VFF.

This context of responsibility is based upon the 20th century ideologies of social risk and individual risk. Prior to the notion of enlightenment in the 17th century, risk was perceived as a natural event, and the idea of humans being at fault or responsible was excluded (Lupton 2013). However, as scientific knowledge increased, risk became calculable, and was no longer considered to be exclusively found in nature. By the 20th century, risk became part of economic theory, and could be considered both good and bad. Eventually though, risk mainly meant danger, and blame and accountability were attached to any negative or undesirable outcomes (Lupton 2013).

Social risk emanates from the 19th and 20th century views of economist John Keynes and sociologist T.H. Marshall, that the state has a duty to provide its citizens with a degree of security against a range of risks, including economic welfare, occupational health and safety, and crime (Bacchi 2009). Security against risk during this period therefore, became socialised and managed by the state under welfare-based regimes. Individual risk, on the other hand, is more consistent with neoliberal ideology. Since the 1980s, governments have moved away from the socialising of risk, toward the individualisation of risk (Bacchi 2009). Consequently, security against the risk of 'problems' such as unemployment, poor health, or crime, became the responsibility of the individual, rather than the government, corporations or communities as a whole.

In this present study, industry stakeholders represented a non-liberal VFP as a risk to public health because of a need to address nutrient inadequacies in some sectors of the population. VF was also represented as a risk to business credibility. This faming of the policy 'problem' presupposes a level of both individual and social risk. The customer is presumed to be responsible for making "informed choices" [SAS/2,3] that will not create a risk to their individual health. However,

governments are also assumed to be responsible for ensuring any risk to public health is minimised through the use of appropriate risk assessment and risk management processes, and by permitting liberal VFP. This then enables industry to 'fix' inadequate dietary intakes in the community as well as nutrient insufficiencies in the food supply. Governments should also support suitable VF regulation by providing nutrition education programs for the community and conducting adequate monitoring of VF. In this context of responsibility, industry is presumed to be exempt from any culpability.

For other stakeholder groups, risk to public health was more focussed on the known and unknown consequences of higher levels of vitamins and minerals in the food supply, particularly over the long-term. Risk was clearly linked with the need for up-to-date scientific evidence on which to base decisions regarding VF permissions. Discourse was particularly focussed on "emerging evidence" [SAS/8] of previously unknown and long-term adverse effects on health from excessive nutrient intake among the community. Such language indicates a greater emphasis on social risk rather than individual risk. It also presupposes a precautionary approach to VF permissions in the face of scientific uncertainty and in the context of political and legal challenges to such prudence (Peel 2004). Consequently, responsibility for minimising risk to public health is placed on both industry and government, rather than the individual.

6.3.4 The context of power

In many ways, VF as a problem of power in this research was both a problem representation and a contextual factor. VF as a problem of power represented the struggle for supremacy in the framing of the policy problem, that occurred between public health, citizen and government stakeholders versus industry stakeholders. Power as a contextual factor was more related to the less overt power of ideologies inherent in the various representations of the policy problem, such as neoliberalism and biomedicine, that were important in determining policy outcomes.

Power is a concept that is difficult to define (Lukes 1986). Some authors define power as producing intended effects (Russell 1986), while others contend that power is equivalent to control of outcomes in that 'A' has power over 'B' when A is able to get B to do something B would not ordinarily do (Dahl 1957). However, Lukes (1986) suggests that in trying to understand power it is important to consider both the outcomes and the location of power. In other words, it is important to examine how the outcomes of power serve the interests of those with power.

Lukes (2005) has outlined a three-dimensional paradigm of power that tries to incorporate the

range of ways in which power is understood. A one-dimensional view of power focusses on behaviour in decision-making on important issues where there is observable conflict between different interests, which are expressed as policy preferences and are revealed by participation in policy development. Thus, one-dimensional power is observable power that is exercised in decision-making processes, mostly in formal institutions, whereby the preferences of those with power usually prevail over the wishes of others. For example, the battle between political parties or interest groups that determines what gets onto a political agenda.

