Addressing public health, sustainability and equity from paddock to plate
CALL TO ACTION

The Public Health Association of Australia (PHAA) is calling for an overhaul in the way we approach food policy in this country. The PHAA is calling on:

**Governments**
- to commit to a vision for food that is integrated across all areas of government specifically incorporating health, social inclusion, agriculture and fisheries, education, treasury, innovation and the environment – to ensure consistency in policy
- to establish a food strategy task force to develop a centralised food policy that has public interest at its core

**National Health and Medical Research Council**
- to apply new nutrition thinking – encompassing biomedical, environmental and social considerations – to the dietary guideline review that is currently underway

**Food industry**
- to work with government and public health organisations and professionals to create food buying and consumption environments for Australians that protect and promote health and are ecologically sustainable and socially equitable – at a national and global level

**Education sector**
- to ensure basic food literacy and skills education is available in all schools in Australia, as well as being available via community-based education initiatives

**Public health and food professionals**
- to familiarise themselves with the issues outlined in this document; register their support for this initiative at [www.phaa.net.au](http://www.phaa.net.au); and work with their colleagues/members to advance a national food policy in the public interest

**Communities and community based organisations**
- to become involved with the food debate; register their support for this initiative at [www.phaa.net.au](http://www.phaa.net.au); and communicate their perspectives in public forums and with their elected members of Federal, State and Territory parliaments
OVERVIEW

Addressing the issues of chronic disease, climate change and social inequality are national priorities for Australia. In each of these areas food policy plays a crucial role yet the approach to date has been fragmented and as such unable to respond in a meaningful and coherent way.

A National Integrated Food Policy

The PHAA believes that Australia urgently needs a national, integrated food policy across all areas of government – specifically incorporating agriculture and fisheries, health, education, social inclusion, treasury, innovation and the environment – to ensure we are able to better manage the environmental and health problems that are already apparent, as well as adapt to new challenges.

The PHAA believes it is possible to establish a food policy framework that ensures the population has access to a nutritionally adequate food supply, and one that also:

- actively works to promote health and prevent the chronic diseases to which Australians are most at risk;
- is based on food choices that are environmentally sustainable;
- is conducive to the social and cultural practices of all Australians; and
- is socially just at a local, national and global level.

This policy would then underpin any government recommendations in relation to foods and those related policy areas that impact on the food system.

Dietary Guideline Review – beyond business as usual

The PHAA believes that there is an immediate opportunity to apply this thinking to the current review of The National Health and Medical Research Council (NHMRC) Dietary Guidelines. This is a significant opportunity not to continue to do business as usual but to challenge the current thinking to adopt a new approach that can actively address the pressing issues of chronic disease, climate change and social inequality.

It is imperative we act now. There is a significant time lag between the review of public health nutrition recommendations and their subsequent opportunity to impact on the consumption patterns of Australians.
CURRENT DILEMMAS

The issues facing our food system are complex, extend across many sectors and require integrated solutions. The PHAA believes the most effective way to address the complex issues impacting our food system is through an integrated food policy and implementation strategy that can address the many dilemmas Australia currently faces. For example:

- how appropriate is our current approach to food recommendations?
- is adequate consideration given to chronic disease prevention, environmental sustainability and social equity?
- is there an approach to eating that can address all of these areas?
- how can governments, public sector, public health, food professionals, industry and community work together to achieve a food policy and food recommendations that promote health, protect the environment and celebrate biodiversity?
- is ‘everything in moderation’ really helpful advice?
- do we need to take the lead from international recommendations that set limits and foods to avoid where the evidence supports it?
- do we have the balance right between land to grow animal feed and land to feed humans directly?
- how greenhouse gas intensive are the foods we eat?
- what role can food policy play in reducing the estimated 47% of food and green matter that Australians discard?¹
- what role should Australia play in addressing concerns about world population growth and its impact on food security?

The PHAA recognises that it is beyond the scope of this document to answer all of these questions. The purpose of *A Future for Food* is to stimulate discussion on these important issues and motivate interested groups to join our call for action.

Government in partnership with the public health sector must take the lead in establishing a food policy and food recommendations with public interest at their core.
The selection of foods to be incorporated into guidelines in Australia has been largely based on nutrition science, which emphasises the adequacy of specific nutrients, although notably not all the biologically relevant aspects of a food.

