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## FSANZ Biennial Stakeholder Forum: Food regulation, fit for purpose?

## Nutrition and health

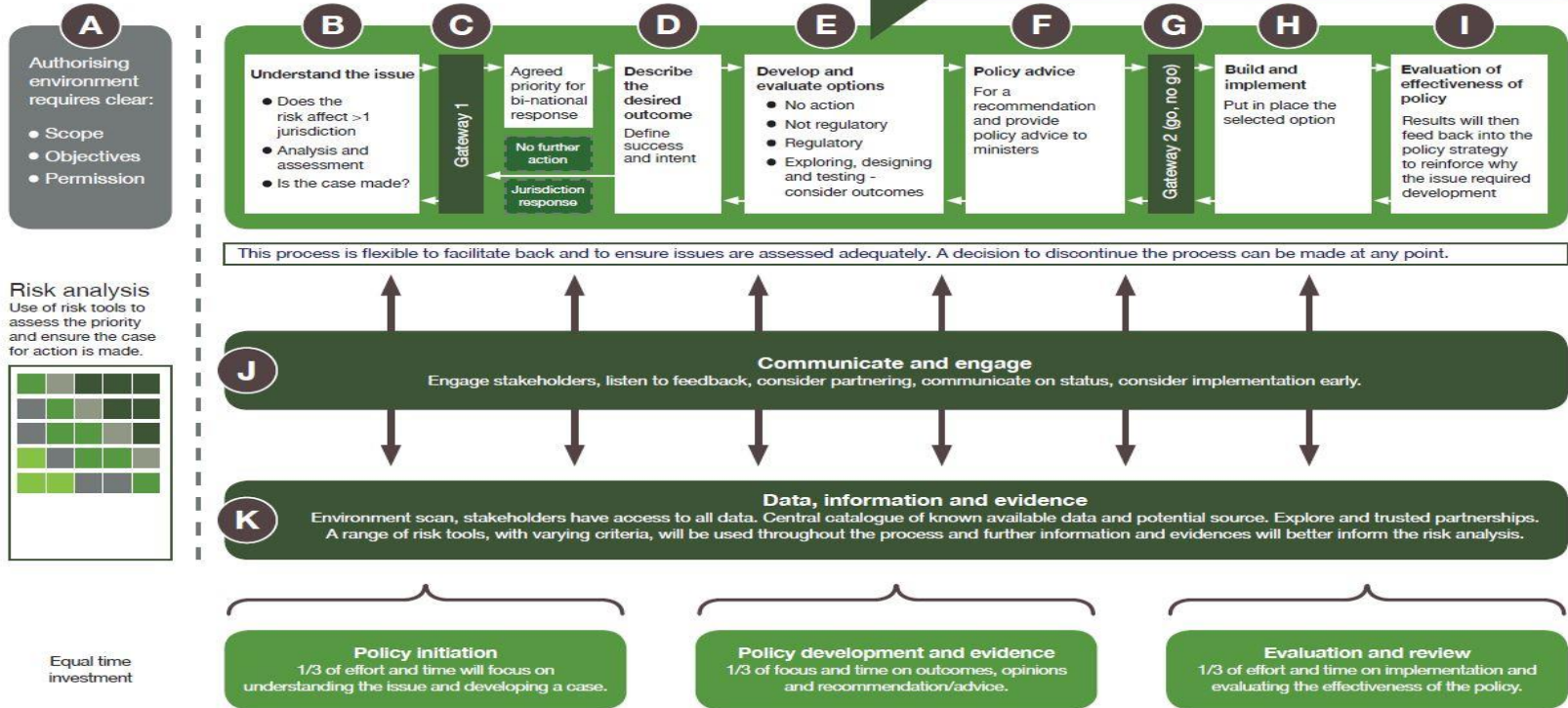
Senior Professor Linda Tapsell FDA FNSA AM  
School of Medicine , Illawarra Health and Medical Research Institute



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# FOOD REGULATION POLICY FRAMEWORK

The full range of regulatory and non-regulatory and government or industry initiated options need to be explored, including:  
Education, partnering, communication and information, voluntary industry standards, industry codes of practice, incentive programs, co-regulatory arrangements, industry driven alternative solutions and development of food standards.



