

# Healthy Food Partnership Reformulation Program:

## **Evidence Informing the Approach, Draft Targets and Modelling Outcomes**

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**Healthy Food  
Partnership**

working together to improve your food

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## Purpose of the paper

The intention of this paper is to provide an overview of the process undertaken by the Reformulation Working Group (RWG) to develop draft targets for food product reformulation as part of the Partnership Reformulation Program (PRP), which is an initiative under the Healthy Food Partnership (Partnership). The overall aim of the paper is to improve transparency on the process and the evidence which informed the approach taken.

## 1. Background

In late 2015, the Australian Government established the Partnership with the aim of improving the dietary habits of Australians by making healthier food choices easier and more accessible, and by raising awareness of appropriate food choices and portion sizes (DoH 2016).

The Partnership provides a mechanism for government, the public health sector and the food industry to cooperatively tackle obesity, encourage healthy eating and empower food manufacturers to make positive changes. The scope of work within the Partnership comprises several policy areas that consider portion size, food reformulation, food service environments and education.

This multifaceted approach reflects the fact that dietary choices are determined through a complex interplay of factors and thus there is not one single policy measure that can be introduced to shift populations onto a healthier dietary trajectory.

The product reformulation component undertaken by the RWG is supported by other initiatives, including the Australian Dietary Guidelines (ADGs), the Health Star Rating (HSR) system and nutrition labelling, which enable consumers to make healthy choices when purchasing and consuming food.

The Partnership is part of a wider public health program in Australia that aims to reduce risk factors for chronic disease.

## 2. Objectives and key activities for the Reformulation Working Group

The principle aim of the RWG is to:

*Establish priorities for food reformulation which may help consumers achieve dietary patterns that are consistent with the ADGs and protect and promote good health.*

At the outset, the main objectives for the RWG were to establish priorities for food reformulation that make healthier food choices easier and more accessible by:

- optimising the nutritional profile of the food supply by increasing beneficial nutrients and five food group foods and by reducing risk-associated nutrients, where technically feasible to do so;
- building on previous and current local and international reformulation initiatives;
- utilising existing tools and resources available to the Australian marketplace such as the ADGs HSR and food composition databases;
- aligning with complementary work being undertaken in the other Partnership working groups; and
- engaging with stakeholders, including industry and non-government organisations to facilitate commitment and support for proposed initiatives.

Based on the most up to date evidence for reformulation strategies, key activities of the RWG were identified as:

- assess which nutrients and foods should be included in reformulation activities to support population achievement of the ADGs and determine how these are to be prioritised;
- examine reformulation work to date in the Australian marketplace, including the Food and Health Dialogue (the Dialogue) targets, and international initiatives including evidence of effectiveness where available;
- set challenging and feasible goals for reformulation with clear measures identified to track progress; and
- set targets/guidelines for foods prepared on site (in food service).

Key deliverables for the RWG:

1. Reaffirmation of targets previously established under the Dialogue, supported by a process for engaging stakeholders.
2. A program logic for reformulation.
3. A prioritised list of nutrients and foods to reformulate and the categories to which reformulation goals and targets will apply.
4. A process for engaging stakeholders in developing and agreeing reformulation goals and targets.
5. Agreed reformulation goals, targets and timeframes for implementation.

### 3. Reformulation

Reformulation seeks to restructure the food and drink environment and, when used in parallel with other initiatives, can lead to changes in dietary patterns for a population. For health purposes, the food environment can be restructured by making small, incremental positive changes to product formulations, sometimes referred to as ‘health by stealth’, providing consumers with a wider access to, and a larger number of, more healthful products. For the general population, a significant proportion of daily energy intake is likely to come from manufactured foods, exemplifying that the actions of the private food sector holds tremendous potential to influence the diet of a population, in terms of scale and reach (Lehmann et al 2017). From an economic perspective, it has been identified as one of the most effective nutrition policy interventions, measured in disability-adjusted life years saved (McKinsey Global Institute 2014).

In many cases, food manufacturers and food service operators already have commitments in place to reformulate products towards healthier nutritional profiles. For instance, the 10 largest global food and drink companies have sugar reduction policies and programs (WHO 2017). Furthermore, the introduction of the voluntary front-of-pack nutrition labelling scheme in Australia and New Zealand, the HSR system, has been found to influence nutritional profiles of food products. In New Zealand, a sample of 431 products from the Nutritrack database<sup>1</sup> was found to have small but statistically significant changes in mean energy (-29kJ/100g), sodium (-49mg/100g) and fibre (+0.5g/100g) between the introduction of the HSR system in 2014 and a review of nutritional composition in 2016 (Ni Mhurchu et al 2017).

Australia has already taken steps to improve the nutritional profile of the food supply through the Dialogue, a joint government, public health and industry initiative undertaken from 2008-2013. The Dialogue resulted in the achievement of significant sodium reductions in a group of targeted food products, including breads, breakfast cereals, pasta sauces, processed meats, soups, savoury

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<sup>1</sup> National Institute for Health Innovation, University of Auckland maintains the Nutritrack database and collates data on mandatory back-of-pack Nutrition Information Panel (NIP) data for all packaged food and non-alcoholic beverages available in major New Zealand supermarkets

pies and pastries, savoury crackers and potato, corn and extruded snacks (Heart Foundation 2016). Other government-led reformulation programs have been completed or are in progress on a global level (World Cancer Research Fund 2016). These programs demonstrate the ability of a centrally co-ordinated program to 'level the playing field' and rally the food industry collectively behind a single set of ambitious yet achievable goals to improve the overall healthiness of the food supply.

The PRP builds upon current and previous work undertaken by the food industry in Australia and takes into consideration global examples of reformulation targets to assist in gauging technical feasibility. The PRP also considers HSR nutrient cut-points in order to align expectation and reward between the PRP and the HSR system, to the extent that the HSR system may influence product reformulation to achieve higher star ratings.

### **3.1 Principles of Reformulation**

In developing the PRP, the RWG reviewed similar initiatives undertaken overseas (such as UK, USA, South Africa, Canada, New Zealand, Pan American Health Organization, Mexico), with a focus on assessing the evidence base, principles and targets established for these programs. As part of the *Strategy for Europe on Nutrition, Overweight and Obesity-related health issues (EC 2005)*, the following principles were established to guide the determination of reformulation targets, which:

- should be mainstreamed across products with the largest market share
- improve the overall nutritional profile of the products
- apply to all food industry actors to ensure a level playing field
- pay due attention to the concerns of inequalities and children's diets.

The PRP supports these principles and utilises them as far as it is practical to do so. Due to data limitations and time constraints, a population level approach is taken, rather than one that focuses on at-risk sub-populations. Products that contribute the most to the consumption of risk-associated nutrients, rather than products with the greatest market share, are targeted (although often they are the same).

In addition to the above principles for the development of reformulation targets, food companies should give consideration to the following principles when determining how they will achieve the reformulation targets:

- Consider reformulation within the context of the overall nutritional profile of the product.
- Where possible, implement a 'stealth' approach to allow consumers to adjust their palates i.e. gradually reducing the risk nutrient over time.
- Minimise the replacement of the at-risk nutrients to maximise the health benefits of reformulation to consumers:
  - For example, minimise the use of sodium replacements and the replacement of saturated fat with trans-fats.

## **4. Reformulation of food products in Australia**

The RWG was tasked with establishing priorities for food reformulation which may help consumers achieve dietary patterns that are more consistent with the ADGs. A program logic developed by the RWG covers the tasks to be undertaken to develop the PRP and to fit in with the objectives and key activities for the RWG outlined above (Attachment A). Program outcomes are intended to drive a decrease in risk associated nutrients in priority food categories.

## **4.1 Evidence for selection of nutrients**

The 2015 Australian Burden of Disease Study reports that the combined effect of the 13 dietary risks analysed accounted for around seven per cent of the total disease burden in 2011 (AIHW 2017). When all risk factors were ranked by their contribution to years of healthy life lost due to disease, dietary risks were the second leading risk factor after tobacco use (nine per cent of total disease burden), noting a high body mass index (related to obesity and overweight) also accounted for seven per cent disease burden (AIHW 2017).

The ADGs recommend model diets based around consumption from five food group foods. In addition, the ADGs recommend limiting the intake of foods containing added sugars, saturated fat and added salt [and alcohol]. Added sugars, saturated fat and sodium (salt) along with total energy are commonly described as ‘risk-associated nutrients’, as a diet high in these increases the risk of many diet-related chronic conditions. Levels of these nutrients are typically higher in what are termed ‘discretionary’ food and drinks in the Australian Guide to Healthy Eating (AGHE), which forms part of the ADGs (NHMRC 2013a).

Most Australians consume a diet that is significantly out of step with dietary guidelines. For example, less than one in 24 Australians consume the recommended number of serves of vegetables and legumes/beans on a usual basis, only one in 10 meet the guidelines for dairy products, while only one in seven meet the guidelines for lean meats and alternatives (Australian Bureau of Statistics (ABS) 2016a). Conversely, Australians spend more than half (58 per cent) of their food budget on energy-dense, nutrient-poor discretionary foods such as sugar-sweetened beverages, alcohol, cakes, confectionery and pastry products (Lee et al 2016).

The Australian population on average has nutrient intakes that exceed the established Nutrient Reference Values (NRVs) for sodium and saturated fats (ABS 2014) and the limit for added/free sugars established by the World Health Organization (WHO, Attachment B) (ABS 2016b). Discretionary foods account for over one-third of the Australian population’s total energy intake (ABS 2016a); and contribute to excessive intakes of energy, sodium, sugars and saturated fats.

For these reasons, three nutrients, sodium, sugars and saturated fats, are prioritised for focus on reducing through the PRP; noting that increasing beneficial nutrients and five food group foods through reformulation may be considered at a future time.

### **4.1.1 Sodium**

The ADGs recommend that Australians limit intake of foods and drinks containing added salt. Salt is a key source of sodium in the diet. A high intake of sodium increases blood pressure which can increase the risk of developing cardiovascular and renal diseases, including stroke, coronary heart disease, heart failure, and kidney failure (Mente et al 2017, COT 2017).

Reducing sodium intake can reduce blood pressure, thereby reducing the risk of cardiovascular disease (Mente et al 2017). Modelling undertaken as part of the review of the NRVs for sodium estimated that if population sodium intake levels for adults were to reduce from the current average of about 3600 mg/day to 2000 mg/day, reductions in the average population blood pressure could be achieved. Based on this, the suggested dietary target (SDT)<sup>2</sup> for sodium in Australia for persons aged 19+ years is 2000 mg per day (NHMRC 2017).

#### ***Consumption of sodium***

In the 2011-12 National Nutrition and Physical Activity Survey (NNPAS) component of the Australian Health Survey (AHS), the average daily amount of sodium consumed from food for all

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<sup>2</sup> The SDT for sodium in Australia for adults came into effect in July 2017. SDTs are not provided for children. Rather the 2006 NRVs remain which provide levels that reflect adequate intake and an upper limit (UL). The purpose of a UL is to provide information on the level of intake above which the risk of an adverse effect increases

persons aged two years and over was 2404 mg (equivalent to around 5 grams of salt) (ABS 2014). This amount includes sodium naturally present in foods as well sodium added during processing but excludes the 'discretionary salt' added by consumers in home prepared foods or 'at the table'. Given that it is estimated that 64 per cent of Australians reported that they add salt very often or occasionally either during meal preparation or at the table; and dietary surveys routinely underestimate salt intake (Santos et al 2017), the estimated average amounts of sodium reported here are likely to be an underestimate. A recent systematic review and meta-analysis of salt intake studies in Australia showed that the mean weighted salt intake was 10.1 g/day for men (Approximately 3,900mg sodium. 95 per cent CI, 9.68-10.5 g/day) and 7.3 g/day for women (Approximately 2,800mg sodium. 95 per cent CI, 6.98-7.70 g/day) (Land et al 2018).

