Review paper

Food security and poverty in Australia—challenges for dietitians

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Abstract The idea that many people in Australia may not have adequate access to 'sufficient food for an active and healthy life' is starting to be seriously considered by nutritionists. Food insecurity as a consequence of limited resources exists in Australia at a level likely to be over 5% of the general population and much higher among groups at risk. Groups known to suffer food insecurity include those in remote areas, indigenous people, homeless people, injecting drug users and those on low or insecure incomes. Young people, the elderly, single person households, unemployed people, disabled people and some immigrants and their families are therefore also likely to be at risk due to increased levels of relative poverty. Food insecurity has a high cost to individuals, families and society as a whole in terms of reduced physical, mental, spiritual and social health and wellbeing. Current research, practice and policy directions clearly indicate the need for comprehensive, intersectoral, integrated strategies that are based around community responses supported by state and national policy and funding directions. Strategies by which dietitians and nutritionists can help to prevent and ameliorate food insecurity include local and national level advocacy, policy making, education, research and community-based practice. The challenges for dietitians and their employing organisations to realise the mission of their professional organisation to achieve 'better food, better health, better living for all' are many. They include an examination of skills, competencies and practices; development of strategic alliances and partnerships with other organisations; and improvement of our effectiveness as advocates for change. **(Aust J Nutr Diet 2001;58:150–156)**

Key words: food security, food insecurity, prevalence, poverty, nutrition, health

Introduction

What is food security?

Ready access to a safe and affordable food supply is a basic human right under several covenants of international law and was identified as an important element for food security at the 1996 World Food Summit in Rome (1–4).

The term 'food security' may be considered at three levels; global, local and domestic. While definitions vary across disciplines, nutrition professionals have defined food security as:

> ...access by all people at all times to sufficient food for an active and healthy life. Food security invludes at a minimum: the ready availability of nutritionally adequate and safe foods, and and assured ability to acquire food in socially acceptable ways (without resorting to emergency food supplies, scavenging, stealing and other coping strategies for example' (5).

In this review we focus on domestic food security in Australia.

Four key aspects of food access have been highlighted. First, economic access indicates a requirement for sufficient money or resources to buy appropriate food. Second, physical access indicates that people require shops containing a nutritionally adequate range and quality of produce that can be readily accessed by them. Third, the food available should be safe, and socially and culturally appropriate. Fourth, food access should be not only sustainable but also perceived to be secure. People should be free from stress or anxiety about being able to eat properly (6).

Evidence of food insecurity

Food insecurity is closely related to poverty. Poverty in Australia can be both absolute and relative. Absolute poverty exists where income is inadequate to secure minimum amounts of food, clothing and shelter. Saunders examined the level and types of poverty in Australia and reported homeless people and some indigenous communities are known to experience absolute poverty. People living in relative poverty lack the 'resources to have the living conditions and amenities and participate in activities which are widely encouraged and approved in the society in which they live' (7).

According to data published in the 1996 *Year Book Australia* (7), relative poverty levels in Australia were around 13% to 16% during the late 1980s, below the levels in the USA, similar to those in Canada and Ireland, and higher than the levels of western European countries. Poverty in Australia has increased from 10.2% to 16.7% between 1972 and 1990. In all 1.8 million people, including 630 000 children were living below the poverty line in 1996. Single parent families, young people aged 15 to 24 years, unemployed people, immigrants from Oceania, the Americas and Asia, indigenous Australians, and those families with children among these groups had high levels of relative poverty (7).

Food insecurity as an issue in developed countries

As has been found in other industrially developed countries, there is evidence that food insecurity, as a consequence of limited resources, exists in Australia. The evidence from other countries will be examined first, as it is more complete. The most detailed data come from the

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USA, where work developing measures of food insecurity gathered pace during the mid-1980s. In 1995 the first survey using a new measurement scale was undertaken, and this was repeated in 1996, 1997 and 1998. Using this scale, households are classified as food secure; food insecure without hunger; food insecure with moderate hunger (households in which adults have decreased the amount of food they consume to the extent that the adults have repeatedly experienced the physical sensations of hunger); and food insecure with severe hunger (households in which children's food intake has been reduced to the extent that children have experienced the physical sensation of hunger). The prevalence of household food insecurity is shown in the Table 1. In 1998 it was estimated that 6.6 million adults and 3.6 million children in the USA were experiencing food insecurity with hunger (8).