This raises several concerns:

- It has led to opportunities in food promotion for staples and whole foods to be under-emphasised and highly processed foods to be overemphasised simply because they meet certain nutrient criteria.
- There is inadequate consideration of
  - the chronic disease risk of certain foods and styles of eating despite their capacity to provide adequate nutrients;
  - the way a food is sourced or of its method of production – both of which impact on nutrition and environmental sustainability; and
  - cultural and equity issues.

‘Everything in moderation’ is not working

PHAA believes that messages to enjoy everything in moderation have not worked because our food supply is overly abundant and skewed to inappropriate and overly processed foods, high in sugar, fat and salt.

In the short term, PHAA believes that Australia’s dietary guidelines must not only promote certain foods but also recommend limits on or avoidance of foods where the evidence supports this – for instance salt, processed meats and sugary drinks should be avoided.

In the long term, it is PHAA’s vision that food policy will have shaped the food buying environment to emphasise minimally processed whole foods at which time the ‘everything in moderation’ message can again be relevant for people.

Re-emergence of deficiency related diseases

One of the biggest challenges is the development of dietary guidelines that serve a range of purposes. While seven of the 10 leading causes of death in Australia are diet-related diseases, nutrient deficiencies are also re-emerging.

Without a broad food policy framework within which to consider dietary guidelines in conjunction with or alongside food regulations and other food policy areas (eg agricultural/food production and biosecurity issues), action is piecemeal and produces a less than optimal impact on public health.

In some cases, for instance the re-emergence of deficiency diseases, the evidence suggests that progress in public health terms has been negative.

While PHAA believes nutrient adequacy by itself provides an inadequate framework for public health nutrition recommendations, we recognise the importance of a policy that ensures the provision of foods that supply adequate nutrients to ensure the continued healthy growth and development of individuals.
A snapshot

There is little question that Australia is facing a chronic disease crisis.

Obesity, heart disease, stroke, type II diabetes and cancer are leading causes of preventable death; and disease accounts for approximately two thirds of the $85 billion plus expended each year on health.²

Food policy to date has failed to address the growing prevalence of these conditions. Type II diabetes has at least doubled in the last two decades², around 2.5 million Australian adults are obese, with a further 4.9 million overweight.³

While the evidence suggests that rates of overweight and obesity may be reaching a plateau, the health impacts and health service costs of their current high prevalence are yet to be experienced.

It has been estimated that the overall cost of obesity to Australian society and governments was $58.2 billion in 2008 alone. Of this, direct financial costs are estimated at $8.3 billion, and the net cost of lost wellbeing (the dollar value of the burden of disease, netting out financial costs borne by individuals) at $49.9 billion.⁴

There is clear evidence that diets high in fruits, vegetables, nuts, seeds and legumes reduce the risk of chronic disease.⁵ ⁶ ⁷ ⁸ ⁹ ¹⁰ ¹¹
There is also clear evidence that certain foods contribute to the burden of disease, including salt, processed meats and sugary drinks.¹² ¹³ ¹⁴
Key international recommendations

**World Health Organisation (WHO)**

According to the Global Strategy on Diet, Physical Activity and Health\textsuperscript{16}, food recommendations should include:

- limits on energy intake from total fat, shift consumption away from saturated fat to unsaturated fat, and eliminate trans fats;
- increase consumption of fruits and vegetables, legumes, wholegrains and nuts;
- limits on the intake of free sugars; and
- limits on sodium consumption from all sources.

**World Cancer Research Fund Recommendations**

The World Cancer Research Fund Expert Report\textsuperscript{16} has reviewed evidence in relation to guidelines for diabetes, cardiovascular disease and osteoporosis to create cancer guidelines that reflect a systematic literature review on all diet-related chronic disease. These valuable, evidence-based, integrated recommendations provide a useful guide for the development of an Australian food policy framework designed to reduce the burden of chronic disease.

**Consistent with environmental sustainability**

These international recommendations to reduce or manage the risk of these chronic diseases also complement the types of changes that need to occur to support greater environmental protection. Eating less red meat and more fruits and vegetables—preferably grown or produced in appropriate environments that require less external input into their production and less use of fossil fuel to transport to market— not only will achieve improvements in health, they will also complement government and industry actions to ameliorate climate change and protect the environment.