From the 2011-12 NNPAS sodium consumption was significantly higher among males than females across the age groups and peaked among males aged 14-18 years and 19-30 years whose usual intake of sodium was 3146 mg and 3025 mg respectively (equivalent to 8 grams of salt), see Table 1 (ABS 2015) and Figure 1 which gives mean daily intakes of sodium across different age groups, day one only (ABS 2014). The usual intakes of sodium are well above the SDT of intake for Australian adults; and above the relevant Upper Levels (UL) for all children, see Table 1 (NRVs given in NHMRC 2006, 2017). Reports from the 2011-12 NNPAS indicate that children were more likely than adults to have usual sodium intakes that exceeded the relevant NRV for sodium with 91 per cent of males (range 86-99 per cent) and 74 per cent of females (range 50-96 per cent) aged 2-18 years exceeding the UL. This was particularly pronounced amongst children aged 2-8 years with nearly 100 per cent of males and 95 per cent of females exceeding the UL for sodium. For adults, 71 per cent (range 47-83 per cent) of males and 32 per cent (range 16-46 per cent) of females aged 19 years and over exceeded the UL, noting that the revised NRV for sodium for adults (SDT of 2000 mg/day) was not published at the time of this analysis and the previous NRV for adults, a UL of 2300 mg/day, was used (ABS 2015).

**Table 1. Estimated usual sodium intakes based on 24-hour food recall data (2011-12 NNPAS, ABS 2015) and comparison with NRVs**

Population Group	Usual daily intake (mg per day)	Suggested UL / SDT (mg per day) <sup>3</sup>	Usual intake as a percentage of UL/SDT (%)
<b>Males 2-3 yrs</b>	1619	UL – 1000	162
<b>Males 4-8 yrs</b>	2158	UL – 1400	154
<b>Males 9-13 yrs</b>	2685	UL – 2000	134
<b>Males 14-18 yrs</b>	3146	UL – 2300	137
<b>Males 19-30 yrs</b>	3025	SDT – 2000	151
<b>Males 31-50 yrs</b>	2908	SDT – 2000	146
<b>Males 51-70 yrs</b>	2540	SDT – 2000	127
<b>Males 71+ yrs</b>	2310	SDT – 2000	116
<b>Females 2-3 yrs</b>	1426	UL – 1000	143
<b>Females 4-8 yrs</b>	1924	UL – 1400	137
<b>Females 9-13 yrs</b>	2298	UL – 2000	115
<b>Females 14-18 yrs</b>	2357	UL – 2300	102
<b>Females 19-30 yrs</b>	2289	SDT – 2000	114
<b>Females 31-50 yrs</b>	2149	SDT – 2000	107
<b>Females 51-70 yrs</b>	1974	SDT – 2000	99
<b>Females 71+ yrs</b>	1849	SDT – 2000	92

<sup>3</sup>Nutrient Reference Values for sodium for population groups under 19 years are currently being reviewed by the NHMRC.

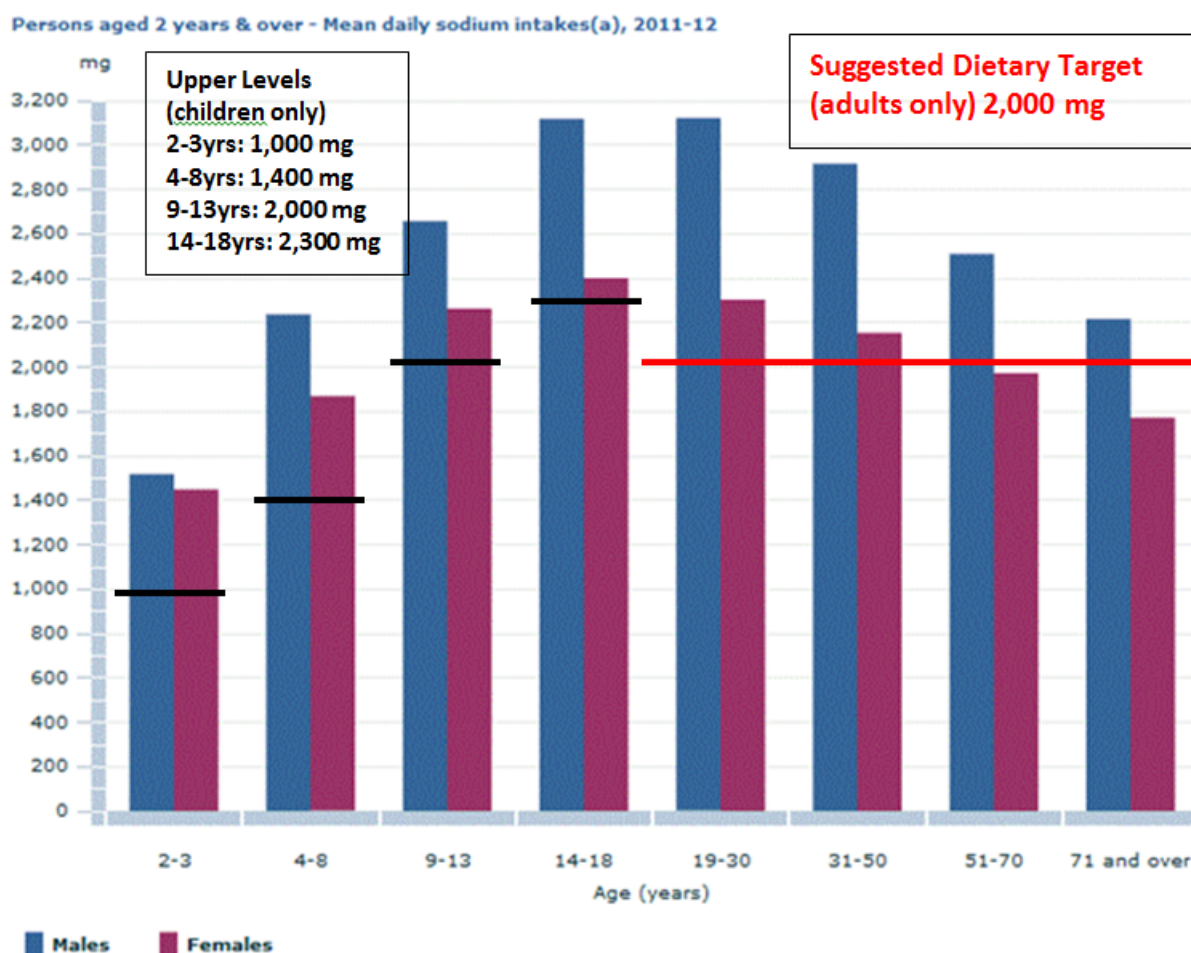


Figure 1. Estimated sodium intakes from 2011-12 NNPAS (ABS 2014)

#### 4.1.2 Added/free sugars

The ADGs recommend limiting consumption of foods containing 'added sugars'. The WHO recommends a reduced intake of free sugars<sup>4</sup> throughout the life course and more specifically that children and adults limit their intake to less than 10 per cent of total energy intake, or to less than five per cent, for additional benefits (WHO 2015), although this latter recommendation is based on lower quality evidence.

The WHO guidance is based on evidence that free sugars contribute to the overall energy density of diets and may promote a positive energy balance, noting there is '*increasing concern that free sugar intakes increase overall energy intake and may reduce the intake of foods containing more nutritionally adequate calories leading to an unhealthy diet, weight gain and increased risk of non-communicable diseases*'. Another concern is the association between free sugar intake and dental caries, with low to moderate levels of evidence that populations show higher rates of tooth decay when intake of free sugars is above 10 per cent of total energy (WHO 2015).

#### Definition of sugars

There is no agreed definition in Australia for the types of sugars that are considered 'added sugars' and data on the level of added sugars in the Australian food supply is limited. A definition used by the ABS in reporting sugar intakes from the 2011-13 AHS used the WHO definition for free sugars and defined added sugars as sugars that are added to foods by manufacturers and consumers (and exclude sugars present naturally in fruit, vegetables and milk) (ABS 2016b). Although it is not possible to analyse a food for added or free sugar amounts, recipes for mixed foods can be used to

<sup>4</sup> Free sugars comprise those added to foods and beverages by the manufacturer, cook or consumer (added sugars), plus those found in honey, syrups, fruit juices and fruit juice concentrates (WHO 2015).

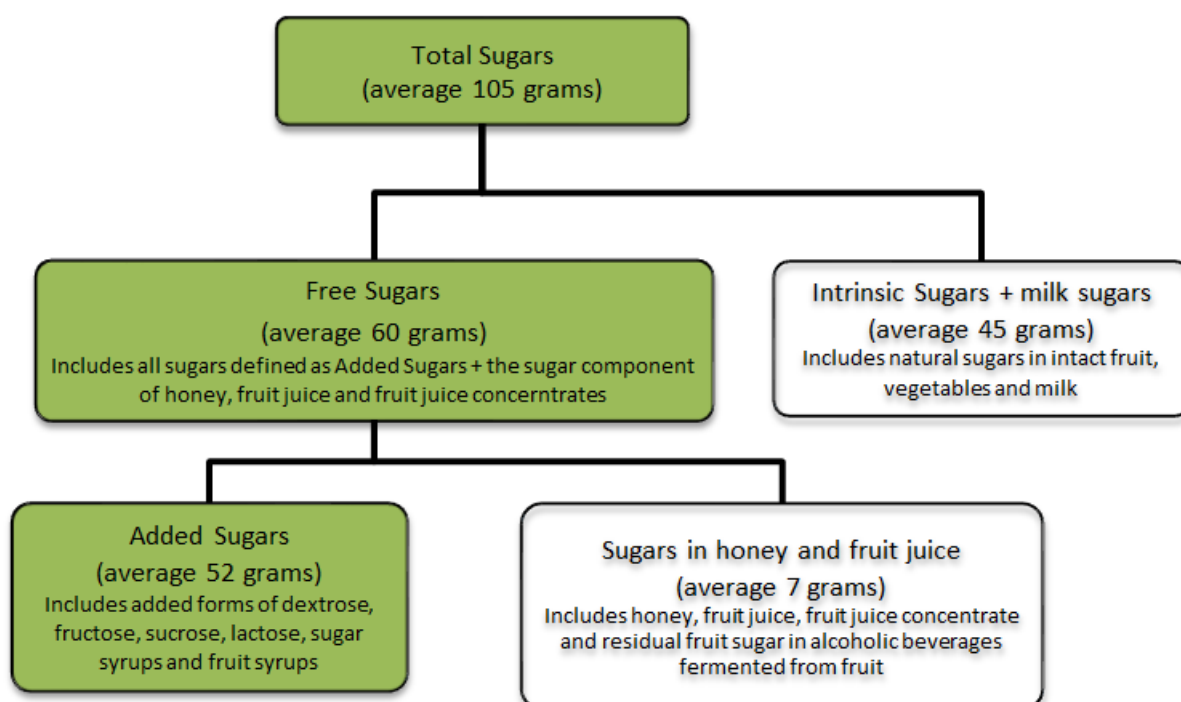


estimate the proportion of different types of sugars in food. Food Standards Australia New Zealand (FSANZ) updated the AUSNUT database in 2016 to include total, added and free sugar amounts for those foods reported as consumed in the 2011-13 AHS (FSANZ 2016).

Due to the complexities described above, 'total sugars' has been adopted as a proxy for added sugars across categories in this paper and in the PRP. This will allow for reporting against existing and historical nutrient data and verification where required, without adding a new requirement for industry to determine the added sugars component of products.

### **Consumption of added sugars**

From the 2011-12 NNPAS usual intakes of total sugars in the population aged two years and over were reported to be on average 105 grams, most of which (60 grams) was estimated to have come from free sugars and of that 52 grams (or 12 teaspoons) from added sugars (ABS 2016b) (Figure 2).