In New Zealand, the 1997 National Nutrition Survey included a set of questions examining different aspects of inadequate food access related to lack of money. Between 12% and 14% of respondents reported having insufficient access to food due to lack of money, sometimes or often (Table 1). Fewer reported relying on others for food (7%) or using food grants or food banks (4%). More (27%) reported limiting the variety of foods they ate due to lack of money (9). These measures indicate the prevalence of various dimensions of food insecurity but do not give an overall measure of the prevalence and degree of food insecurity (as does the measure developed by the United States Department of Agriculture).

Evidence of food insecurity in Australia

A single item question used in both the 1995 Australian National Nutrition Survey (NNS) and the Australian Bureau of Statistics Population Survey Monitor provides the only Australian population prevalence estimate of food security, shown in Table 1 (10,11). Respondents aged 16 years and over were asked: 'In the last 12 months were there any times that you ran out of food and couldn't afford to buy more?' This question is very similar to one of the screening questions in the US Department of Agriculture 18-item measure and therefore can be said to be an indicator of risk rather than a measure of food insecurity. The validity of the question as a measure of food insecurity has not been established in Australia. However, some work is underway by the National Food and Nutrition Monitoring and Surveillance Project (12). The NNS data were obtained following a two-stage sampling process. First, a National Health Survey of private dwellings was undertaken, followed by an invitation to participate in the NNS. As such the sample is not likely to be representative of the population as 39% of the NHS sample did not participate in the NNS (10). At various stages of recruitment, interviewing and collecting dietary data, various sample biases were introduced: high income earners, older people, unmarried people and unemployed unmarried people were less likely to complete the survey. Homeless people were not included in the sample at all. As several of these groups have a high prevalence of food insecurity the survey may under-estimate the level of food insecurity in Australia. The Population Survey Monitor used a single stage sample and the higher figure found might reflect more accurately the true degree of food insecurity.

Table 1. Prevalence of household food insecurity in three countries: USA, Australia and New Zealand

Country, year	*Sample size*	*Population food insecure (%)*	*Population with hunger (%)*
USA, 1995 (8)	45 000	12[a]	4[b]
USA, 1998 (8)	45 000	10[a]	4[b]
Australia, 1995 (10)	13 800	5[c]	–[d]
Australia, 1995–1996 (11)	5 422	8[c]	–[d]
New Zealand, 1997 (9)	4 636	12–14[e]	–[d]

(a) Survey instrument was a set of questions indicating any level of food insecurity due to lack of adequate resources.
(b) Survey instrument was a set of questions indicating food insecurity with moderate or severe hunger in at least one family member, due to lack of adequate resources.
(c) Survey instrument asked if subject ran out of food, at any time in the last 12 months and had no money to buy more.
(d) –, percentage not discernible by survey instrument.
(e) Survey instrument included questions about the following: food runs out because of lack of money; sometimes or often I/we eat less because of lack of money; I/we cannot always afford to eat properly; I/we felt stressed about lack of money for food; and I/we felt stressed when there was no food for social occasions.

Groups at risk in Australia

While population levels indicate a minority of people suffer food insecurity, people living on low or uncertain incomes are by definition more likely to be at risk. Table 2

Table 2. Prevalence of aspects of food insecurity amongst specific at-risk population groups in Australia

Group	*Sample size*	*Food insecure[a] (%)*
Aboriginal and Torres Strait Islanders (20)	8 782	5–6[b]
Homeless young people (26)	843	57[c]
Homeless young people (25)	106	8[d]
Street drug users (27)	196	84[e]
Total sample (11)	5 422	
Never married, or separated or divorced	2 169	12–13[f]
Unemployed	278	23[f]
Single parent households	449	23[f]
Second lowest income quintile	1 003	14[f]
Rental households	1 546	20[f]
Highest three socioeconomic disadvantage quintiles	1 627	9–12[f]
Young people (18 to 24 years)	599	15[f]
Total sample (29)	13 800	
Young people (19 to 24 years)	1 060	10[f]
Disabled and elderly (34)	1 242 000	6.5[g]

(a) The questions to identify food security differed among studies.
(b) Households reporting at least one family member went without food in the previous four weeks.
(c) Worrying about going without food.
(d) Young people worried about not eating enough healthy food.
(e) Homeless young people who reported engaging in sex for favours such as the procurement of food.
(f) Ran out of food at any time in the last 12 months and had no money to buy more.
(g) Australians aged 65 years or older with a disability who required assistance with meal preparation.

summarises information available about levels of food insecurity among vulnerable groups in Australia.