# Safe food supply

Free of bacteria, viruses, toxins

Not associated with chronic disease risk?



# Nutrition and (human) Health

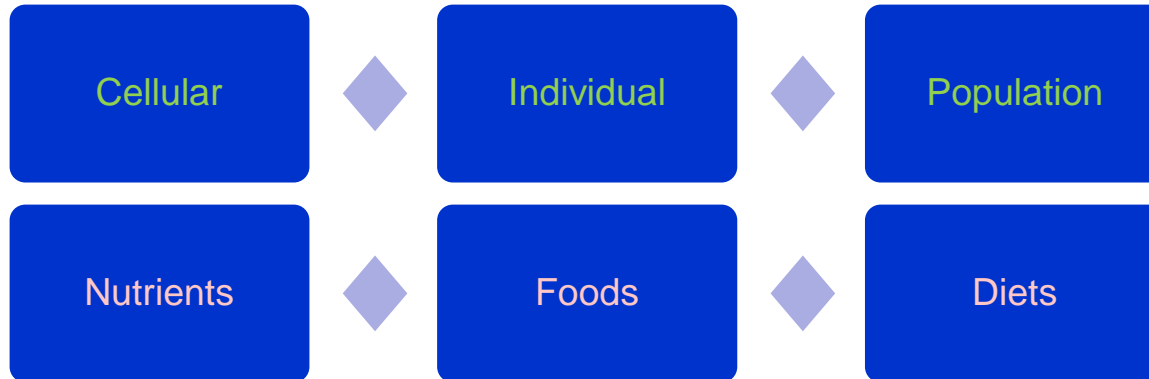
Understanding the problem

## Balanced intake of significant bioactive substances

- Influence of chemical components in food on biological pathways
- 'Nutri-omics'
- Delivery and bio-availability of [nutrients]

## Balanced intake of macronutrients delivering fuel (energy)

- Influence of dietary patterns and cuisines on energy intake and health
- Significance of foods in dietary patterns



# Human nutrition

Understanding the  
problem

**Balanced intake of significant bioactive substances**

**Example:** Potential and proposed mechanisms by which curcumin may promote cognitive performance.

Advances in Nutrition, Volume 10, Issue 1, 08 January 2019, Pages 179–181,  
<https://doi.org/10.1093/advances/nmy066>