**Figure 2. Usual intake of total sugars, free sugars, and intrinsic and milk sugars**

Intakes of free sugars are particularly high for persons aged between 14 and 18 years, with usual free sugars intakes being reported at 92 grams for males, and 70 grams for females, in this age group (Figure 3, Table 2).

More than half of all Australians (52 per cent) aged two years and older exceeded the WHO guideline for consumption of free sugars (<10 per cent total energy from free sugars), with free sugars contributing an average of 10.9 per cent to total energy intake. Most age groups exceeded the WHO guideline, the exceptions being males aged 51-70 years and females aged 51 years and over (see Table 2). The peaks in total sugars intakes for adolescent children is driven almost entirely by consumption of free sugars; the age groups with the highest proportion exceeding the WHO guideline were 14-18 year old males (70 per cent) and 9-13 year old females (77 per cent) (ABS 2016b).

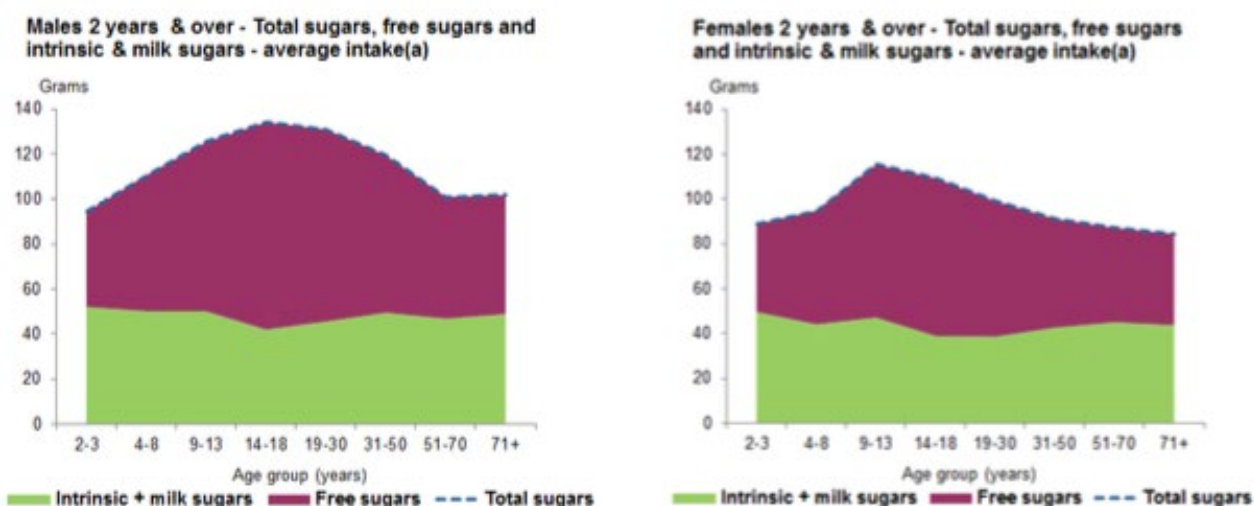


Figure 3. Average usual intake of total sugars, free sugars and intrinsic and milk sugars by age (2011-12 NNPAS, ABS 2016b)

Table 2. Usual intakes of added and free sugars based on 24 hour food recall data (2011-12 NNPAS, ABS 2016b)

Population Group	Usual added sugars intake (grams/day)	Usual free sugars intake (FSI) (grams/day)	Usual FSI as a per cent of total dietary energy intake (%)	Population with usual FSI $\geq$ 10 per cent total energy (%)
<b>2 years and over</b>			10.9*	
<b>Males 2-3 yrs</b>	32.5	42.2	11.0*	52.2
<b>Males 4-8 yrs</b>	52.2	60.4	12.5*	68.5
<b>Males 9-13 yrs</b>	66.9	75.3	12.9*	70.3
<b>Males 14-18 yrs</b>	82.2	92.1	14.5*	73.1
<b>Males 19-30 yrs</b>	75.5	85.4	12.0*	57.7
<b>Males 31-50 yrs</b>	61.9	69.9	10.7*	49.2
<b>Males 51-70 yrs</b>	46.8	54.1	9.0	37.5
<b>Males 71+ yrs</b>	45.3	52.9	10.0*	46.9
<b>Females 2-3 yrs</b>	32.0	39.1	10.0*	51.0
<b>Females 4-8 yrs</b>	43.5	50.7	12.4*	67.9
<b>Females 9-13 yrs</b>	61.0	68.2	13.8*	77.4
<b>Females 14-18 yrs</b>	62.8	70.3	13.5*	74.3
<b>Females 19-30 yrs</b>	53.1	60.4	12.3*	61.4
<b>Females 31-50 yrs</b>	42.5	48.5	10.2*	46.2
<b>Females 51-70 yrs</b>	36.8	42.0	8.8	35.2
<b>Females 71+ yrs</b>	34.2	40.7	9.5	42.9

\*Free sugars intake for age group contributes  $\geq$  10% total energy

#### 4.1.3 Saturated fats

The ADGs recommend limiting intake of foods containing saturated fat (Guideline 3) and replacing foods high in saturated fat, such as culinary and cooking fats and oils, with foods which contain predominantly polyunsaturated fats (PUFA) and monounsaturated fats (MUFA), noting low fat diets are not suitable for children under the age of two years (NHMRC 2013a). Along with the broader recommendations of the ADGs to enjoy a wide variety of nutritious foods from the five food groups (Guideline 2), these food-based guidelines (Guideline 3) contribute to achieving the Nutrient Reference Values.

Investigating the role of saturated fats in health presents several challenges, not least because fats comprise a diverse group of nutrients with differing effects on blood lipids, but moreover, foods often contain mixtures of saturated fats, PUFA and MUFA, which makes elucidating their specific

health impact more complex. Furthermore, within an overall dietary pattern the health outcomes associated with saturated fat are influenced by the replacement of other sources of energy. The contemporary evidence base demonstrates that in reducing saturated fat and trans fat, replacement with PUFA and MUFA, and a lesser extent, wholegrain carbohydrates, results in favourable short and long term cardiovascular outcomes; replacement with refined carbohydrates does not. (Hooper et al 2015, Mensink 2016) Thus the challenge lies in balancing/combining strategies to encourage high quality eating patterns aligned with the ADGs, alongside formulation and reformulation of commonly consumed products, to limit the health impact of excessive intakes of saturated fat, trans fat (and sodium and added sugars).

The ADG's *status quo* position on food based guidelines to limit saturated fats is supported by the background research undertaken for the development of the ADGs (NHMRC 2013 b) and in the international literature. Evidence accumulated in recent years supports the replacement of saturated fats with PUFA and MUFA to beneficially affect serum cholesterol levels reducing the risk of cardiovascular disease (CVD), including systematic reviews of the effects of saturated and PUFA on heart disease (Clifton and Keogh 2017) and on blood lipids and blood pressure (Mente et al 2017) and an expert consultation report on fats and fatty acid in human nutrition (FAO 2010). Advice from the American Heart Association also gives further credence to the replacement of PUFA ahead of MUFA, as well as replacement of saturated fats with whole grains over refined grains (Sacks et al 2017). Draft guidance from the World Health Organization (2018, under development at time of writing) proposes reducing saturated fat intake to less than 10%, using PUFA as a replacement source of energy (WHO 2018). Similarly, the UK's Scientific Advisory Committee on Nutrition draft report proposes limiting saturated fat to less than 10%, and that they be substituted with energy from unsaturated fats (both PUFA and MUFA) (SACN 2018).

### ***Consumption of saturated fats***

The NRVs recommend that total fat should account for 20–35 per cent of total energy intake to reduce chronic disease risk and that together saturated and trans fats combined should comprise no more than 10 per cent of total energy intake (NHMRC 2006). The WHO recommends that less than one per cent total energy should come from trans fat (WHO 2003), though a more recent consultation suggests reviewing this to take account of the range of diets and trans fat intakes reported (FAO 2010). A NRV recommendation for saturated fat alone (without trans fat) does not exist in Australia, however the WHO has proposed that less than 10 per cent of energy should come from saturated fats and less than one percent from trans fat.

While Australians are consuming below the maximum of the acceptable micronutrient distribution range for fat (an average of 31 per cent across the population), data from the 2011-12 NNPAS indicates the mean intakes of saturated and trans fats contribute more than the recommended level of <10 per cent total energy, although trans fat intakes contribute < 1 per cent to total energy intakes (Table 3). For adults 19 years and over, saturated and trans fats contributed an average 12.1 per cent of energy. For children aged 2-18 years, saturated and trans fats contributed an average 13.6 per cent of energy and 12.4 per cent for the total population (ABS 2014).

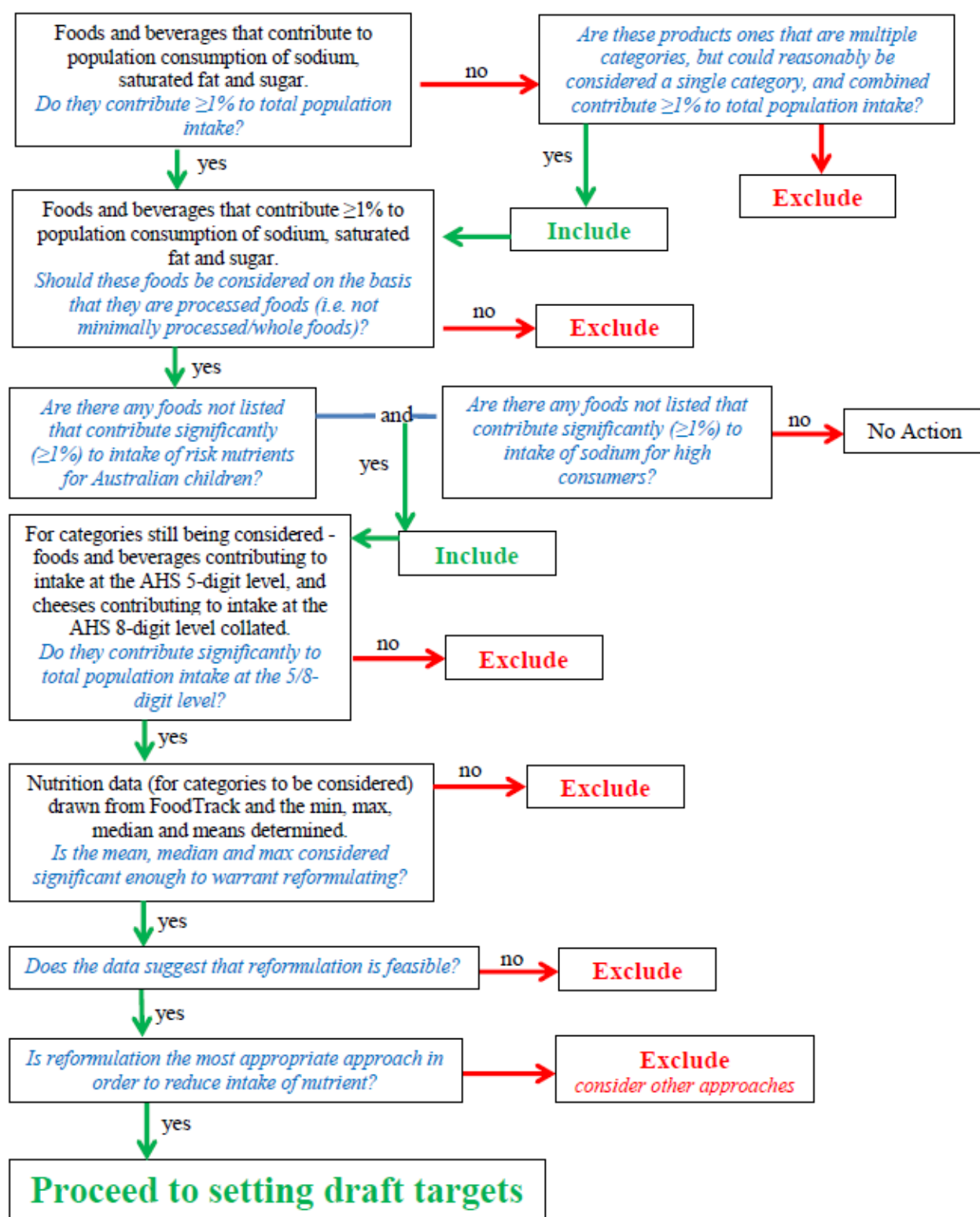
For the Australian population it appears that saturated fat rather than trans fat should be the nutrient of focus in the PRP. In the 2011-12 NNPAS, the combined contribution from saturated fat and trans fat exceeded 10 per cent total energy, which is the NRV for all age groups although trans fat intakes were less than the WHO recommended limit of 1 per cent contribution to total energy intake for all age groups.