People who live in remote areas

Food costs have been found to be up to 200% of capital city prices in remote areas of Western Australia, Queensland, the Northern Territory and South Australia (13–16). Together with low household incomes of rural dwellers generally (17), the additive effect of income and cost differentials indicate a high risk of food insecurity. A relatively high proportion of remote dwellers are indigenous and food insecurity and poor nutritional status can impact severely on remote indigenous communities (13–19). A recent study of food costs relative to income levels in the remote Anangu Pitjantjatjara lands found that at least 56% of income would be required to purchase healthy food on the lands (18).

All indigenous Australians

Indigenous Australians are at risk of food insecurity due to many factors, including remoteness, poverty and cultural transition. In 1994, a similar level of apparent food insecurity was found in indigenous households to that found in the whole Australian population, but the period of the study was one month, not 12 months as in the NNS and Population Survey Monitor. Twenty-seven per cent of men and 32% of women reported worrying about going without food (20).

Homeless people

Numbers of people accessing the Supported Accommodation Assistance Program provide a conservative estimate of homelessness in Australia. This program was established in 1985 and consolidates commonwealth, state and territory programs to assist people who are homeless. In 1998 to 1999 approximately 90 700 people were provided with support or supported accommodation nationally through the Supported Accommodation Assistance Program (21).

Limited Australian data suggest that food insecurity occurs amongst homeless people. Alcohol-dependent homeless men reported reliance on hostel meals, insufficient money to purchase adequate food, and scavenging (22–24). Of a total of 106 homeless young people surveyed, eight out of 36 who reported engaging in sex for favours said they did so in order to procure food (25). Another Australian study by Hillier and colleagues found more than half of young homeless people surveyed were worried about not eating enough healthy food (26). The following quotes from this study illustrate the nature of their concerns were mostly about getting sufficient food. The quotes also highlight the 'real life' experience of food insecurity for young homeless people.

> I'm real skinny cos I haven't eaten anything, you know, I just wish I had food to eat, you know [male, aged 19 years].
>
> Um, I'd go about four or five days at a time without eating and then, um, I'd go to the Salvos or St Vincent de Paul or whatever and eat some food from them [male, aged 21 years].

A recent primary health care needs assessment of 196 people from the street drug-using community in Melbourne found evidence of food insecurity nearly 17 times that of the NNS level. As 37% of the survey participants were also homeless, the survey results indicate the high levels of food insecurity that exist within both groups (27).

People on low incomes

Low income has been shown to be an indicator of vulnerability to household food insecurity, as has dependence on superannuation, dividends and rent as principal sources of income (28), for example self-funded retirees. The data from the 1995–96 Population Survey Monitor show several low income groups at risk of food insecurity including unemployed people, renters, low socioeconomic status groups as well as young people (11). Comparable data are available from the NNS (29) only for young people (but not for other groups) and again lower levels were found than in the Population Survey Monitor.

Food is often the sole discretionary item in the budget of low income households in Australia. Some low income families will, at times, rely on welfare agencies for food through the provision of financial assistance, vouchers, food parcels or meals (30,31). People on low incomes have been found to spend a greater proportion of their money on food compared to those on higher incomes (32).

Disabled and aged people

The poverty associated with disability encompasses four main dimensions: employment exclusion and exploitation; income deprivation; social service inadequacy; and physical inaccessibility (33). Together these may translate into disabled people finding it difficult to eat healthy meals.

In 1998, 19% of Australians (3 426 300) had a disability. Of these, 57% needed help doing daily tasks such as self-care, mobility and communication. The majority of those (96%) needing help with meal preparation received assistance, while 4% of people (79 000) missed out. People receiving help may still be vulnerable and food insecure if assistance is inadequate to meet nutritional needs fully (34).