**OXFORD**  
UNIVERSITY PRESS

Trujillo 2006

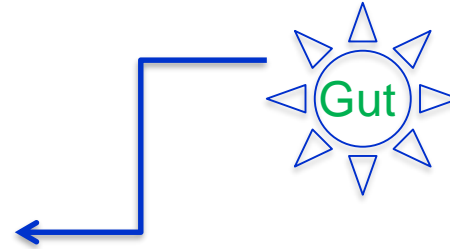


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# Human nutrition

Understanding the problem

**Balanced intake of macronutrients  
delivering fuel (energy)**

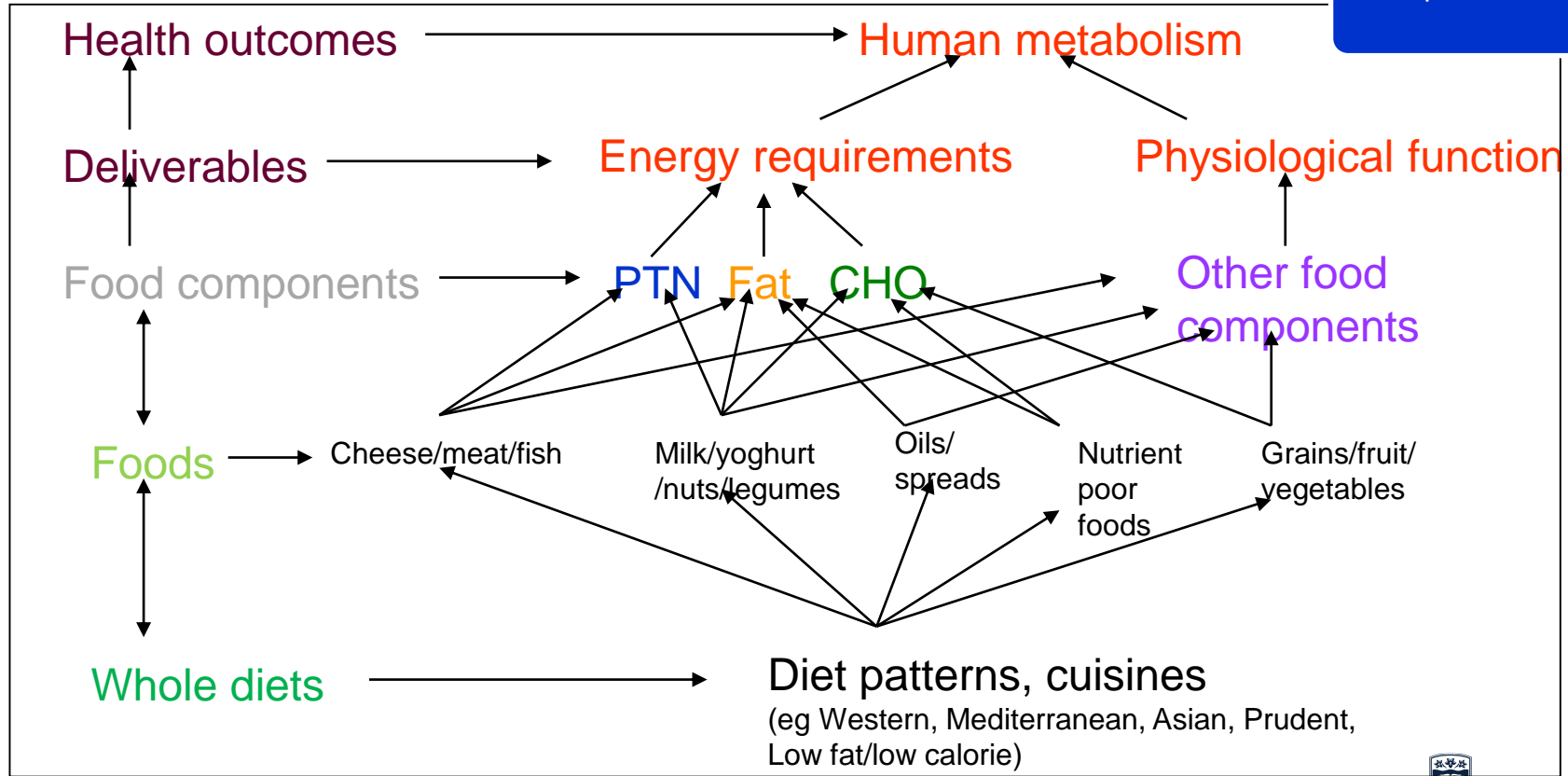


Obesity  
Inflammation  
Chronic disease

Primary picture: Dixit VD. Leukoc Biol 2008;4:882-892.

# Diets, foods and nutrient deliverables in human health

Understanding the problem



# A snapshot of Australia's health (DAA 2019)

Understanding the problem



**Obesity**

**67%** of Australian adults are overweight or obese<sup>1</sup>



Higher prevalence in regional, rural and remote regions<sup>1</sup>



Annual costs are estimated **>\$50 billion** for health care and lost productivity<sup>2</sup>



Poor diet is a leading contributor to obesity<sup>3</sup>



**Type 2 Diabetes**

Experienced by **1 million** Australian adults<sup>1</sup>



Highest occurrence in low socioeconomic areas<sup>4</sup>



Health care, lost productivity and carer costs up to **\$6 billion/year**<sup>5</sup>