**Table 3. Estimated intakes of saturated (SF) and trans fats (TF) based on 24 hour recall data (2011-12 NNPAS)**

Population Group	Usual intake of SF (grams/day)	Usual intake of TF (grams/day)	Mean daily intake of SF and TF as a % of total dietary energy intake	Mean daily intake of TF as a % of total dietary energy intake
<b>2 years and over</b>			12.4	0.6
<b>Males 2-3 yrs</b>	23.8	1.6	13.7	0.6
<b>Males 4-8 yrs</b>	26.9	1.3	13.8	0.6
<b>Males 9-13 yrs</b>	33.7	1.6	13.7	0.6
<b>Males 14-18 yrs</b>	36.4	1.9	13.4	0.7
<b>Males 19-30 yrs</b>	34.1	1.7	12.0	0.6
<b>Males 31-50 yrs</b>	32.8	1.7	12.1	0.6
<b>Males 51-70 yrs</b>	29.1	1.5	11.9	0.6
<b>Males 71+ yrs</b>	27.4	1.5	12.3	0.6
<b>Females 2-3 yrs</b>	20.7	1.0	12.3	0.7
<b>Females 4-8 yrs</b>	23.5	1.1	14.4	0.6
<b>Females 9-13 yrs</b>	29.4	1.4	13.4	0.6
<b>Females 14-18 yrs</b>	28.0	1.3	13.7	0.6
<b>Females 19-30 yrs</b>	25.0	1.2	13.5	0.6
<b>Females 31-50 yrs</b>	24.6	1.2	12.6	0.6
<b>Females 51-70 yrs</b>	23.0	1.1	12.2	0.6
<b>Females 71+ yrs</b>	22.4	1.2	11.7	0.6

#### 4.2 Selection of food categories for reformulation

The below flow chart illustrates the process and considerations used by the RWG to determine priority categories for reformulation. Further detail on the process and decisions made can be found at Attachment C.



A policy decision was also taken to consider all of the food categories for which a nutrient reformulation target was set under the previous Food and Health Dialogue.

### 4.2.1 Foods contributing to sodium intakes

Sodium occurs in several different forms but is generally consumed as sodium chloride (commonly known as 'salt'). Sodium is found naturally in foods such as milk, cream, eggs, meat and shellfish. Sodium serves numerous technical functions; and is also added to foods to enhance flavour. Manufactured foods, such as snack foods, bacon and other processed meats, and condiments generally have high levels of sodium in the form of salt added during processing.

Noting that the 'discretionary salt' added by consumers in home-prepared foods or 'at the table' was not quantified in the dataset, the 2011-12 NNPAS found that at the broad food category level (AHS one-digit category) one-quarter (25 per cent) of sodium came from cereal-based products and dishes (mainly from the mixed dishes where cereal is the major ingredient, 14.6 per cent). Eighteen per cent came from cereal and cereal products (mainly regular breads, and bread rolls, 12.7 per cent) and 18 per cent came from meat and poultry (mainly processed meat, 6 per cent and mixed dishes with both: poultry, 3.7 per cent; and beef, sheep, pork or mammalian game, 2.6 per cent), as described in Table 4 (ABS 2014).

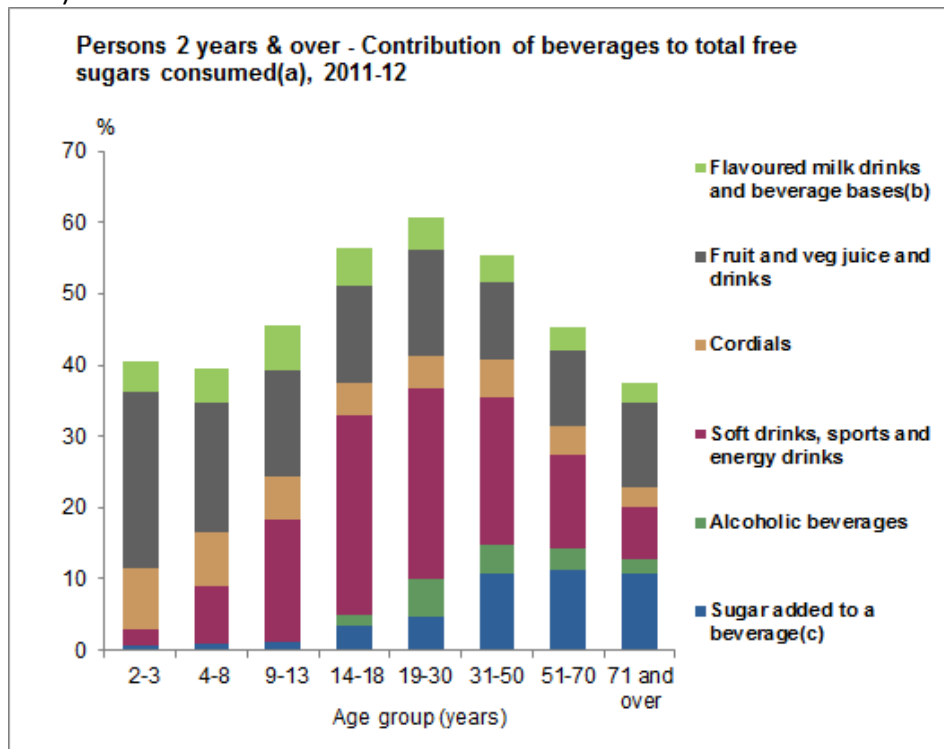
**Table 4: Food contributing  $\geq 1$  per cent sodium intake for the Australian population (2+ years), ABS 2014**

Food Category (NNPAS 3-digit food category)	%
Mixed dishes where cereal is the major ingredient	14.6
Regular breads, and bread rolls (plain/unfilled/untopped varieties)	12.7
Processed meat	6.0
Gravies and savoury sauces	4.4
Pastries	4.0
Cheese	3.9
Mixed dishes where poultry or feathered game is the major component	3.7
Sausages, frankfurts and saveloys	3.3
Soup, homemade from basic ingredients	3.0
Cakes, muffins, scones, cake-type desserts	2.8
Mixed dishes where beef, sheep, pork or mammalian game is the major component	2.6
Dairy milk (cow, sheep and goat)	2.4
English-style muffins, flat breads, and savoury and sweet breads	2.1
Breakfast cereals, ready to eat	2.1
Dishes where vegetable is the major component	2.1
Poultry and feathered game	1.9
Potato, extruded/reformed and corn snacks	1.7
Savoury biscuits	1.6
Potatoes	1.4
Waters, municipal and bottled, unflavoured	1.2
Soups – prepared from dry and commercially sterile	1.2
Sweet biscuits	1.1
Fish and seafood products (homemade and takeaway)	1.1
Yeast, and yeast, vegetable or meat extracts	1.1

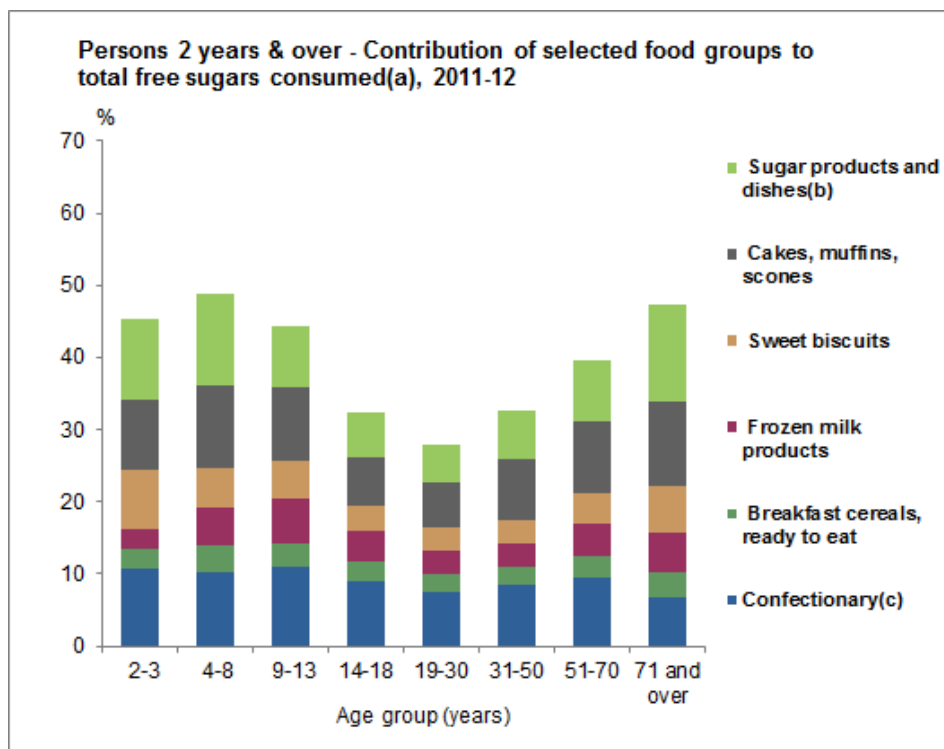
### 4.2.2 Foods contributing to sugars intake

In a reformulation program the foods contributing to free and/or added sugars intakes are of interest, rather than foods contributing to total sugar intakes, as this accounts for intrinsic sugars content. The majority of free sugars in the Australian diet come from added sugars (average consumption of 52 grams per person, per day), with a smaller amount coming from honey and fruit juice (average consumption of 7 grams per person, per day, see Figure 2, section 1.1.2). Table 5 gives the main contributors to free sugars intakes.

The majority of free sugars (81 per cent) consumed in Australia is from energy-dense, nutrient-poor discretionary foods and drinks. Just over half (52 per cent) of free sugars consumed in Australia are from beverages, with the leading beverages being soft drinks, electrolyte and energy drinks (19 per cent), fruit and vegetable juices and drinks (13 per cent), with the sugar added to beverages such as tea and coffee contributing 7.3 per cent and cordial 4.9 per cent. The leading foods are confectionery (including chocolate and cereal/nut/fruit bars) and cakes/muffins (each contributing 8.7 per cent) (ABS 2016b).



**Figure 4 Leading Contributors to Intakes of Free Sugars for Beverages**



**Figure 5: Leading Contributors to Intakes of Free Sugars for solid food**



**Table 5: Food contributing  $\geq 0.8$  per cent intake of free sugars for the total population (2+ years), ABS 2016b**

Food Category (NNPAS 3-digit food category)	%
Soft drinks, and flavoured mineral waters	17.0
Fruit and vegetable juices, and drinks	13.0
Sugar, honey and syrups	11.5
Cakes, muffins, scones, cake-type desserts	8.7
Chocolate and chocolate-based confectionery	5.0
Cordials	4.9
Sweet biscuits	4.0
Frozen milk products	4.0
Breakfast cereals, ready to eat	2.9
Other confectionery	2.7
Flavoured milks and milkshakes	2.3
Jam and lemon spreads, chocolate spreads, sauces	2.1
Electrolyte, energy and fortified drinks	2.0
Yoghurt	1.8
Gravies and savoury sauces	1.8
Mixed dishes where cereal is the major ingredient	1.5
Dishes and products other than confectionery where sugar is the major component	1.4
Other beverage flavourings and prepared beverages	1.3
Pastries	1.1
Other dishes where milk or a milk product is the major component	0.8
Muesli or cereal style bars	0.8

#### 4.2.3 Foods contributing to saturated fat intakes

Saturated fats are the main type of fatty acids found naturally in milk, cream, butter and cheese, meats from most of the land animals, palm oil and coconut oil as well as where it may be added in products such as fried food, pies, biscuits, cakes and pastries (ABS 2014).