Of the 2.3 million Australians aged 65 years or older, 54% were found to have a disability and approximately 6.5% required assistance with meal preparation in 1998. The need for assistance with everyday activities increased with age regardless of whether or not a disability was present. As such, food security may be an ongoing issue for an ageing population (34).

Asylum seekers and migrants

Political asylum seekers, people on temporary protection visas or those involved in migrant resettlement programs in Australia can be at risk of food insecurity. The nature of their food insecurity stems from a range of economic and cultural factors such as poor understanding of English, unfamiliarity with new foods and cooking methods or budgeting skills and lack of social supports. New residents and people on temporary protection visas are eligible for social security benefits. Initial difficulties have been found to include unfamiliarity with electronic banking (such as auto tellers) and subsequent inability to purchase foods (Dolman J, Migrant Health Service, Adelaide, 2001, personal communication).

Consequences of food insecurity

Food insecurity has a high cost to individuals, families and to society as a whole. This cost is felt as reduced physical, mental, spiritual and social health, and well-being. Food insecurity has been found to directly reduce short-term and long-term health status resulting in hunger, fatigue and illness (35). A study of indigenous Australians found that those who reported worrying about food were 1.6 (women) and 1.9 (men) times more likely to have a lower self-rated health status compared to those without such worries (20). In qualitative research on the experience of food insecurity in Canada, respondents described impaired cognitive and physical ability, increased absenteeism and reduced participation in society as effects of food insecurity. Study participants were also aware that such social and physical disruptions to individuals and families would have an effect at the national level by increasing socioeconomic inequity and reducing the potential for social and economic development (36).

Psychological suffering due to food insecurity is also a contributor to poor health and wellbeing and is caused by stress, social constraints and social disruptions to family life. Stress was illustrated by less interest in food and, in a few cases, the inability to provide a nourishing diet for children led to anxiety about possible loss of custody. Social constraints and social disruptions to family life involved changed eating patterns and rituals, disrupted family dynamics (e.g. loss of pleasure in meals, anger, irritability, feelings of exclusion and powerlessness) and distorted methods of acquiring food and managing family food distribution (e.g. buying food on credit, borrowing, stealing and poaching food) (36).

It is obvious that food insecurity reduces dietary quality and this has been shown in studies that included a measure of food insecurity (22,23,36–39). Although the concept of food insecurity has not been recognised in many dietary studies, poorer intakes of micronutrients, fibre, fruit and vegetables are found in Australia in groups with lower socioeconomic status (40) and in these groups in the UK (41). These groups also suffer higher rates of diet-related disease throughout the life cycle including low birth weight babies, childhood and infant anaemia, lowered immunity from infectious diseases, dental caries, obesity, hypertension, type 2 diabetes, heart disease and stroke (41,42).

It has also been proposed that the experience of food insecurity is likely to lead to distorted eating habits. This may paradoxically lead to increased levels of obesity among the food insecure (36). For example, work by Luder and colleagues (43) measuring overweight and obesity amongst the US homeless population found 39% of homeless adults were obese, which was greater than the US prevalence of 24%. This increased prevalence of obesity has not been consistently found (44,45). Higher levels of overweight have been found among groups with low socioeconomic status in Australia (46). Food provided in US homeless shelters was found to be high in saturated fat and cholesterol (43). Based on this evidence, the unpredictability and poor quality of food amongst the homeless or those on low incomes may contribute to patterns of over consumption, and subsequent obesity, when cheap or free food is available.

Responses to food insecurity

Nutrition and welfare policy

The Australian submission to the World Food Summit in 1996 was developed by the Department of Primary Industries and Energy (47). In this submission it was noted that the main response to preventing food insecurity in Australia was the social security safety net. However, it was acknowledged that some groups were at risk of falling through the net and that there was no standardised policy governing the form of emergency food relief and the way it was distributed. Australia, therefore, does not have a national strategy in place to deal with food insecurity.

The National Food and Nutrition Policy of Australia (48) and its related public health nutrition strategy document, *Eat Well Australia* (49), recognise food insecurity as an issue for vulnerable people. In the policy, it is proposed that governments have a role to provide leadership at two levels. The first is to engage in proactive social policy at the national level to increase the standard of living of those on the lowest incomes in Australia. One such Australian policy response was to make certain food exempt from the goods and services tax (49). The second role is to fund community organisations at the local level. Such programs should meet the short-term needs of people living in poverty by providing access to local emergency food supplies linked with community development programs providing social support (50).