A two-dimensional view of power adds the more covert aspects of power in decision-making to the one-dimensional view, and reflects both decisions and non-decisions of governments or institutions in policy making (Lukes 2005). Therefore, consciously or unconsciously, a person or group has power to the extent that they can create or reinforce barriers that prevent alternative views from being considered in policy-making, thereby maintaining the status quo or creating a non-decision. This includes power in the form of coercion, influence, authority, force or manipulation. It also still requires the presence of conflict, whether overt or covert, to be observable.

Lukes' (2005) 'radical' view of power is three-dimensional and is least measurable. It includes power and control over the decision-making and political process, but not necessarily through actual decisions. This view of power incorporates the values and ideologies that influence, shape and determine people's thoughts, desires and preferences, even though they may be unaware of this influence and its impact on their interests. Thus, it enables consideration of the way in which potential issues are kept out of decision-making. Further, observable conflict is not a necessary component of power or the exercising of it, but covert conflict may exist in the contradiction that occurs between the view of those with power and the actual interests of those who are excluded.

It is this three-dimensional view of power that both Bacchi (2009) and Maddison and Denniss (2013) suggest is needed to understand and analyse the policy process. This is because it assists in highlighting aspects of the policy process such as how problems have been defined, who has defined them, who has been included and excluded from the decision-making and why, and consequently the exercise of both covert and overt power and the impact of such factors on policy decisions. However, Bacchi (2009) also notes the importance of this view of power, in reminding policy analysts of the importance of interrogating their own representations of the policy problem through a process of reflexivity. This enables the researcher to uncover any of these aspects of

power within their own viewpoint and will be considered later in this chapter.

The three-dimensional view of power described by Lukes (2005) is consistent with what was observed in the present study. Thus, the influence of contextual factors such as biomedicine, neoliberalism and individual responsibility, overrode the views of the more socially-oriented citizen, government and public health advocates. Further, these stakeholders would not necessarily be aware of how such ideologies shaped the policy process, and consequently excluded their views from the decision-making effort. This result is consistent with the analysis of Baum and Fisher (2014) who demonstrated the power of contextual factors such as neoliberalism, gloablisation, biomedicine and individualism, that are outside the policy process, but aid the endurance of behavioural health promotion policies despite their failure to incorporate and address social and economic determinants of ill-health. It is also similar to the observations of Moore, Yeatman et al (2015) regarding the promotion of 'nanny state' ideology by large tobacco, alcohol and gambling businesses, to ensure the continuance of corporate dominance and profits in these commodities, regardless of the significant financial and social cost to public health and the community.

Lukes' (2005) view of power is further illustrated in the present study by the observation of key informants that the burden of proof of harm of VF lies with government, rather than any onus being on industry to prove a benefit of VF. Again this is consistent with powerful neoliberal ideals and the notion of individual responsibility for risk that is used to challenge the use of the precautionary principle in both health and environmental policy (Peterson 2006). Additionally, it illustrates the covert power of the multi-national food industry over decision-making in food regulatory and food policy debates (Cullerton, Donnet et al. 2016a; Lawrence 2013; Lawrence and Pollard 2014; Nestle 2013; Rose and Murrell 2011; Sacks 2014; Scrinis 2016).

6.4 Opportunities for public health nutrition engagement in food regulation policy development

In considering the results of this research and the fourth objective of identifying opportunities for public health nutrition priorities to be advanced in food regulatory policies and processes, there are several practical conclusions and recommendations for further research that can be made. These will be discussed in this section.

6.4.1 Engage early

A key finding of this research was the similar way in which the problem of VF was represented by FRSC in both the CP and the final PG; that is, as a problem of restrictive regulation or of desiring a more liberal policy approach to enable commercial benefit for industry. This consistent framing of VF at both the outset and the end of the policy process, seems to indicate that the initial representation of the policy problem is particularly important, and where future efforts to influence policy might be particularly effective. Thus, in food regulation, it seems the battle is often fought and won at, or even before, the initial framing of the policy 'problem' in what would be considered the issue identification or agenda setting stage of the policy cycle (Althaus, Bridgeman et al. 2018; Howlett, McConnell et al. 2016; Howlett, McConnell et al. 2017). Consequently, if public health nutritionists leave their participation until 'formal' consultation stages, the battle may already be lost. However, while this conclusion appears to be supported by some other food policy work (Carey, Caraher et al. 2015; Thuraisingam, Riddell et al. 2009), it is important to note that this research was based on a single case study, and therefore further research should be conducted to confirm this conclusion.