The 2011-12 NNPAS found that at the broad food category level (AHS one-digit) one-quarter (25 per cent) of saturated fats came from milk products and dishes (primarily dairy milk, 8.4 per cent and cheese, 7.2 per cent). A further quarter (24.4 per cent) came from cereal based products and dishes (mainly from mixed dishes where cereal is the major ingredient, 9.9 per cent; cakes, muffins, scones and cake-type desserts 4.9 per cent; and pastries, 4.6 per cent) and almost 20 per cent (19.6 per cent) came from meat, poultry and game products and dishes (with both unprocessed meats, 4.8 per cent, and sausages, frankfurts and saveloys, 3.2 per cent, being key contributors) (ABS 2014), Table 6.

**Table 6: Food contributing  $\geq 1$  per cent saturated fats intake for the Australian population (2+ years), ABS 2014**

Food Category (NNPAS 3-digit food category)	%
Mixed dishes where cereal is the major ingredient	9.9
Dairy milk (cow, sheep and goat)	8.4
Cheese	7.2
Cakes, muffins, scones, cake-type desserts	4.9
Beef, sheep and pork, unprocessed	4.8
Pastries	4.6
Frozen milk products	4.0
Chocolate and chocolate-based confectionery	4.0
Sweet biscuits	3.4



Food Category (NNPAS 3-digit food category)	%
Butters	3.3
Mixed dishes where poultry or feathered game is the major component	3.3
Sausages, frankfurts and saveloys	3.2
Potatoes	2.6
Mixed dishes where beef, sheep, pork or mammalian game is the major component	2.5
Poultry and feathered game	2.3
Coffee and coffee substitutes	2.0
Processed meat	1.8
Dishes where vegetable is the major component	1.8
Flavoured milks and milkshakes	1.7
Margarine and table spreads	1.4
Yoghurt	1.4
Nuts and nut products	1.4
Savoury biscuits	1.2
Cream	1.2
Regular breads, and bread rolls (plain/unfilled/untopped varieties)	1.1
English-style muffins, flat breads, and savoury and sweet breads	1.0
Dishes where egg is the major ingredient	1.0

### 4.3 Determination of targets for food/nutrient reformulation

Following identification of ‘foods’ for consideration in setting reformulation targets the following was considered for each food category:

- whether targets should reflect absolute levels or percentage reductions;
- relevant international targets and existing Food and Health Dialogue targets;
- Health Star Rating (HSR) cut points for the relevant HSR food categories  
*[e.g. HSR Category 2 (‘other foods’) has sodium baseline point cut-offs at 270 mg, 360 mg, 450 mg/100g. A target of 360 mg has the potential to reward reformulation (may affect the HSR of a product), a target of 350 mg carries no incentive for the additional 10 mg reduction beyond 360mg, and a target of 370 mg has no HSR incentive]<sup>5</sup>;*
- known technical and safety limitations; and
- minimum, maximum, median and mean for each category according to data obtained from FoodTrack<sup>6</sup>.

Taking the above into consideration the RWG determined a target to model and as a sense check, looked at the proportion of products in the FoodTrack database (for each category) that would meet the proposed target or conversely would need to be reformulated to meet the proposed target.

With a few exceptions, the group determined that the target was feasible and appropriate if approximately one-third of products already met the target – indicating that it is likely that it is technically feasible for the remaining two-third of products to reformulate.

Definitions and inclusion/exclusion criteria were determined for each category using a variety of reference materials including the *Report on the Evaluation of the nine Food Categories for which*

<sup>5</sup> The Health Star Rating system is currently under review (five year review). While the review may recommend changes to the underlying HSR algorithm no decision has been made to date. RWG acknowledge that any change in HSR nutrient cut points may alter their strength as a tool to encourage food reformulation with regard to the corresponding reformulation targets set.

<sup>6</sup> FoodTrack™ is a database held by the National Heart Foundation of Australia and the CSIRO and contains details for all food products found in two stores from each of Coles, Woolworths, ALDI and IGA in metropolitan Victoria.

*reformulation targets were set under the Food and Health Dialogue (Heart Foundation, 2016) and the Australia New Zealand Food Standards Code (the Code). Further detail on the process and decisions made can be found at Attachment C.*

## 5. Proposed nutrient targets for reformulation

The table following (Table 7) provides a list of categories and proposed targets that were taken to public consultation.

**Table 7: Proposed Nutrient Targets for reformulation**

Partnership Food Category	Sub-category	Target proposed for consultation
Bread	Leavened breads	Sodium - Maximum target of 380mg/100g
Bread	Flat breads	Sodium - Maximum target of 450mg/100g
Breakfast Cereal	Ready to eat breakfast cereal	Sodium - Maximum target of 360mg/100g Sugar - A 10% reduction in sugar across defined products containing over 25g sugar/ 100g, and a reduction in sugar to 22.5g/100g for products between 22.5-25g sugar/100g.
Cheese	Cheddar style cheeses	Sodium - Maximum target of 710mg/100g
Cheese	Processed cheeses	Sodium - Maximum target of 1270mg/100g
Crumbed and battered proteins	Meat and poultry	Sodium - Maximum target of 450mg/100g
Crumbed and battered proteins	Seafood	Sodium - Maximum target of 270mg/100g
Flavoured milk	Mammalian milk	Sugar - Maximum target of 9g/100mL
Flavoured milk	Dairy alternatives	Sugar - Maximum target of 4g/100mL
Gravies and Sauces	Gravies + finishing sauces	Sodium - Maximum target of 450mg/100g
Gravies and Sauces	Pesto	Sodium - Maximum target of 720mg/100g
Gravies and Sauces	Asian style sauces	Sodium - Maximum target of 680mg/100g
Gravies and Sauces	Other savoury sauces	Sodium - Maximum target of 360mg/100g
Muesli bars	Cereal based bars only	Sugar – A 10% reduction in sugar across defined products containing over 28g sugar/ 100g, and a reduction in sugar to 25g/100g for products between 25-28g sugar/100g.
Pizza	Pizza	Sodium - Maximum target of 450mg/100g Saturated Fat - Maximum target of 4g/100g
Processed meat	Ham	Sodium - Maximum target of 1005mg/100g
Processed meat	Bacon	Sodium - Maximum target of 1005mg/100g
Processed meat	Processed deli meat	Sodium - Maximum target of 720mg/100g
Processed meat	Frankfurts and Saveloys	Sodium - Maximum target of 900mg/100g Saturated Fat - 10% reduction across products with saturated fat levels exceeding 6.5g/100g
Ready Meals	Ready Meals	Sodium - Maximum target of 250mg/100g
Sausages	Sausages	Sodium - Maximum target of 540mg/100g Saturated Fat – Maximum target of 7g/100g
Savoury biscuits	Plain savoury/soda biscuits	Sodium - Maximum target of 630mg/100g

Partnership Food Category	Sub-category	Target proposed for consultation
Savoury biscuits	Plain corn/rice/other cakes	Sodium - Maximum target of 270mg/100g
Savoury biscuits	Flavoured crackers/cakes	Sodium - Maximum target of 720mg/100g
Savoury pastries	Dry pastries	Sodium - Maximum target of 500mg/100g Saturated Fat – Maximum target of 7g/100g
Savoury pastries	Wet Pastries	Sodium - Maximum target of 360mg/100g Saturated Fat – Maximum target of 7g/100g
Savoury Snacks	Potato snacks	Sodium - Maximum target of 500mg/100g
Savoury Snacks	Salt and vinegar snacks	Sodium - Maximum target of 810mg/100g
Savoury Snacks	Extruded snacks	Sodium - Maximum target of 720mg/100g
Savoury Snacks	Corn snacks	Sodium - Maximum target of 360mg/100g
Savoury Snacks	Vegie, grain & other snacks	Sodium - Maximum target of 450mg/100g
Beverages	Soft drinks (including energy drinks)	Sugar - 10% reduction in total sugar for products above 10g sugar/ 100mL
Beverages	Flavoured water, mineral water and soda water and iced tea	Sugar - Maximum target of 5g/100mL
Soups	Soups	Sodium - Maximum target of 270mg/100g
Cakes, muffins and slices	Cakes, muffins and slices	Sodium - Maximum target of 360mg/100g
Sweetened yoghurt	Sweetened yoghurt	Sugar - Maximum target of 13.5g/100g

## 6. Potential impact of the Partnership Reformulation Program

Modelling of the impact of introducing the proposed targets has been undertaken to provide certainty that the suggested targets are likely to have a positive and meaningful public health impact at the population level. The proposed reformulation targets were modelled via a static, microsimulation, discrete time model, using food intake data collected via a single 24-hour dietary recall from 12,153 2-90 year olds representative of the Australian Population (the NNPAS, 2011-12). Food group categories and nutrient intake data were from NNPAS 2011-12 and AUSNUT 2011-2013 food composition database. Assumptions included: products with per 100g nutrient profile under maximum reformulation targets were not reformulated, population consumption remained constant, both five food group foods and discretionary items were included, reformulation targeted commercial (supermarket) products, with foods labelled as homemade, restaurant/café, takeaway, fast food excluded. The modelled nutrient intake assumed 100% industry and consumer adoption of the reformulation targets, without consideration of market share or brand loyalty. The modelling findings should be interpreted in the context of the suite of activities being undertaken by the Healthy Food Partnership.

The key findings of the modelling work are as follows:

- Observed dietary intake before targets were applied (base case) included 28g saturated fat, 105g total sugars and 2404mg sodium per person, per day.
- The total difference between base case and population intake modelled with reformulation targets (theoretical) was -8.7% for sodium (-212mg/person/day), -1.2% for total sugars (-1.3g/person/day) and -0.9% for saturated fat (-0.24g/person/day).
- Overall the combined difference between base case and theoretical intake was -8.7% for sodium, -1.2% for total sugars and -0.9% for saturated fat when all targets were applied.

- Sodium reformulation targets were modelled for 14 food categories. The largest difference in sodium intake compared to base case intake was the bread reformulation scenario (-3.5% sodium).
- Sugar reformulation targets were modelled for five food categories. The largest difference in total sugar intake compared to base case intake was for the soft drinks and flavoured water reformulation scenario (-0.8% total sugars).
- Saturated fat reformulation targets were modelled for three food categories. The largest difference in saturated fat intake compared to base case intake was for the sausage reformulation scenario (-0.7%).

A copy of the full modelling report can be provided upon request.

Additionally, the modelling undertaken was used to assess whether the reduction of sodium in bread had an unacceptable impact on population intake of iodine, which it was determined it would not (Refer Attachment D). All breads made in Australia (except organic bread and bread mixes for home baking) are required to use iodised salt.