Broad social policy reforms across welfare, employment and education are required to address food security. In the USA and Canada, for example, policy reforms which have been discussed include a wide range of economic and social policy changes. Foremost among these is the need to develop economic security for families and individuals including stable employment, housing, transportation, family stability, education, medical and child care as well as a financial safety net (51,52).

Other proposed measures included addressing food access issues and increasing national awareness of food insecurity to garner political and community support for new programs. The need for monitoring population food security and nutritional status and continued research and evaluation of programs has also been recognised (51,52).

Comprehensive programs are needed to achieve a reduction in poverty levels, as demonstrated by the complexity of the causes of food insecurity. In the previous section of this paper, the range of options people might use to secure food was noted, as well as the stress that food insecurity causes. Income security including regularity, social networks, accessibility of affordable food, means of transport, knowledge about food preparation and availability of preparation equipment have all been shown to affect food security. Hence, a range of interacting strategies at national and local levels to deal with this complexity are needed (53). Development and implementation of such strategies requires complex cross-sector, whole-of-government approaches.

Food security programs

Local community food projects have great potential for improving the lives of participants by improving social, physical and economic access and food knowledge and

skills. Food banks, community gardens, lunch clubs and communal cooking programs have been among the local responses to food insecurity and have been found to provide important social support as well as nutritional support (50,54). However, the effectiveness of these solutions in improving food security in the long term remains undocumented and their availability has not been universal (39). A review of 25 food projects that aimed to reduce health and social inequities in the UK (50) found six key elements were required to make food programs work. These were: flexibility; community ownership (where local people are regarded as equal partners in the project); patience; committed back-up; training and support; and access to funding that is not short-term or only focused on innovation.

The authors suggest that evaluation of food projects should not be based solely on:

> whether they produce changes in nutrition or health outcomes over the long term. They should also be seen as contributing to changes in short term nutrition indicators such as skills and confidence to use a wider range of foodstuffs than before, or to improved food purchasing or eating patterns through access to cheaper food (50).

Emergency relief strategies such as food banks, food parcels, soup vans and other programs also aim to address food insecurity. Whilst practical responses to crisis situations are valid, such programs have been criticised for being short-term and contributing to the maintenance of food poverty (53). Food relief can deflect attention from the structural causes of food poverty by creating a 'bandaid' solution to the problem, limiting the resources available to achieve long-term food security.

Challenges for dietitians

In this paper, we seek to play a part in providing information for dietitians about the problems of food insecurity in Australia. But what can dietitians do about it? There are no easy answers. However, we propose some approaches that have been conceptualised in terms of action at the policy and local level. Advocacy, education, research and practice are all possible strategies for reducing and ameliorating food insecurity.

Challenges at the community level

Dietitians can play an important role in addressing food insecurity at the community level. Information about the extent of food insecurity in local communities can be collected and made known to politicians, policy makers and managers. Dietitians can predict their local levels of food insecurity by applying national data on food insecurity prevalence of at-risk groups to community demographic profiles. Discussions with welfare providers and local groups can provide more insight into the local experience and effects of food insecurity. Practical advice about nutritional standards of food can be offered to support those involved in providing emergency food assistance. Linking with community service and welfare practitioners working in the area of poverty and food insecurity provides a resource for learning and a method of developing collaborative working relationships.

Such action is complex and requires knowledge, skills and competencies that all dietitians will not possess, and a range of work programs that all employing organisations will not currently undertake. Development and delivery of comprehensive and integrated programs requires understanding of welfare, local government and community-based sectors; familiarity with food supply infrastructure; community development, partnership and collaboration skills; intersectoral, coordinated work programs; and knowledge of primary health care and health promotion principles and practices. Finally, methods of evaluating programs and of justifying to colleagues, employers and the profession how such programs link to health are necessary, especially where programs balance social and nutritional objectives. The importance of an environment with a supportive policy, committed organisations and skilled workers can also be clearly seen. The implications for dietetic training institutions and the availability of ongoing continuing education programs need to be considered so that dietitians will possess and value the necessary knowledge, skills and competencies.