6.4.2 Cultivate links with high-level decision makers (FRSC and ANZMFFR members)

The results of this present study support the findings of Jenkin, Signal et al (2011; 2012) in demonstrating the predominance of industry representations of the problem of VF over the views of public health, citizen and government stakeholders in the 2004 and 2009 VFP. In addition, despite considerable effort and government resources being put into 'formal' public consultation, this dominant view of the policy 'problem' changed little between the beginning and end of the policy process. In contrast, although after the 2002 to 2012 time period used for this research, in 2015 the Ministerial Council altered the problem representation of VF to be more aligned with public health views than industry views. As this was done without a period of formal public consultation (although any other type of consultation that may have occurred during this or the previous policy development is unknown), it appears to support concerns expressed by some key informants in this study, that stakeholder views are not always incorporated into policies by decision-makers, and on occasion are not even sought. Further, it highlights what has been described as the tokenistic nature of public consultation in many modern democracies (Bishop and Davis 2002).

However, it also reinforces the finding that the initial framing of the policy 'problem' is key, and whether there is stakeholder consultation or not, the power and influence of key decision-makers

in determining policy outcomes is significant. In the case of VFP, FRSC and the now ANZMFFR were viewed as holding the most power and influence in determining policy outcomes. Therefore, consistent with recommendations by Moore, Yeatman et al (2013) and Cullerton, Donnet et al (2016a; 2018), cultivating links and investing in relationships with, as well as gaining regular access to, these high-level decision-makers may be useful for affecting future policy.

6.4.3 Utilise existing points of power and influence

The representation of VF as a problem of power in the key informant interviews, reflected the struggle between public health and industry stakeholder groups in their efforts to promote one framing of the policy problem over the other. On the one hand, these results were consistent with those of Cullerton, Donnet et al (2016a; 2016b; 2017) in that citizen, public health and some government key informants viewed the industry as having significant power and influence in ensuring the problem representation in the final VFP was more closely aligned with food industry views than those of public health. However, in contrast to the work of Cullerton, Donnet et al (2016a) food industry key informants suggested that public health nutritionists working in the public sector already have considerable power and influence available via their access to, and advisory role with, both FRSC and ANZMFFR members. Such regular intra-departmental contact was viewed as having particular sway with high-level decision makers. Whilst more research will be required to confirm this is a real rather than industry perceived power, it may provide another point of access for influencing food regulatory policy in the future.

Food industry key informants also suggested an important source of power and influence for public health in food regulatory debates, was the majority representation on, and voting rights of, Health Departments versus Agriculture Departments, on both the FRSC and the ANZMFFR. It was believed this meant the public health view took precedence over the agriculture or industry view when determining the way in which a jurisdiction would represent a policy 'problem', and subsequently vote. However, some public health advocates suggested the agriculture or industry representation on these key decision-making committees, was becoming increasingly significant, and playing a greater role in what was traditionally a public health domain. Therefore, even though all jurisdictions involved in food regulation are required to represent a 'whole-of-government' view in decision-making processes (Legislative and Governance Forum on Food Regulation 2012) it is possible that whichever department holds the lead role, has significant power and influence in determining the way the problem is represented. Such power though, may also be reflective of broader jurisdictional ideologies, such as neoliberalism or biomedicine.

Nevertheless, this finding seems to reinforce the importance of utilising any existing public health public sector access to, and influence with, jurisdictional FRSC and ANZMFFR members. It may also indicate the value of using this contact to aid in determining why such change occurs, and consequently minimising any further loss of voting rights from health to agriculture portfolios, as has occurred in some jurisdictions over the last couple of decades (Food Regulation Secretariat 2018c; Yeatman 2002).