Overweight/obesity = risk factor of Type 2 Diabetes<sup>6</sup>



**Heart Disease**

**1 in 20** Affects around **1 in 20** Australian adults<sup>1</sup>

**1**

Leading cause of death in Australia<sup>7</sup>



Direct cost of **\$2.38 billion/year**<sup>8</sup>



Unhealthy eating increases risk of heart disease<sup>1</sup>



**Arthritis**

**3rd** most prevalent chronic disease<sup>1</sup>



Largest contributor to pain and disability in Australia<sup>9</sup>



Direct costs estimated to exceed **\$5.5 billion/year**<sup>10</sup>



**79%** of those with arthritis experienced an additional chronic disease<sup>9</sup>



**Cancer**

**1 in 50** **1 in 50** Australian adults affected by cancer<sup>1</sup>

**30%**

Diet is associated with at least **30%** of all cancers.<sup>11</sup>



Direct cancer costs Australian health services over **\$6 billion** a year<sup>12</sup>



Healthy foods can help lower cancer prevalence.<sup>13</sup>

Infographic references can be found at the end of the report.

Source: Nourish not neglect: Putting health on our nation's table. DAA. 2019.





# Food categorisation: core vs discretionary

ADG	ABS (products and dishes, eg) A	ABS (products and dishes, eg) B
<b>Vegetables, legumes, beans, fruit</b>	Vegetable (potatoes, carrots) Legume (lentils, soy) Fruit (apples, pears)	Snack foods (crisps) Soup (canned, home, dried) Sugar, honey, jam
<b>Cereal, mostly wholegrain/high fibre</b>	Cereal (bread, rice)	Snack foods (pretzels) Confectionery and bars Cereal based (biscuits, pizza)
<b>Lean meat, poultry, fish, eggs, tofu, nuts, seeds, legumes, beans</b>	Fish, seafood Eggs Meat (beef, lamb, chicken) Seeds, nuts (peanut butter)	
<b>Milk, yoghurt, cheese or alternatives</b>	Milk (yoghurt, cheese, ice cream) Soy, tofu	
Water		Non –alcoholic beverages Alcoholic beverages
Culinary fats/oils	Fats , oils	Savoury sauces , condiments [5 other eg supplements]