---

**WORLD CANCER RESEARCH FUND GENERAL RECOMMENDATIONS**

**BODY FATNESS**

Be as lean as possible within the normal range of body weight

**PHYSICAL ACTIVITY**

Be physically active as part of everyday life

**FOOD AND DRINKS THAT PROMOTE WEIGHT GAIN**

Limit consumption of energy-dense foods
Avoid sugary drinks

**PLANT FOODS**

Eat mostly foods of plant origin

**ANIMAL FOODS**

Limit intake of red meat and avoid processed meat

**ALCOHOLIC DRINKS**

Limit alcoholic drinks

**PRESERVATION, PROCESSING, PREPARATION**

Limit consumption of salt. Avoid mouldy cereals (grains) or mouldy pulses (legumes)

**DIETARY SUPPLEMENTS**

Aim to meet nutritional needs through diet alone
FOOD POLICY AND ENVIRONMENTAL SUSTAINABILITY

It is imperative that human health is placed within the context of the health of the planet. This requires us to consider the impact of climate change on food production and the impact of food production on the ecology of the biosphere, both of which have significant implications for food policy.

Enormity of impact

It is widely acknowledged that food choices have an enormous environmental impact when it comes to carbon dioxide (CO₂) and other greenhouse gas (GHG) emissions, water usage and land degradation including soil loss and decreasing availability of arable land.

GHG Emissions

According to the Australian Greenhouse Office (AGO) in 2007 the Australian agricultural sector accounts for more GHG emissions than transport and is only second to all stationary energy.

<table>
<thead>
<tr>
<th>CONTRIBUTI0N TO TOTAL AGRICULTURE SECTOR CO₂ EQUIVALENT™ EMISSIONS, 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescribed burning of savannas</td>
</tr>
<tr>
<td>Agricultural Soils</td>
</tr>
<tr>
<td>Rice Cultivation</td>
</tr>
<tr>
<td>Manure Management</td>
</tr>
<tr>
<td>Enteric Fermentation</td>
</tr>
<tr>
<td>Field burning of agricultural residues</td>
</tr>
</tbody>
</table>

The largest contributor to GHG emissions within the agricultural sector is enteric fermentation from livestock (accounting for around 70% of methane emissions). In addition, around 85% of Australia’s nitrous oxide emissions are from agriculture, mostly due to fertiliser and animal excreta.¹⁷

GREENHOUSE GASES AND FOOD PRODUCTION

- Carbon dioxide
- Methane – 21 times more global warming potential than CO₂
- Nitrous oxide – 310 times more global warming potential than CO₂
- Refrigerant gases - Refrigeration contributes to 18% of all domestic GHG emissions.¹⁹

Water usage

According to a discussion paper by Julian Cribb & Associates, by 2050, it is estimated that seven billion out of nine billion people will face chronic-to-critical water shortages.

In fact, by 2025, water scarcity may inflict an annual loss of 350 million tonnes of food—roughly equivalent to losing today’s global rice harvest or the entire US grain crop.¹⁸

Australia is particularly vulnerable to water shortages and food policy must consider the water usage involved in different agricultural systems and recommend foods that minimise water usage.

Land degradation

Around 10% of the world’s arable area is affected by serious degradation, of which 300 million hectares is now not farmable. There is a continuing loss of about 5-10 million hectares a year and 80% of the remaining arable area is degraded to some degree. In addition, it is estimated that the world may be losing up to 1.1 billion tonnes of elemental nutrients a year, chiefly due to soil erosion.¹⁶

While these are global figures, they are issues from which Australia is not immune. Land degradation within Australia as a result of soil erosion, salinity and soil acidification all have serious implications for Australian agriculture. Food policy must support agricultural methods that will minimise and where possible reverse land degradation.
Food security

Globally over 800 million people are chronically undernourished because they do not have access to adequate food. In Australia, in the 1995 and 2001 National Health Surveys (NHS), around 5% of the adults reported that there had been times in the previous 12 months when they had run out of food and could not afford to buy more. Much of the health disadvantage experienced in rural and remote Australia is diet-based.

The impacts of climate change on food availability will exacerbate these problems. Reduced water, reduced agricultural land availability, land degradation, nutrient losses, dwindling natural food resources due to loss of biodiversity, contamination and disease, along with increasing use of food for biofuels, will mean that food will – and is – becoming scarcer.

According to Julian Cribb & Associates in the next two generations the world must raise food production 110% – off a smaller and more degraded soils base, with two-thirds the water, costlier and scarcer nutrients, using less resources and under the hammer of climate change.

A robust food policy framework is required to guide this growth in food production and ensure the inequities and inadequacies of the current system are not multiplied.

From paddock to plate

Every stage of the food chain needs to be considered when assessing the environmental impact of our food choices, including agriculture, manufacturing, refrigeration, transport, packaging, retail, home and waste.