Reformulation may move some foods from being 'discretionary' to a five food group food, as described in the ADGs and AGHE. For the purposes of reporting food consumption against the ADGs, the ABS, when analysing the results of the 2011-12 NNPAS, flagged foods reported as consumed by survey participants as discretionary foods or otherwise. For example, mixed dishes with cereal content (e.g. sandwiches, burgers, wraps, sushi, pizzas) were classified as discretionary foods when they contained >5 g saturated fat per 100 g, using the conditions set out on the AGHE for this food group. However, if the proposed reformulation target for pizzas (<4g saturated fat per 100g) is met, then those pizzas would not be considered discretionary and the ingredients in the pizza (e.g. vegetables, cheese, lean meats) would count towards consumption of five food groups foods in a data analysis similar to that undertaken for the AHS data. Likewise, a similar achievement could be made with breakfast cereals: breakfast cereals were classified as discretionary foods when they contained >30 g sugar per 100g or for breakfast cereals with added fruit >35 g sugar/100g, and therefore products that reformulate to reduce their sugar content would be considered a five food group food, rather than a discretionary food in a similar data analysis (ABS 2016a).

As changes in the Australian food supply have the potential to impact around 25 million people, it is important to consider if the proposed reformulation targets are likely to have any detrimental impacts on the general population, sub-groups and/or individuals, and if so, to work out how these can be managed.

In addition to having beneficial impacts, the RWG notes that the PRP may also have some unintended and undesirable impacts on public health. Necessary considerations and risks identified by the RWG, together with those raised by stakeholders during consultation, will be considered by the RWG as preparations are made for implementation of the PRP.

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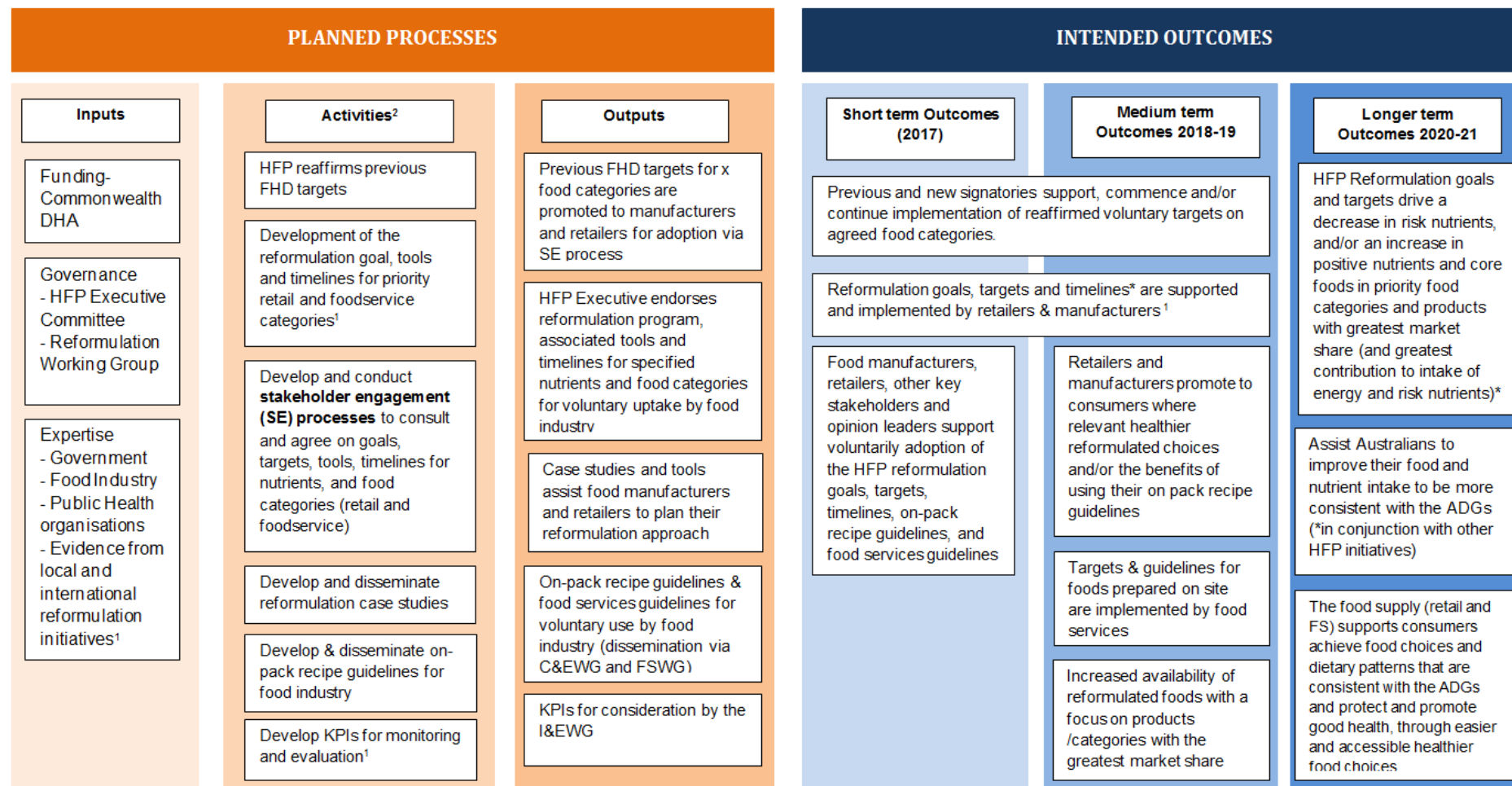
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## Attachment A - Program logic

# HEALTHY FOOD PARTNERSHIP: REFORMULATION LOGIC MODEL

Evidence informed food reformulation goals, targets and tools are supported and implemented by manufacturers, retailers and foodservice that make healthier food choices easier and more accessible.



1. Program Logic is displayed as agreed in 2016-17. As work progresses, actions and timeframes may be revised and differ from the above.
2. See Appendix 1: Assumptions underlying the Reformulation Logic Model activities, outputs and outcomes; and Appendix 2: Key documents



## **Attachment A – Program Logic: Appendix 1**

### **1. Assumptions:**

- The Healthy Food Partnership (HFP) Executive principles and the Work Plan for the Reformulation Working Group (RWG) will underpin all reformulation initiatives.
- Synergies with other HFP WGs and the Health Star Rating System will be explored and monitored as appropriate.
- Modelling and evidence will inform which core and discretionary food categories and nutrients are prioritised for reformulation.
- The RWG will use the best available Australian data (in terms of accuracy and currency) to inform its goals, targets and tools; the RWG also acknowledges there will be areas where the data or evidence is suboptimal.
- Adequate timelines to develop reformulation targets, and undertake stakeholder engagement processes are required.
- Sub-working groups may be required to develop goals and targets for specific food categories.
- Reformulation goals will be technically feasible for food industry to implement and have due consideration for timeframes for standard food manufacturing production cycles and practices.
- Reformulation goals will also be acceptable for the 'consumer palate'. This may involve phased reformulations over time, and/or reformulation 'by stealth'.
- The HFP and RWG assumes there will be stakeholder willingness to reformulate priority food categories in retail and foodservice.
- The HFP and RWG acknowledges the efforts of the food industry in voluntary uptake of the Health Star Rating System; and the possibility that potential changes to the System at the 5 year review (2019) may compete with the capacity of some manufacturers to implement reformulation activities.
- Stakeholder engagement process will consider what support and tools will assist small-medium sized manufacturers and foodservices to voluntarily implement reformulation goals, targets and guidelines
- KPIs will monitor and evaluate the development, implementation and outcomes of the HFP's Reformulation initiatives over the short, medium and long term.
- The HFP and RWG acknowledge the successes and key learnings of the Food and Health Dialogue. Successes include: Food industry's commitment to targets across nine food categories, significant changes to the average sodium content across the bread, ready-to-eat breakfast cereal, bacon, ham, soups, snacks, savoury pies and savoury crackers categories and significant changes to the number of products meeting reformulation targets across most categories targeted. Key Learnings include:
  - length of time needed to develop, implement and monitor reformulation activities
  - the importance of regular communication updates for all stakeholders (including implementation progress and monitoring results)
  - challenges faced when industry was asked to share data/information needed to support implementation and monitoring but considered to be commercial in confidence
  - the need to both include and consult with a wide variety of stakeholders but also keep the stakeholder involvement to a manageable level
  - challenges that industry members faced when considering signing up to targets included the risks to health presented by targeted foods (e.g. the preservation and food safety role that sodium plays in processed meats), the current consumption patterns and availability of the targeted foods, and the technical and cultural issues that limit the adaptability of the targeted foods.

### **2. Key documents**

- HFP Executive principles
- RWG – Work Plan
- Underpinning summary of rationale and modelling informing the goals, targets, tools and timelines
- Key evidence documents/summaries from local and international reformulation initiatives underpinning the reformulation priorities (nutrients, foods/categories)
- Reformulation monitoring and evaluation plan.

## Attachment B - Nutrient Reference Values

The Nutrient Reference Values (NRVs) are a set of recommendations for nutritional intake based on currently available scientific knowledge. The NRVs detail amounts of specific nutrients which are required on average on a daily basis for sustenance or avoidance of deficiency states. The recommendations are for healthy people and may not meet the specific nutritional requirements of individuals with various diseases or conditions, pre-term infants, or people with specific genetic profiles. They are designed to assist nutrition and health professionals assess the dietary requirements of individuals and groups. They may also be used by public health nutritionists, food legislators and the food industry for dietary modelling and/or food labelling and food formulation.

The 'reference values' used within the NRVs (and variably applicable to different nutrients) are as follows:

- Estimated Average Requirement (EAR): A daily nutrient level estimated to meet the requirements of half the healthy individuals in a particular life stage and gender group.
- Recommended Dietary Intake (RDI): The average daily dietary intake level that is sufficient to meet the nutrient requirements of nearly all (97–98 per cent) healthy individuals in a particular life stage and gender group.
- Adequate Intake (AI, used when an RDI cannot be determined): The average daily nutrient intake level based on observed or experimentally-determined approximations or estimates of nutrient intake by a group (or groups) of apparently healthy people that are assumed to be adequate.
- Estimated Energy Requirement (EER): The average dietary energy intake that is predicted to maintain energy balance in a healthy adult of defined age, gender, weight, height and level of physical activity, consistent with good health. In children and pregnant and lactating women, the EER is taken to include the needs associated with the deposition of tissues or the secretion of milk at rates consistent with good health.
- Upper Level of Intake (UL): The highest average daily nutrient intake level likely to pose no adverse health effects to almost all individuals in the general population. As intake increases above the UL, the potential risk of adverse effects increases.

In addition to address the issue of chronic disease prevention, two additional sets of reference values were developed for selected nutrients for which sufficient evidence existed.

- Acceptable Macronutrient Distribution Range (AMDR): The AMDR is an estimate of the range of intake for each macronutrient for individuals (expressed as per cent contribution to energy), which would allow for an adequate intake of all the other nutrients whilst maximising general health outcome.
- Suggested Dietary Target (SDT): A daily average intake from food and beverages for certain nutrients that that may help in prevention of chronic disease. Average intake may be based on the mean or median depending on the nutrient and available data.

In addition to providing recommendations for nutritional intake, the NRVs also provide guidance on optimising diets for lowering chronic disease risk and provide detail on the acceptable macronutrient distribution ranges for macronutrients to reduce chronic disease risk whilst ensuring adequate micronutrient status. The NRVs recommend that to optimise diets and reduce chronic diseases risk, saturated and trans fats should be limited to no more than 10 per cent of total energy consumed.

The NRVs do not provide a recommended intake or limit for total, free or added sugar intake. For the purpose of sugars, the World Health Organization's (WHO) *Guideline on Sugar Intake for Adults and Children* is the most widely accepted and referenced guidance on sugar intake. The WHO recommends: a reduced intake of free sugars throughout the life course and in both adults and children, WHO recommends reducing the intake of free sugars to less than 10 per cent of total energy intake.

## Attachment C - Process for determining categories and targets

The work plan for the Reformulation Working Group (RWG) outlines that the actions of the group will *optimise the nutritional profile of the food supply by increasing beneficial nutrients and core (five food group) foods and by reducing risk-associated nutrients where technically feasible to do so*. As a first step, the group determined that it was appropriate to target the three risk associated nutrients that posed the greatest problem in Australia, sodium, saturated fat and sugar; and that targets to reduce these nutrients in foods would be set for the retail environment.