AHS: Nutrition First Results, 2011-12

<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup>



# *Dietary quality among men and women in 187 countries in 1990 and 2010:*

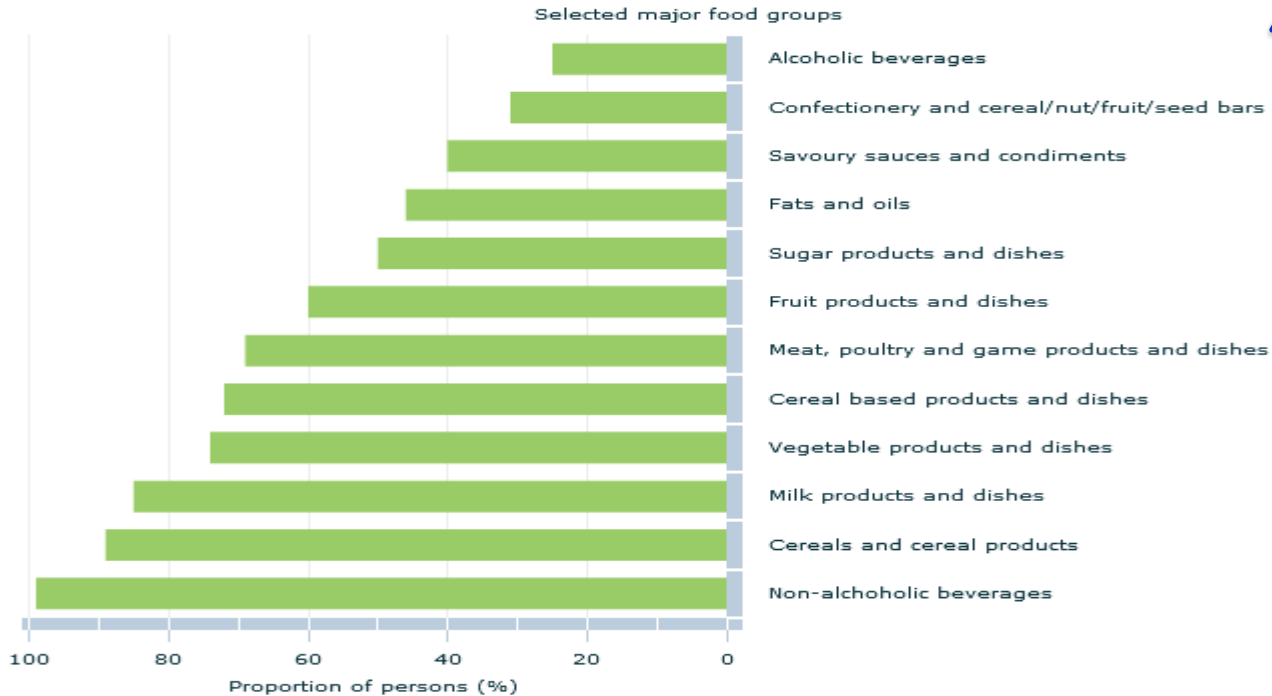
*a systematic assessment*

Understanding the  
problem

*Fumiaki Imamura, DrPhD, et al*  
*The Lancet Global Health*  
Volume 3, Issue 3,  
Pages e132-e142 (March 2015)  
DOI: 10.1016/S2214-109X(14)70381-X



Persons aged 2 years & over - Consumption from selected major food groups(a), 2011-12



Save Chart Image

Australian Bureau of Statistics

© Commonwealth of Australia 2015.

AHS: Nutrition First Results, 2011-12

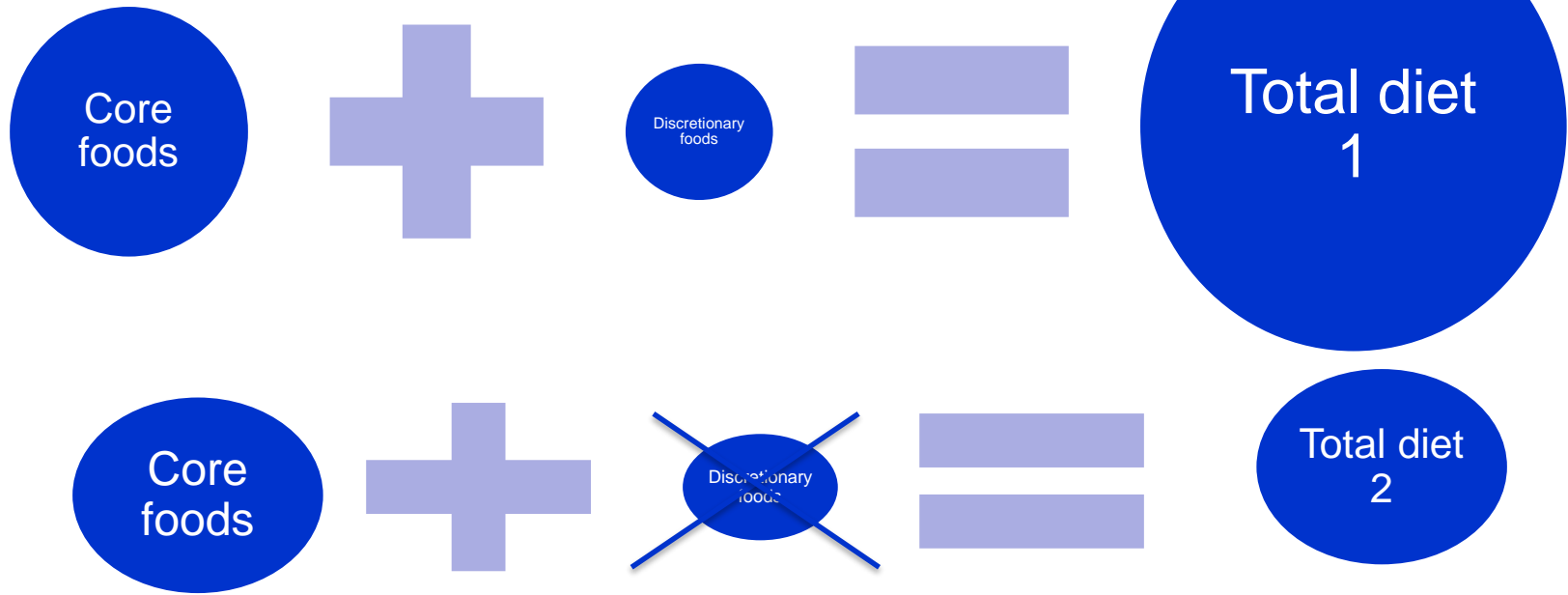
<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup>