Challenges for the profession

The profession can learn much from international experiences. The Canadian and American dietetic associations have developed position papers and plans of action on food security (5,55). The Dietitians Association of Australia could do the same. This would be expedited by a food security special interest group. This group could provide a focus for action and enable the profession to provide leadership to advocate for a secure food supply and support action including development of appropriate professional development and undergraduate training. It is important that the profession advocates for policy level action, while at the local level, community nutritionists may be more focused on developing opportunities and programs to support communities to advocate for themselves.

There is also a role for the Dietitians Association of Australia to strengthen strategic national level alliances with key stakeholders. Partnerships with peak bodies that represent the needs of disadvantaged and vulnerable people are likely to lead to learning and action that would not otherwise be achieved. Highlighting food security as a theme of the professional organisation's conferences and professional development workshops would serve to stimulate debate and research ideas, and inform the development of strategies. The compilation of resource materials, websites, readings, programs and key state and national contacts by the professional body may be useful to practitioners new to this area.

As described in this paper, dietitians (and others) internationally have been undertaking research work to enhance understanding of the prevalence, causes and consequences of food insecurity. The lack of available data and instruments in Australia compared to other countries, such as the USA, demonstrates that more information on prevalence and degree of food insecurity in the population is urgently required.

Understanding and addressing food security in Australia are likely to challenge dietitians' concepts of our profession, our knowledge and skills, the organisations within which we work and our professional boundaries. Our strengths for undertaking this work include a strong professional body, many individuals committed to the task, and a body of work undertaken over many years

upon which to build. In addition, the issue has been recognised at the national level by the Strategic Intergovernmental Nutrition Alliance (a group coordinating national and state level public health nutrition action) that has started to develop a strategic direction within the *Eat Well Australia* strategy document (49).

In undertaking this work, we can ensure that we work towards the mission of the Dietitians Association of Australia of 'better food, better health, better living for all', particularly for the most vulnerable in society.

Conclusions

Despite the efforts of the welfare state there is clear evidence that food insecurity is widespread in developed countries such as Australia. Food insecurity is a significant factor in reducing health status and quality of life among many disadvantaged groups in the Australian community. The cost of food insecurity goes beyond that of health or hunger to include both individual and societal costs. The contributing factors to food insecurity are numerous and interact in complex ways. As such the development of solutions and strategies to alleviate the problem will be a slow process. Current research, practice and policy directions clearly indicate the need for comprehensive, intersectoral, integrated strategies which are based around community level responses and are supported by state and national policy and funding directions.

A range of opportunities and challenges exist for the dietetic profession and its membership at various levels. These include advocacy, research, education and sensitive practice. Increased understanding of food security amongst members of the profession is one starting point for developing momentum to address these issues more widely across existing systems, cultures and structures.