To determine the food categories to target, and reduction targets to model and consult on, the following process was followed:

### **Categories to consider for inclusion – Stage 1**

- 1.1 A list of foods and beverages that contributed to population consumption of sodium, saturated fat and (free) sugars was sourced at the sub-major (3-digit) level from data published at the population level (all persons surveyed aged two years and over) under the Australian Health Survey (AHS).

*(refer 43640DO002\_20112012 AHS: Consumption of Added sugars, 2011–12 — Australia - TABLE 7.1 Proportion of Free Sugars(a)(b) from food groups (%), 43640DO010\_20112012 AHS: Nutrition First Results – Foods and Nutrients, 2011–12 — Australia - TABLE 10.67 Proportion of Sodium(a)(b) from food groups (%), and 43640DO010\_20112012 AHS: Nutrition First Results – Foods and Nutrients, 2011–12 — Australia -TABLE 10.21 Proportion of Saturated Fat(a) from food groups (%)).*

- 1.2 To ensure maximum output for effort invested, foods and beverages that contributed less than 1 per cent to total population intake of sodium, saturated fat and (free) sugars were (in most cases) excluded.

*The exception to the above was for products that could reasonably be assumed to be a single category and that when combined contributed  $\geq 1$  per cent. On this basis ‘soups’ (a combination of AHS categories soup prepared from dry soup mix and commercially sterile soup), and savoury snacks (a combination of potato snacks, corn snacks, other snacks and extruded and reformed snacks) were included in the list of categories to be considered.*

- 1.3 Foods that contributed  $\geq 1$  per cent but were whole foods/minimally processed were excluded.
- 1.4 Foods remaining following steps 2 & 3 were assessed individually and based on the expertise and knowledge around table a determination was made as to whether to include or exclude from further consideration.

*The RWG applied a pragmatic approach in determining what to include and exclude at this stage. Some categories were excluded for policy reasons, as a result of previous market experiences, or because population consumption was thought to be driven by frequency of consumption rather than nutrient levels. Appendix 1 summarises decisions on considerations made with respect to the inclusion and exclusion of categories and provides detail on where decisions may have deviated from a ‘standard’ approach.*

- 1.5 A list of foods and beverages that contributed to consumption of sodium, saturated fat and (free) sugars was sourced at the sub-major (3-digit) level from data published for children (persons aged two to 17 years) under the Australian Health Survey.
- 1.6 A cross check of products remaining following step 1.4 and products contributing significantly to intake of sodium, saturated fat and (free) sugars for persons aged two to 17 years was undertaken to determine if any key contributors to intake for children had been missed. The result of the assessment was that muesli bars, which contributed 0.8 per cent to total population intake of sugars, was included with the products to be included for further consideration.

- 1.7 A cross check of products remaining following step 1.4 and products contributing significantly to intake of sodium for persons with the highest levels of intakes of sodium was undertaken to ensure that food consumed by those most at risk were included for further consideration.

***Outcome of Stage 1 – Products to be considered***

Sodium	Saturated Fat	Sugar
1 Mixed dishes - cereal	1 Mixed dishes: cereal	1 Soft drinks, flavoured mineral waters
2 Regular breads and rolls	2 Sweet bakery	2 Fruit/vegetable juices/drinks
3 Processed meat	3 Pastries	3 Sweet bakery
4 Gravies and savoury sauces	4 Sweet biscuits	4 Chocolate/chocolate-based confectionery
5 Pastries	5 Mixed dishes - poultry	5 Cordials
6 Cheese	6 Sausages, frankfurts, saveloys	6 Sweet biscuits
7 Mixed dishes - poultry	7 Mixed dishes: beef/sheep/pork	7 Frozen milk products
8 Sausages, frankfurts and saveloys	8 Processed meat	8 RTE breakfast cereals
9 Sweet Bakery	9 Mixed dishes: vegetable is	9 Other confectionery
10 Mixed dishes - beef, sheep, pork	10 Yoghurt	10 Flavoured milks/milkshakes
11 English muffins, flat breads, savoury and sweet breads	11 Savoury biscuits	11 Yoghurt
12 RTE Breakfast cereals	12 Savoury snacks	12 Dishes and products other than confectionery where sugar is the major component
13 Mixed dishes – vegetable		13 Beverage flavourings and prepared beverages
14 Savoury biscuits		14 Muesli or cereal style bars
15 Fish and seafood products		
16 Savoury Snacks		
17 Soup		

***Categories to consider for inclusion – Stage 2***

- 2.1 A list of foods and beverages that contributed to population consumption of sodium, saturated fat and (free) sugars for the foods and beverages to be considered for reformulation targets (from Stage 1) was sourced at the minor group (5-digit) level from data collected at the population level (all persons surveyed aged two years and over) under the Australian Health Survey.
- 2.2 A list of cheese types that contributed to population consumption of sodium was sourced at the sub-group (8-digit) level from data collected at the population level (all persons surveyed aged two years and over) under the Australian Health Survey.
- 2.3 Key foods and beverages contributors at the 5-digit level were determined and (in most cases) minor contributors were excluded from further consideration. Key cheese type contributors at the 8-digit level were determined and minor contributors were excluded from further consideration.
- 2.4 Nutrition information panel data for categories to be included for consideration at the 5-digit level was sourced from FoodTrack<sup>7</sup> and the min, max, median and mean for each category were determined.

<sup>7</sup> FoodTrack is a database held by the National Heart Foundation of Australia and the CSIRO and contains details for all food products found in two stores from each of Coles, Woolworths, ALDI and IGA in metropolitan Victoria.

- 2.5 Categories that had a mean and median nutrient level that was considered low per 100g (*leading to the group to the conclusion that portion size and/or frequency of consumption was driving population intake of select nutrient from the select category*) were excluded from further consideration.
- 2.6 For three food categories identified as significant contributors of saturated fat (snacks, savoury biscuits, crumbed and battered proteins), the group determined that the saturated fat level was associated primarily with the method of production and type of fats used, rather than with the food ingredients. For these products the group determined that they would best be addressed through promoting the use of healthier oils, rather than by setting reformulation targets. These three food categories were excluded from further consideration (for the purposes of reformulation).
- 2.7 For five food categories identified as significant contributors to sugar (chocolate, confectionery, frozen milk products, dishes with sugar as main ingredients and fruit and vegetable juices) and for two food categories identified as significant contributors to sugar and saturated fat (sweet bakery and sweet biscuits) the group determined that there was already significant product variation to enable consumer choice; both in product type, size and sugar content, and that reducing sugar intake would be best addressed by portion size reduction, and communication about the place of these (mainly discretionary) foods in total diet, rather than through reformulation targets. These seven food categories were excluded from further consideration (for the purposes of reformulation).
- 2.8 One further food category was excluded on the basis that the nutrient was intrinsic to the product.

## Outcome of Stage 2 – Products to be considered

Sodium	Saturated Fat	Sugar
1 Ready meals 2 Pizza 3 Bread – loaf & rolls (inc GF) 4 Flat bread 5 Ham 6 Bacon 7 Processed deli meats 8 Frankfurts and saveloys 9 Gravies and finishing sauces 10 Pesto 11 Asian style sauces 12 Other savoury sauces 13 Cheddar cheese 14 Processed cheese 15 Crumbed and battered meat 16 Crumbed and battered seafood 17 Sausages 18 Cakes, muffins and slices 19 RTE Breakfast cereals 20 Plain savoury and soda biscuits 21 Plain corn, rice and other cakes 22 Flavoured crackers and corn/rice cakes 23 Potato snacks (excl. salt and vinegar flavour - exSV) 24 Extruded snacks (exSV) 25 Corn snacks (exSV & incl popcorn) 26 Vegie, grain and other snacks (exSV) 27 All salt and vinegar snacks 28 Soup	1 Pizza 2 Wet savoury pastries 3 Dry savoury pastries 4 Sausages 5 Frankfurts, saveloys	1 Soft drinks and energy drinks 2 Flavoured water/mineral water/soda water/iced tea 3 RTE breakfast cereals 4 Flavoured milks/milkshakes 5 Flavoured milks/milkshakes – dairy alternatives 6 Yoghurt (dairy & alternatives) 7 Muesli or cereal style bars

Having made the above determination, the RWG focused on the nutrient reformulation targets for foods to be included in the program, while the Department of Health separately progressed consideration of the portion size reduction targets, and use of healthier oils.

Appendix 1 to Attachment C summarises the decisions on inclusions and exclusions made for each food category.

### Determining Targets - Stage 3

3.1 Following identification of foods categories to set targets for, the following was considered for each food category:

- Whether targets should reflect absolute levels or percentage reductions;
- Relevant international targets and existing Food and Health Dialogue Targets;
- Health Star Rating (HSR) cut points for the relevant HSR food categories
- [e.g. HSR Category 2 ('other foods') has sodium baseline point cut-offs at 270 mg, 360 mg, 450 mg/100g. A target of 360 mg has the potential to reward reformulation (may affect the HSR of a product), a target of 350 mg carries no incentive for the additional 10 mg reduction beyond 360mg, and a target of 370 mg has no HSR incentive]<sup>8</sup>;
- Known technical and safety limitations; and

<sup>8</sup> The Health Star Rating system is currently under review (five year review). While the review may recommend changes to the underlying HSR algorithm no decision has been made to date. RWG acknowledge that any change in HSR nutrient cut points may alter their strength as a tool to encourage food reformulation with regard to the corresponding reformulation targets set.

- The min, max, median and mean for each category according to data obtained from FoodTrack.
- 3.2 Taking the above into consideration the group determined a target to model and as a sense check, looked at the proportion of products in the FoodTrack database (for each category) that would meet the proposed target or would need to be reformulated as a result of a proposed target.
  - 3.3 With a few exceptions, the group determined that the target was feasible and appropriate if approximately one-third of products met the target and therefore it was likely that it was technically feasible for the remaining two-third of products to reformulate).
  - 3.4 Definitions and inclusion/exclusion criteria were determined for each category using a variety of reference materials including the *Report on the Evaluation of the nine Food Categories for which reformulation targets were set under the Food and Health Dialogue* (Heart Foundation, 2016) and the Food Standards Code.

*In determining categories and setting draft targets, the RWG noted the following data limitations:*

- *Industry sales-weighted data would add a further level of rigour to the assessment; however it was prohibitively expensive to obtain this for every food category. Consequently, while the limitations of the data used were noted, it was determined that NNPAS dataset provided the most cost-efficient and timely assessment of categories to target.*
- *As the NNPAS data provides nutrient intake from self-reported 2011-12 data, one of the key limitations of the category assessment process is lag between the data used (2011-12) and current (2017/18) intakes. Consequently, updated dietary surveys will be an important part of monitoring the Partnership Reformulation Program's impact and re-evaluating the reformulation targets and scope as required.*

## Appendix 1 to Attachment C

### Food categories included for consideration for targeting with respect to sodium reformulation

Australian Health Survey Category <sup>9</sup>	Category contribution to total population sodium intake (%) <sup>10</sup>	Is category to be <i>Included</i> or <i>Excluded</i>	Decision regarding next steps following consideration by Reformulation Working Group
Mixed dishes where cereal is the major ingredient	14.6	Include	Propose targets for: 1. Ready meals, 2. Pizza
Regular breads, and bread rolls (plain/unfilled/un-topped varieties)	12.7	Include	Propose target (to include gluten free and exclude value added)
Processed meat	6.0	Include	1. Ham, 2. Bacon, 3.Processed Deli Meats
Gravies and savoury sauces	4.4	Include	1. Gravies and finishing sauces, 2. Pestos, 3. Asian style sauces, 4. Other savoury sauces (including Italian and Indian styles)
Pastries	4.0	Include	1. Wet Pastries, 2. Dry Pastries
Cheese	3.9	Include	1. Cheddar style cheeses, 2. Processed cheeses
Mixed dishes where poultry or feathered game is the major component	3.7	Include	1. Crumbed and battered protein - meat and poultry, 2. Ready meals
Sausages, frankfurts and saveloys	3.3	Include	Propose targets for: 1. Sausages (all fat content), 2. Frankfurts and saveloys
Soup, homemade from basic ingredients	3.0	Exclude	No further action
Cakes, muffins, scones, cake-type desserts	2.8	Include	Propose targets for: 1. Cakes, muffins and slices (and mixes)
Mixed dishes where beef, sheep, pork or mammalian game is the major component	2.6	Include	Propose targets for: 1. Crumbed and battered meat, 2. Ready meals
Dairy milk (cow, sheep and goat)	2.4	Exclude	No further action
English-style muffins, flat breads, and savoury and sweet breads	2.1	Include	Propose target for: Flat breads
Breakfast cereals, ready to eat	2.1	Include	Propose target

<sup>9</sup> The food categories and % contributions listed below illustrate each food category's contribution to total population intake of sodium for a 24 hour period.