Understanding the problem

35% energy discretionary foods



# Foundation and total diet models



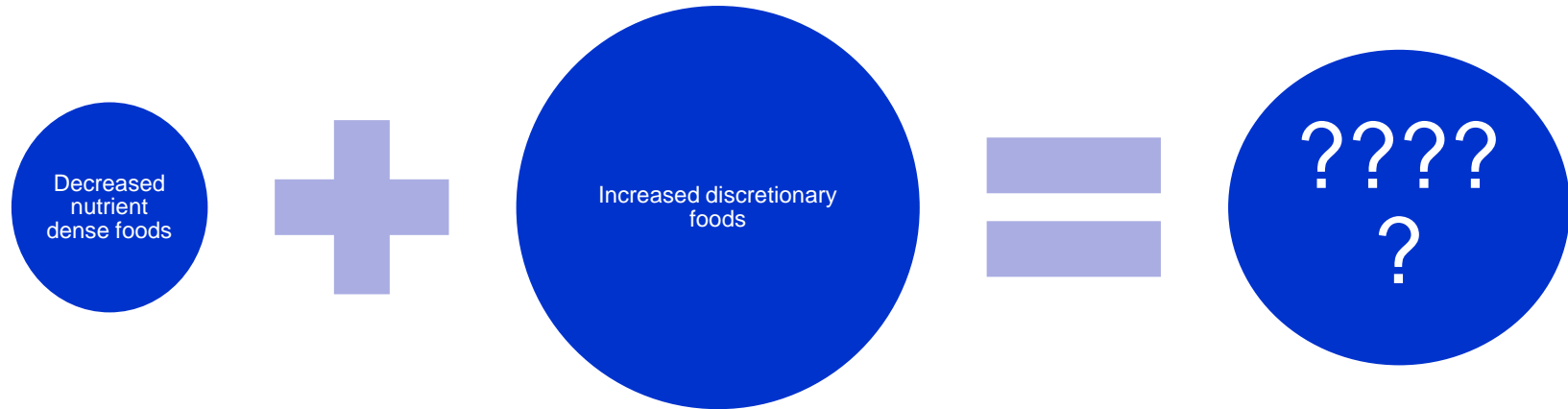
# Main discretionary foods

AHS: Nutrition First Results, 2011-12  
<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup>

Food/beverage	% contribution	Food	% contribution
Alcoholic beverages	4.8	Cakes, muffins, desserts	3.4
Soft drinks, flavoured waters	1.9	Confectionery, bars	2.8
Pastries	2.6	Biscuits	2.5
Potato Chips	1.7	Frozen milk products	1.5
Snack foods	1.5	Sugar, honey, syrup	1.3

**Wide range and varying consumption patterns**

# Diet quality issues: nutrient dilution



Grafenauer SJ, Tapsell LC, et al. (2013) Baseline dietary patterns are a significant consideration in correcting dietary exposure for weight loss. *Eur J Clin Nutr.*2013 Feb 13.doi:10.1038/ejcn.2013.26.

# Which foods do we know about?

Understanding the  
problem

Energy balance (all foods consumed/added sugar)

Unrefined plant foods/fibre

Dietary pattern  
Fruits, vegetables  
Sodium/Potassium

Types of fat  
Nuts  
Wholegrains/fibre



# Food regulation priorities 2017-2021

Opinions  
Recommendations

- Reducing foodborne illness, particularly related to Campylobacter and Salmonella
- Supporting the public health objectives to reduce chronic disease related to overweight and obesity
- Maintaining a strong, robust and agile food regulation system