6.4.4 Challenge dominant ideologies with key decision-makers and broader society

An important observation in this study, was the impact of contextual factors such as biomedicine, neoliberalism, individual responsibility and power, on food regulatory policy development and decisions. While many public health nutritionists would advocate for the use of evidence-based policy to assist with minimising the impact of such factors on policy processes, debate is ongoing as to whether it is possible for public policy to be based on objective evidence, or whether evidence itself is fundamentally subjective in interpretation (Newman 2017). Thus, while evidence may be important, it is rarely the key influencer in the policy process, and often serves to reinforce rather than challenge or change powerful ideologies or political will (Baum and Fisher 2014). Consequently, public health advocates may need to refrain from relying on evidence alone and pay more attention to action in future food regulatory policy debates. This is consistent with work that has used the action or advocacy coalition framework (ACF) in policy making for complex or contentious issues (Pierce, Peterson et al. 2017; Sabatier and Weible 2007a). Such action could include challenging the dominant ideology of key decision-makers by opening areas of policy silence to critical examination in broader society, ensuring problem representations are consistent with the values and beliefs of policy-makers and the community, working with people at the grassroots to increase public will, or even entering politics (Baum and Fisher 2014; Cullerton, Donnet et al. 2018).

6.4.5 Create unity and consistency of discourse

In this study, as in the work of others, there was a tendency for public health, citizen and government stakeholders to use inconsistent discourse as well as suffer from ‘downstream drift’ (Baum and Fisher 2014; Salas, Forhan et al. 2017). Thus, while advocates called for change in the broader food regulatory environment in order to redirect responsibility for public health from individuals onto government, corporations and society as a whole, actions that were recommended by advocates, such as the provision of labelling information, were more consistent with individualistic policy solutions.

It is possible this occurred because of the constraints the food regulatory system and policy environment placed on calls for action. However, the results of this and other studies suggest public health advocates need to challenge such constraints, rather than be limited by them (Baum and Fisher 2014; Cullerton, Donnet et al. 2018). One means of achieving this might be to ensure consistent discourse that promotes unconstrained policy solutions and challenges the system structures and ideologies that help perpetuate individualistic policy actions.

Citizen, government and public health stakeholder groups also used a wider range of problem representations of VF than industry stakeholders, who were consistent and resolute in their representation of the policy problem. Cullerton, Donnet et al (2016b; 2018) found that a united voice using one common goal was one of several enablers of change in nutrition policy. Moore, Yeatman et al (2013) also determined that any vision for change must be clearly articulated by public health advocates, along with the strategy for achieving that goal. The results of the present study would support the importance of stakeholder groups working together to limit the representation of the policy problem to one or two important issues, but also to ensure consistent, clearly articulated discourse that does not suffer from downstream drift.

6.5 Study strengths and limitations

All research has limitations, and this study is no exception. The important factor is to be aware of any potential limitations and craft a research design that minimises any impact they may have on results, as has been the case in this project. Therefore, this section considers the limitations of this research, but also the strengths of the methods and data used.

6.5.1 Rigour

The limitations of a qualitative case study method have been outlined in Chapter 3, but many positivist scientists still call into question the validity and reliability of qualitative research (Baum 2016; Liamputtong 2013). However, some qualitative researchers suggest these concepts are too quantitative and therefore not compatible with the constructionist underpinning of methodologies such as those used in the present study. Therefore, other terms such as trustworthiness, authenticity and quality are suggested (Maxwell 2013), or alternatively, credibility, transferability or applicability, dependability and confirmability (Liamputtong 2013). Regardless of the terms used, the most important issue is that research is rigorous or trustworthy.

One of the key strategies identified for ensuring rigour, is triangulation (Liamputtong 2013; Patton

1999). Data triangulation or collecting multiple sources of evidence, was an important aspect of this study, and both key document data and key informant interviews were used for that purpose. The variation in results between these two sources of data observed in the research, also supports the importance of using data triangulation, as without the inclusion of one more than one source of data, results would have provided an incomplete picture of the case study.

Using different times, people and places can also aid data triangulation (Johnson 1997; Patton 1999). In the present study this is illustrated by the inclusion of documents written by a range of food regulatory stakeholders as well as high-level government committees (FRSC and ANZFRMC) In addition, interviews were conducted with key informants representing all four stakeholder groups identified in the key documents, who were located in different Australian jurisdictions as well as New Zealand. Interviews were also collected over a period of eight months to enable data analysis to occur simultaneously and allow for interviewer reflection and reflexivity (Patton 2015).