Life Cycle Assessment

There is work currently being done in this area – known as Life Cycle Assessment and Input/Output Analysis – and the PHAA is keen to see more Australian data.

What we know from international data is:

- foods causing the least GHG emissions (<1kg GHG production/kg food product) are plant-based and unprocessed, and foods causing the greatest amount (>8kg/kg product) of emissions include domestic beef, tropical fruit (because it is transported by plane) and domestic cheese, with mid-range foods being those of mixed vegetable/animal origin, highly processed or extensively transported items [Sweden].
- total water requirement for foods (TWRF) increases dramatically as consumption of animal products increases, with beef having the greatest water footprint and vegetables and fruits having the lowest; and
- in terms of overall diets, within the same method of production, a greater consumption of animal products translates to a greater impact on the environment and chemical-conventional production methods have a greater impact than organic methods [Italy];
- a person consuming an average American diet is responsible for emissions of around 1.5 tonnes more CO₂ each year compared to a person consuming a vegetarian diet – which on a national basis represents around 6% of total US GHG emissions or the difference between driving a saloon or hybrid car [United States].

Encouraging individuals to eat more efficiently (ie, descend) on the food chain, consuming less meat and more plant-based foods, may be one of the types of measures that will lead to increased sustainability and reduced environmental costs of food production systems.

Reijnders & Soret, Am J Clin Nutr 2003
While more research is needed in Australia to determine exact impacts, what is consistent across both the international and the limited Australian research is the hierarchy of foods – with plant-based foods causing the least GHG emissions and animal-based foods causing the most.

While the ideal diet in terms of environmental impacts may be organic and vegan, the PHAA acknowledges that this is not realistic for the majority of Australians. What may be realistic however is a food environment and food recommendations that emphasise whole, minimally processed and predominantly plant-based foods.

**Food production methods**

Food policy must also consider appropriate food production methods that limit environmental impacts, acknowledging that one size does not fit all. For instance, while organic produce that is locally grown is generally better for the environment than non-organic, this is not necessarily the case if it is highly processed and/or imported. So too, locally grown food generally reduces transport impacts and therefore has a positive environmental impact.

However, when considering produce that requires high water input for example, it may be the case that the environmental impact of shipping it from overseas is less than the environmental impact of growing it in Australia.

**Food waste**

The issue of waste in our food system needs to be urgently addressed. As much as half of all food grown is lost or wasted before and after it reaches the consumer and according to new Victorian research, food and green matter make up 47% of the waste sent to landfill. Australians are wasting all of the emissions generated in the growing, processing, storing, transporting, retailing and cooking of that food.

While addressing this will involve consumer education, there is also significant work that can be done at an industry level, for example through changes to supply chains and more accurate use of best by dating.

“Dietary shift [to a more plant-based diet] can be a more effective means of lowering an average household’s food-related climate footprint than “buying local.” Shifting less than one day per week’s worth of calories from red meat and dairy products to chicken, fish, eggs, or a vegetable-based diet achieves more GHG reduction than buying all locally sourced food.”

*Weber & Mathews, Environ Sci Technology 2008*
FOOD POLICY AND SOCIAL EQUITY

Social inequality

Social inequality increases the burden of chronic disease and sees an over-representation of disease among lower socio-economic groups. People on lower incomes are more likely to be overweight or obese and are less likely to consume the recommended daily serves of fruit and vegetables.

Economically disadvantaged families may have no choice but to buy the cheapest food available – regardless of health or environmental impacts and the PHAA believes that significant structural changes in food policy are required to address these social determinants of health.

The cheapest foods tend to be high in added fats, sugars and refined grains. One study looking at this issue found that for US$1 you could buy 1200 calories of potato chips or 250 calories worth of carrots.

In an environment with rising food prices (and rising petrol prices), this issue will impact on more and more people.

Recommended diet must be affordable on the lowest incomes. Good food policy:

- acknowledges that economically disadvantaged groups require targeted support; and
- implements innovative strategies to ensure that the economically disadvantaged can equally benefit from the positive impacts of whole and minimally processed foods that are predominantly plant-based and locally grown.

Education

The PHAA believes there is a need to ensure basic food literacy and skills education is available in all schools in Australia, as well as being available via community-based education initiatives.

Food literacy encompasses not merely knowledge of basic nutrients essential for healthy growth and development, to minimise risk of chronic illness and nourishment of the aged and infirmed; but also understanding of the connections between food choices and impacts on our environment – including refrigeration, waste and basic safe food preparation skills.