<http://www.health.gov.au/internet/fr/publishing.nsf/Content/current-activities>



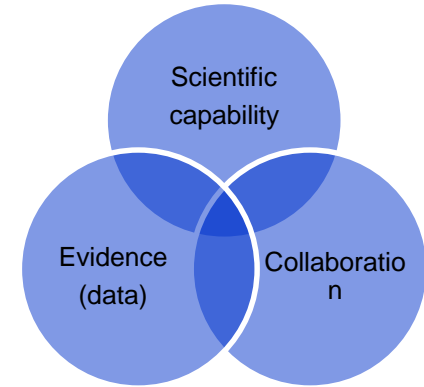


# Food regulation system

(<http://foodregulation.gov.au/internet/fr/publishing.nsf/Content/system-overview-1>)

Opinions  
Recommendations

- Policy development
  - ANZ ministerial Forum on food regulation
    - Food regulation standing committee (FRSC)
- Food Standards development
  - FSANZ
- Implementing/enforcing food regulation
  - Government agencies/ Dep Ag + Water
    - Implementation sub committee for food regulation (ISFR)
- Emergency response
  - Government agencies



FSANZ Science Strategy 2018-22



# Knowledge Foundations for Health Protection through a Nutrition Framework

Opinions  
Recommendations



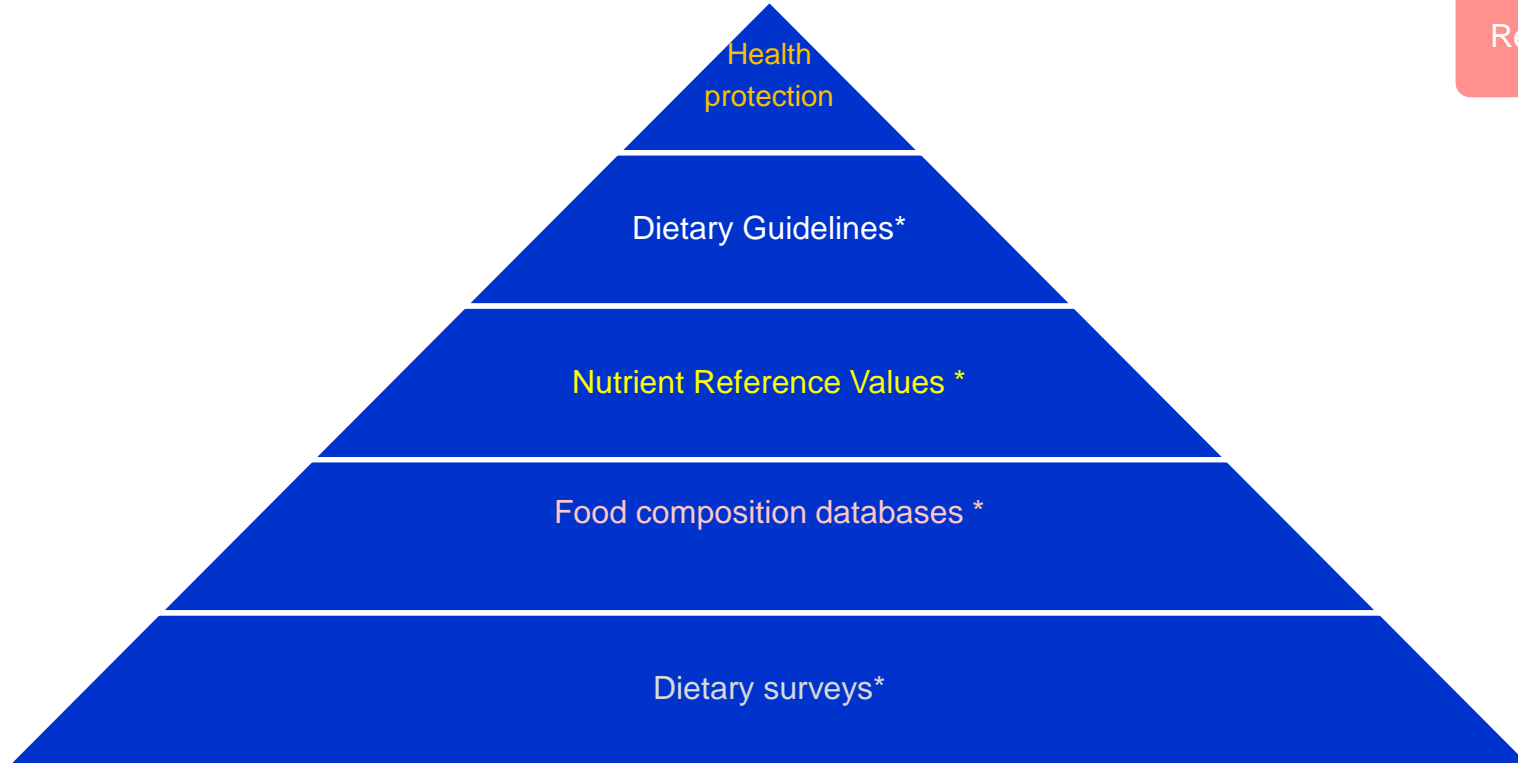
# Knowledge Foundations for Health Protection through a Nutrition Framework