Researcher triangulation is another means of aiding rigour (Patton 1999). As a doctoral candidate working alone, this was particularly important for ensuring the quality of the data, coding and analysis. Consequently, regular opportunities to confer and receive feedback on the data collection, coding and analysis, as well as present and discuss findings with members of the research supervisory team, were utilised throughout the investigative process. Such collaboration and deliberation was also important for enabling a thorough exploration of the way the policy 'problem' of VF was represented and applying the WPR method of discourse analysis to this case study (Bacchi 2009; Bacchi 2016).

6.5.2 Recall

Another possible limitation of this study was potential for errors in recall by key informants participating in the in-depth interviews. This was of concern because of the historical nature of the case being investigated, and indeed, recall of the VFP development and decision-making process was identified as problematic by some interview participants. However, a range of recognised oral history strategies were employed to assist with minimising recall errors (Mould 2009). For example, key informants were provided with a copy of the relevant VFP, and a brief PowerPoint presentation portraying a timeline of key events in the development of VF policy between 2002 and 2012 (Appendix C). This gave participants the opportunity to refresh their memories and review their records of the policy development process. In addition, time at the beginning of the interview was dedicated to revising this timeline with participants and giving them the opportunity

to ask questions.

According to Robertson (2000) people most accurately remember what has been particularly important or interesting to them about an event. Dex (1995) concurs that salient or noteworthy events are recalled more reliably. Further, even though much of an event or experience may be forgotten soon after it occurs, what is remembered after that stage is remembered for a long time (Dex 1995; Robertson 2000). Therefore, while it was not possible to completely eradicate potential errors in the data caused by recall problems for key informants, it is likely that each participant remembered what was important to them and remembered that piece or those pieces of information for several years. Thus, they were able to contribute one or more significant components of the data that helped to create a complete case. Robertson (2000) also indicates that truth in oral history can be contained in the values, attitudes, beliefs and feelings expressed by participants. These factors were all important and relevant to this research, and again aided in dealing with possible problems of recall encountered.

6.5.3 Sampling

Patton (1999) identifies three types of sampling limitations that are part of qualitative research and may restrict the broader application of results. These include limitations in situation, time and selection. In this study, the use of a single case study was deemed appropriate for the reasons outlined in Chapter 3. However, it is important to note that the use of a single case means results may not be comparable to other food regulatory policies (Yin 2014).

Additionally, the historical nature of the case selected can create problems of temporal sampling (Patton 1999). Consequently, further developments in VFP that occurred in 2015 were outside the time frame selected for this research, but had they been included, may have aided key informant recall, and broadened the research applicability. However, while the possibility of extending the time frame for this study was considered with the research team, it was determined that this development was best dealt with in the discussion of results, rather than increasing the volume of data already collected for the case study.

Finally, limitations of selection with the use of purposeful sampling are inherent in the use of this qualitative research technique (Patton 1999). For example, while a significant amount of information rich, key document data were collected for this research, the original plan proposed including other documents such as the agenda papers, minutes and other 'government-in-confidence' documentation from relevant FRSC working group, FRSC, and ANZFRMC meetings.

However, access to such data would have required another FOI request, and the difficulties of process and cost of FOI requests, meant this information was not included in the research.

In addition, access to the most information-rich key informants for the in-depth interviews was difficult. The historical nature of the case meant some preferred key informants were no longer working in the area, and therefore difficult to trace. One had passed away, and others were not interested or willing to participate. Some that were still working in the area, declined participation because of political sensitivities, but also because of personal concerns regarding the impartiality with which the data would be analysed. Thus, alternative key informants had to be found, and while still information-rich, in some cases may not have been as extensively or intimately involved in the development of VFP as those who were unavailable to participate.

6.6 Reflexivity

Qualitative research demands iterative and critical reflection on the research process, the data and the role the investigator plays in determining the research findings (Liamputtong 2013; Maxwell 2013). It is not possible for the researcher to be completely removed or objectively distant from their research. Reflexivity therefore, is an important acknowledgement of the role investigators play in shaping and analysing their data. Accordingly, researchers must constantly assess their actions and influence over the investigative process and critically scrutinise it as they would the rest of their data (Liamputtong 2013; Maxwell 2013).

When using the WPR method of policy analysis, Bacchi (2009; 1999) recommends the researcher apply the WPR questions to their own representations of the policy problem, in order to ensure reflexive practice. As Salas, Forhan et al (2017, pe602) state, “although the application of the WPR approach is systematic, it is important to acknowledge that researcher subjectivity can affect interpretation”.