Social acceptance

A key element of a national, integrated food policy is to ensure that food guidance is accepted and integrated by Australians. As part of this, the PHAA believes food policy needs to establish alliances with food professionals and ‘food champions’ to re-shape attitudes to good foods, including the celebration of the benefits of minimally processed and locally grown whole foods.
FOOD POLICY AND INDUSTRY

The PHAA acknowledges the important role the food industry plays in our economy. It makes sense for industry and governments to work together to provide a food environment within which food purchases and consumption protect and promote health, and are ecologically sustainable and socially equitable.

The PHAA recognises that recommendations for Australians to change their eating habits and eat less of certain foods are going to have an impact on some parts of the food industry. The PHAA believes industry should be encouraged to use their skills in innovation and marketing for the public interest and governments must work with industry in the transition.

The PHAA is also mindful of the impact that changes in food recommendations and policy may ultimately have on the practices of Australian farmers. By supporting the public health call for a population shift toward more plant-based foods, the PHAA believes farmers can reduce the environmental footprint of the food supply and improve the health outcomes for Australians, with minimal impact on current practices. Further improvements can be achieved over time by refining agricultural practices in line with international trends.

Ultimately, food policy cannot put the interests of industry ahead, or indeed even along side, the interests of individuals, their communities or the planet.
RECOMMENDATIONS

The Public Health Association of Australia recommends that the following actions be adopted:

Governments

- to commit to a vision for food that is integrated across all areas of government specifically incorporating health, social inclusion, agriculture and fisheries, education, treasury, innovation and the environment
- establish a national food strategy taskforce
- develop a national, integrated whole-of-government food policy with public interest at its core
- commit funds for its implementation and ensure in-built public accountability for progress

National Health and Medical Research Council

Ensure the current dietary guideline review reduces the burden of both chronic disease and addresses the re-emergence of deficiency related disease by:

- addressing the issues of over-nutrition and over-consumption
- encouraging as much diversity in the diet as possible, with an emphasis on whole foods and foods that have shown to be disease protective including nuts, seeds, plant proteins like legumes along with fruits and vegetables
- putting foods first and emphasising food patterns that have a strong evidence base for ensuring healthy development and prevention of chronic disease
- actively discouraging foods and styles of eating that have been shown to contribute to the burden of disease including salt, processed meat and sugary drinks, and diets high in refined carbohydrates or meat
- providing a platform for definitive and specific guidance on primary foods for a healthy diet

Consider the social inequalities in our society and ensure that:

- recommended diets are affordable on the lowest incomes
- recommendations are globally equitable and ethically responsible
- recommendations are ethical for those without a voice – including disadvantaged groups and future generations

Education sector

- ensure basic food literacy and skills education is available in all schools in Australia, as well as being available via community-based education initiatives

Public health and food professionals

- commit to improve knowledge and understanding of these significant areas
- register support for this initiative and stay up-to-date with research and developments at www.phaa.net.au

Food industry

- work with government and public health organisations and professionals to create food buying and consumption environments for Australians that protect and promote health, and are ecologically sustainable and socially equitable – at a national and global level
- work to improve sustainable production practices and avoid excessive environmental impacts such as the unnecessary transport of food as a result of centralised market systems and unnecessary packaging
- minimise refined ingredients in manufactured foods and increase the number of products containing more whole foods

Communities and community-based organisations

- be involved in public debates around food and their food supply and register support at www.phaa.net.au
- communicate their ideas, concerns and perspectives in public forums and to their elected members
- choose foods that are good for the planet as well as good for themselves and their families
- limit wastage and refrigeration
USEFUL REFERENCES & REPORTS


Garnett T. Cooking up a storm: Food, greenhouse gas emissions and our changing climate, Food Climate Research Network, Centre for Environmental Strategy, University of Surrey, September 2008


Scottish Food Policy http://www.scotland.gov.uk/News/Releases/2008/06/19101648


Wahlqvist, ML. New nutrition science in practice. Asia Pac J Clin Nutr 2008; 17 (S1): 5-11


REFERENCES


30. ABS 2006a, 2004-05 National Health Survey: Summary of results, Australia. ABS cat. no. 4364.0. Canberra: ABS.

This report was prepared by the Public Health Association of Australia (PHAA) with specific input and guidance from the PHAA Food and Nutrition Special Interest Group, presentations at Population Health Congress held in July 2008 and the PHAA Nutrition Round Table held in June 2008.

It was made possible by an unencumbered educational grant from the Sanitarium Health Food Company.

February 2009