Data was extracted from 43640DO010\_20112012 Australian Health Survey: Nutrition First Results – Foods and Nutrients, 2011–12 — Australia - TABLE 10.67 Proportion of Sodium(a)(b) from food groups (%).

Categories listed are listed at the Australian Health Survey 3-digit level.

For the most part, only categories that contributed 1% or more were included for consideration. In some cases where multiple categories could reasonably be grouped together and together contributed 1% or more (even if they did not individually) there were also included for consideration.

<sup>10</sup> Decision made by the Reformulation Working Group with respect to whether category should be further investigated and considered for targeting through the Partnership Reformulation Program.



Australian Health Survey Category <sup>9</sup>	Category contribution to total population sodium intake (%) <sup>10</sup>	Is category to be <i>Included</i> or <i>Excluded</i>	Decision regarding next steps following consideration by Reformulation Working Group
Dishes where vegetable is the major component	2.1	Include	Propose target for ready meals
Poultry and feathered game	1.9	Exclude	No further action
Savoury biscuits	1.6	Include	Propose targets for: 1. Plain savoury and soda biscuits, 2. Plain corn, rice and other cakes, 3. Flavoured crackers and corn/rice cakes.
Potatoes	1.4	Exclude	No further action
Waters, municipal and bottled, unflavoured	1.2	Exclude	No further action
Sweet biscuits	1.1	Exclude	No further action
Fish and seafood products (homemade and takeaway)	1.1	Include	Propose target for crumbed and battered seafood
Yeast, and yeast vegetable or meat extracts	1.1	Exclude	No further action
Potato snacks	1.0	Include	Propose targets for: 1. Potato snacks (excluding salt and vinegar flavour-exSV), 2. All salt and vinegar snacks.
Extruded or reformed snacks	0.4	Include	Propose targets for: 1. Extruded snacks (exSV), 2. All salt and vinegar snacks.
Corn snacks	0.3	Include	Propose targets for: 1. Corn snacks (exSV & including popcorn), 2. All salt and vinegar snacks.
Other snacks	0.3	Include	Propose targets for: 1. Vegie, grain and other snacks (exSV), 2. All salt and vinegar snacks
Soup, prepared from dry soup mix	0.6	Include	Propose single target for all soups
Commercially sterile soup (prepared or sold ready to eat)	0.6	Include	Propose single target for all soups

## Food categories included for consideration for targeting with respect to sugar reformulation

Australian Health Survey Category <sup>11</sup>	Category contribution to total population sugar intake (%) <sup>12</sup>	Is category to be <i>Included</i> or <i>Excluded</i>	Decision regarding next steps following consideration by Reformulation Working Group
Soft drinks, and flavoured mineral waters	17.0	Include	Propose targets for: 1. Soft drinks and energy drinks, 2. Flavoured water, mineral water and soda water and iced tea
Fruit and vegetable juices, and drinks	13.0	Include	No target to be set. Consider portion size and education approaches to reduce intake.
Sugar, honey and syrups	11.5	Exclude	No further action
Cakes, muffins, scones, cake-type desserts	8.7	Include	No target to be set. Consider portion size and education approaches to reduce intake.
Chocolate and chocolate-based confectionery	5.0	Include	No target to be set. Consider portion size and education approaches to reduce intake.
Cordials	4.9	Include	No further action
Sweet biscuits	4.0	Include	No target to be set. Consider portion size and education approaches to reduce intake.
Frozen milk products	4.0	Include	No target to be set. Consider portion size and education approaches to reduce intake.
Breakfast cereals, ready to eat	2.9	Include	Propose target
Other confectionery	2.7	Include	No target to be set. Consider portion size and education approaches to reduce intake.
Flavoured milks and milkshakes	2.3	Include	Propose targets for: 1. Mammalian milk, 2. Dairy alternatives
Jam and lemon spreads, chocolate spreads, sauces	2.1	Include	No further action

<sup>11</sup> The food categories and % contributions listed below illustrate each food category's contribution to total population intake of sugar for a 24 hour period.

Data was extracted from 43640DO002\_20112012 Australian Health Survey: Consumption of Added sugars, 2011–12 — Australia - TABLE 7.1 Proportion of Free Sugars(a)(b) from food groups (%).

Categories listed are listed at the Australian Health Survey 3-digit level.

For the most part, only categories that contributed 1% or more were included for consideration.

In light of the levels of consumption of muesli bars in the younger populations, a decision was made to also include Muesli Bars although they only contributed 0.8% to total population intake of sugar.

<sup>12</sup> Decision made by the Reformulation Working Group with respect to whether category should be further investigated and considered for targeting through a Partnership Reformulation Program.

Australian Health Survey Category <sup>11</sup>	Category contribution to total population sugar intake (%) <sup>12</sup>	Is category to be <i>Included</i> or <i>Excluded</i>	Decision regarding next steps following consideration by Reformulation Working Group
Electrolyte, energy and fortified drinks	2.0	Exclude Include energy drinks with soft drinks	No further action
Yoghurt	1.8	Include	Propose target
Gravies and savoury sauces	1.8	Exclude	No further action
Mixed dishes where cereal is the major ingredient	1.5	Exclude	No further action
Dishes and products other than confectionery where sugar is the major component	1.4	Include	No target to be set. Consider portion size and education approaches to reduce intake.
Other beverage flavourings and prepared beverages	1.3	Include	No further action
Pastries	1.1	Exclude	No further action
Muesli or cereal style bars	0.8	Include	Propose target

## Food categories included for consideration for targeting with respect to saturated fat reformulation

Australian Health Survey <sup>13</sup> Category	Category contribution to total population saturated fat intake (%)	Is category to be <i>Included</i> or <i>Excluded</i> <sup>14</sup>	Decision regarding next steps following consideration by Reformulation Working Group
Mixed dishes where cereal is the major ingredient	9.9	Include	No target to be set
Dairy milk (cow, sheep and goat)	8.4	Exclude	No further action
Cheese	7.2	Exclude	No further action
Cakes, muffins, scones, cake-type desserts	4.9	Include	No target to be set. Consider portion size and education approaches to reduce intake.
Beef, sheep and pork, unprocessed	4.8	Exclude	No further action
Pastries	4.6	Include	Propose targets for: 1. Wet pastries, 2. Dry Pastries
Frozen milk products	4.0	Exclude	No further action
Chocolate and chocolate-based confectionery	4.0	Exclude	No further action
Sweet biscuits	3.4	Include	No target to be set. Consider portion size and education approaches to reduce intake.
Butters	3.3	Exclude	No further action
Mixed dishes where poultry or feathered game is the major component	3.3	Include	No target to be set
Sausages, frankfurts and saveloys	3.2	Include	Propose targets for: 1. Sausages, 2. Frankfurts and saveloys.
Potatoes	2.6	Exclude	No further action.
Mixed dishes where beef, sheep, pork or mammalian game is the major component	2.5	Include	No target to be set
Poultry and feathered game	2.3	Exclude	No further action
Coffee and coffee substitutes	2.0	Exclude	No further action

<sup>13</sup> The food categories and % contributions listed below illustrate each food category's contribution to total population intake of saturated fat for a 24 hour period. Data was extracted from 43640DO002\_20112012 Australian Health Survey: Consumption of Added sugars, 2011–12 — Australia - TABLE 10.21 Proportion of Saturated Fat(a) from food groups (%). Categories listed are listed at the Australian Health Survey 3-digit level. For the most part, only categories that contributed 1% or more were included for consideration. For the most part, only categories that contributed 1% or more were included for consideration. In some cases where multiple categories could reasonably be grouped together and together contributed 1% or more (even if they did not individually) there were also included for consideration.

<sup>14</sup> Decision made by the Reformulation Working Group with respect to whether category should be further investigated and considered for targeting through a Partnership Reformulation Program.

Australian Health Survey <sup>13</sup> Category	Category contribution to total population saturated fat intake (%)	Is category to be <i>Included</i> or <i>Excluded</i> <sup>14</sup>	Decision regarding next steps following consideration by Reformulation Working Group
Processed meat	1.8	Include	No target to be set
Dishes where vegetable is the major component	1.8	Include	No target to be set
Flavoured milks and milkshakes	1.7	Exclude	No further action
Margarine and table spreads	1.4	Exclude	No further action
Yoghurt	1.4	Exclude	No further action
Nuts and nut products	1.4	Exclude	No further action
Savoury biscuits	1.2	Include	No target to be set. Promote the use of healthier oils.
Cream	1.2	Exclude	No further action
Regular breads, and bread rolls (plain/unfilled/untopped varieties)	1.1	Exclude	No further action
English-style muffins, flat breads, and savoury and sweet breads	1.0	Exclude	No further action
Dishes where egg is the major ingredient	1.0	Exclude	No further action
Potato snacks	0.9	Include	No target to be set. Promote the use of healthier oils.
Corn snacks	0.5	Include	To target to be set. Promote the use of healthier oils.
Extruded or reformed snacks	0.4	Include	To target to be set. Promote the use of healthier oils.
Other snacks	0.2	Include	To target to be set. Promote the use of healthier oils.

## Attachment D – Potential impact on iodine in bread

*Australian Health Survey: Usual nutrient intakes, 2011-12. Table 4: Essential minerals*

Usual daily intake of iodine from foods									
		Age group (years)							
		2-3	4-8	9-13	14-18	19-30	31-50	51-70	71 and over
		Males							
Mean intake	µg/day	157	164	190	205	202	200	182	178
Estimated Average Requirement (EAR)	µg/day	65	65	75	95	100	100	100	100
		Females							
Mean intake	µg/day	141	148	169	153	146	152	149	151
EAR	µg/day	65	65	75	95	100	100	100	100
EAR - Pregnancy					160	160	160	106	
EAR - Lactation					190	190	190	190	

### ***Requirement for iodised salt in bread***

Iodised salt must be used for making bread to which this section applies where salt would ordinarily be used.

***Iodised salt*** means a food that is salt, or such a food containing any of the following: potassium iodide; potassium iodate; sodium iodide; sodium iodate; and added in an amount that is equivalent to: no less than 25 mg/kg of iodine; and no more than 65 mg/kg of iodine.

100g salt contains – 38,578mg sodium and thus when used in bread contains 2.5-6.5mg iodine (or 0.000025%-0.000065%)

### ***Impact of bread reformulation on dietary iodine intake***

Flinders modelling predicted that the proposed bread target (380mg) would result in a 83mg reduction in average daily sodium intake.

Assuming sodium is reduced via the reduction of salt, an 83mg sodium reduction would occur as a result of a 0.215g reduction in salt in the product.

A 215mg reduction in average daily salt intake, from bread, would result in a reduction to iodine intake by amounts between 0.0054 – 0.014mg (5.4-14µg).