Therefore, in the present research, reflexivity was demonstrated by the following actions. Throughout the study process a research diary was kept that enabled the investigator to continually reflect on the data, as well as the process of coding and analysis. Where it was thought that the values and beliefs of the researcher might be encroaching on the data, the WPR questions were applied to the notes made in the diary.

When analysing the stakeholder submissions in the key document data set, the segmentation of responses into categories was made after several attempts to seek some commonalities within the

data. In order to strengthen the decision on categories chosen, a tabular representation was created to assess the dominance of different categories coming from the data (Appendix F). A similar process was followed for the key informant interview data (Appendix G).

Another demonstration of researcher reflexivity was in the way in which key informants were interviewed. Noticing that some questions were not ordered in a way that was fully understood by respondents, questions were rearranged to achieve a better conversation flow. Further, immediately after each interview, the investigator undertook a period of reflection on the interview process. The data garnered were summarised into a vignette, which enabled reflection on any impact the interviewer may have had on the process. These vignettes, along with the interview transcriptions, were also discussed with the supervisory team, where there was further opportunity to ensure reflexive practice.

6.7 Conclusion

This study investigated a gap in the public health nutrition knowledge and understanding of food regulatory decision-making, and the best means of effectively engaging in and influencing policy development. In examining a case study of VFP in Australia, this study provided an original contribution to the area of food regulatory research. This is because research of rather than for food regulatory policy is scarce, and while previous work has considered mandatory food fortification policy (Begley and Coveney 2010; Lawrence 2013), examination of the VFP process has not been conducted before.

This research aimed to understand how the 'problem' was represented in the food regulatory policy, and the implications of this for public health nutrition participation in policy development. A social constructionist epistemology was used in the application of Bacchi's (2009; 1999) "what's the problem represented to be?" discourse analysis method to a case study of VFP, developed by the ANZFRMC between 2002 and 2012.

Analysis of two data sets including 57 key documents used in the development of VFP, and 13 semi-structured, in-depth, telephone interviews, conducted with a purposeful sample of key informants, revealed the predominant problem representations of VF. In the key documents, the 'problem' was mainly represented as public health, evidence, risk and commercial benefit. Citizen, public health and government stakeholders mainly represented VF as a problem of public health, while for industry it was primarily represented as commercial benefit. Interview key informants

predominantly represented VF as a problem of commercial benefit, public health and power.

A key finding, and original contribution to research in the field of food regulation, was the similarity in the way the policy problem was represented at both the outset and conclusion of the policy process. This suggested that a period of 'formal' stakeholder consultation did not alter the policy outcome. Therefore, public health advocates need to engage in the policy process at, or before, the agenda setting stage of the policy cycle, in order to influence the initial framing of the policy problem.

An unusual finding and another original contribution in this study was food industry key informants' representation of public health advocates as having significant power and influence in food regulatory policy development. While there was consistency with other authors regarding the power of the food industry in policy debates, this representation of public health as being influential was unexpected. One named reason for this power, was the direct access of public health oriented public servants to high-level, food regulatory decision-makers. This suggested significant value in cultivating relationships with relevant committee members and utilising these existing points of power and influence for future advocacy efforts.

Analysis of the data also revealed several underlying, highly influential ideologies including biomedicine, neoliberalism, individual responsibility, 'reductionist' nutrition and power that affected VFP development. Thus, while public health advocates would generally promote the importance of evidence in policy, it is rarely the key influencer and may serve to reinforce rather than challenge or change powerful ideologies or political will. Consequently, in future, public health advocates may need to refrain from relying on evidence alone and pay more attention to action in food regulatory policy debates, particularly by challenging the dominant ideology of key decision-makers and opening areas of policy silence to critical examination in broader society.

Finally, there was a tendency in this study for public health, citizen and government stakeholders to use inconsistent discourse as well as suffer from 'downstream drift'. These stakeholder groups also used a wider range of problem representations of VF than industry stakeholders, who were consistent and resolute in their representation of the policy problem. Therefore, this research has reinforced the importance of public health advocates working together to limit the representation of the policy problem to one or two important issues, but also to ensure consistent, clearly articulated discourse that does not suffer from 'downstream drift'.

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APPENDICES

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