Opinions  
Recommendations



# Priority nutrition outputs for food regulation system

Opinions  
Recommendations



# Specific issues for translational research in nutrition

Opinions  
Recommendations

Health  
protection

Nutrition communications

Food categorisation principles\*

Evidence review methodology\*

Dietary assessment methodology

DAA, NA, PHAA, HF :  
Towards a **National Nutrition Policy**  
for Australia 2017.

ASA24-AUS



# Issues for evidence review in nutrition

Neale EP, Tapsell LC Adv Nutr 2019;10:1-8.

## Methodology

- Systematic reviews
  - Registration (PROSPERO)
  - Reporting (CONSORT, PRISMA, STROBE)
- Recommendations
  - GRADE

## Implementation

- Dynamic system
  - Regular updates
- Risk assessment and management
  - Levels of health claims
- Oversight, review
- Dedicated funding

How does this support food innovation?

See also

Penders B et al Capable and credible? Challenging nutrition science Eur J Nutr 2017

[www.nutritionintransition.nl/english/](http://www.nutritionintransition.nl/english/)

# Issues with food categorisation

Tapsell, Neale, Satija, Hu. *Adv Nutr* 2016;7:445-54

- Need to identify and name 'discretionary foods'
  - Dietary patterns research characterises them as containing excess saturated fat, sodium and added sugar
    - Linked to increased risk disease
    - Associated with poor diet quality
- Need to consider impact of food processing, and at point of food innovation

Tapsell, Neale, Probst *Curr Athero Reports* 2019; 21:9

- Food categories based on a number of factors
  - Nutritional composition (various nutrients and bioactive substances)
  - Cuisine/meal structures
  - Botanical classifications
  - Likelihood of consumption
- Decisions need to be aligned with the purpose or research question

Lawrence MA et al *Nutrients* 2018;10:32.

- Issues with specificity of Health Star Ratings with respect to alignment to Australian Dietary Guidelines.



# Summary

Review

- Food supply with poor nutritional quality = ‘slowly boiling the frog’.
- We should use our comprehensive knowledge of food effects on health
- Innovation in food supply may be disconnected from health
  - Is the focus on demand rather than supply?
  - Does food regulation stimulate or impede innovation?
- Need clear and stable food regulation infrastructure to maintain essential nutrition related outputs
  - Dietary surveys
  - Food composition databases
  - Nutrient Reference Values
  - Australian Dietary Guidelines
- Regulatory processes will depend on a sustained translational research capacity in nutrition





# Food regulation: fit for purpose?

Review

- ✓ State of the art risk analysis framework
- ✓ Focus on established public health issues
- ❖ Need to ensure 'bottom line' support for hierarchy of information needs
  - Must know what people are eating, nutrient values of foods, and dietary requirements.
- ❖ Broader context to be considered
  - National Nutrition Policy for Australians
  - Significant funding for translational nutrition research
  - Balance between supply vs demand view on food
  - Nutritional input into food innovation



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Thank You

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