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References

1. The United Nations. Human rights: a compilation of international instruments. New York: United Nations; 1994.
2. Castelle K. In the child's best interest: a primer on the UN Convention on the Rights of the Child. East Greenwich: Foster Parents Plan International; 1989.
3. United Nations Centre for Human Rights. Right to adequate food as a human right. New York: United Nations; 1989.
4. Food and Agriculture Organization of The United Nations. Report of the World Food Summit. Rome: FAO; 1996.
5. Kendall A, Kennedy E. Position of The American Dietetic Association: domestic food and nutrition security. J Am Diet Assoc 1998;98:337–42.
6. Dowler E. Food as a utility: ensuring food security for all. Consumer policy review 1998;80:162–8.
7. Saunders P. Poverty and deprivation in Australia. In: Australian Bureau of Statistics. Year Book Australia, 1996 (ABS Catalogue No. 1301.0). Canberra: ABS; 1996.
8. United States Department of Agriculture. Household food security in the United States 1995–1998 (advance report). Online. Available from URL: http://www.fns.usda.gov/oane/menu/published/fsp/-files/foodsec98.pdf. [Accessed 20 July 2000].
9. Russell D, Parnell W, Wilson N. NZ food: NZ people: key results of the 1997 National Nutrition Survey. Wellington: Ministry of Health; 1999.
10. Australian Bureau of Statistics and Department of Health and Family Services. National nutrition survey 1995: selected highlights. ABS Cat No. 4802.0. Canberra: ABS and DHFS; 1997.
11. Coles-Rutishauser I, Penm R Monitoring food habits and food security: Australia 1995–1996. Food and Nutrition Monitoring Unit Working Paper 96.3. Canberra: Australian Institute of Health and Welfare; 1996
12. National Food and Nutrition Monitoring and Surveillance Project. Annual Report 1999. Brisbane: University of Queensland; 2000
13. Meedeniya J, Smith A, Carter P. Food supply in rural South Australia: a survey on food cost, quality and variety. Adelaide: Eat Well SA; 2000.
14. Leonard D, Groos A, Dunn S. 1998 healthy food access basket report. Cairns: Tropical Public Health Unit; 1999.
15. Bowcock R. 1998 Kimberley market basket survey. Derby: Kimberley Public Health Unit; 1999.
16. McComb J, Price R, Priestly J, Freeman J, Trevaskis G, Rogers O, et al. Survey of NT remote community shops. Darwin: Territory Health Service; 1998.
17. Australian Bureau of Statistics. 1996 census of population and housing. Australia in profile, a regional analysis. Cat no. 2032.0. Canberra: ABS; 1998.
18. Tregenza J, Tregenza E. Anangu Pitjantjatjara service resource management project. Alice Springs: Anangu Pitjantjatjara Services Aboriginal Corporation; 1998.
19. Harrison L. Food, nutrition and growth in Aboriginal communities. In: Reid J, Trompf P, editors. The health of Aboriginal Australians. Sydney: Harcourt Brace; 1991.
20. Cunningham J, Sibthorpe B, Anderson I. 4707.0 Occasional paper: self assessed health status, indigenous Australia, 1994. Canberra: Australian Bureau of Statistics; 1997.
21. Australian Institute of Health and Welfare. Supported assistance accommodation package national data collection annual report 1998–99 Australia. AIHW cat no. HOU38 (SAAP NDCA report. Series 4). Canberra: AIHW; 2000.
22. Pocius L. Dietary habits of the homeless man. Food Nutr Notes Rev 1974;31:141–9.
23. Darnton-Hill I, Sriskandarajah N, Craig GK, Truswell AS. Vitamin status of homeless men [abstract]. Proc Nutr Soc Aust 1986;11:99.
24. Darnton-Hill I, Ash S, Mandryk J, Mock P, Thu Ho N. Food sources of homeless men in Sydney. Aust J Nutr Diet 1990;47:13–9.
25. Tschirren R, Hammet K, Saunders P. Sex for favours: on the job youth project. Adelaide; Sex Industry Network, Second Story Youth Health Service and the HIV/AIDS Worker Training Project: 1996.
26. Hillier L, Mathews L, Dempsey D. A profile of the sexual health of homeless young people in Australia. Melbourne: Faculty of Health Science, La Trobe University; 1997.
27. Reid G, Crofts N, Hocking J. Needs analysis for primary health care among the street drug-using community in Footscray Melbourne: Centre for Harm Reduction, Macfarlane Burnet Centre for Medical Research; 2000.
28. Seniloli S. Household food security in Australia [Master of Medical Science thesis]. Brisbane: University of Queensland; 1995.
29. Moon L, Meyer P, Grau J. Australia's young people: their health and well being 1999. Australian Institute of Health and Welfare cat no PHE 19. Canberra: AIHW; 1999.
30. Trethewey J. Aussie battlers—families and children in poverty. Melbourne: Collins Dove and the Brotherhood of St Laurence; 1989.
31. Lester I. Australia's food and nutrition. Canberra: Australian Government Publishing Service; 1994.

32. Australian Bureau of Statistics. Detailed expenditure items—1993–4 household expenditure survey. Canberra: Australian Government Printing Service; 1996.

33. Fincher R, Nieuwenhuysen J, editors. Australian poverty then and now. Melbourne: Melbourne University Press; 1998.

34. Australian Bureau of Statistics. Disability, ageing and carers: summary of findings 1998. ABS cat no. 4430.0 Canberra: ABS; 1999.

35. Blaylock JR, Blisard WN. Food security and health status in the United States. Applied Economics 1995;27:961–6.

36. Hamelin AM, Habicht JP, Beaudry M. Food insecurity: consequences for the household and broader social implications. J Nutr 1999;129 Suppl:525S–8S.

37. Evans NS, Dowler EA. Food, health and eating among single homeless and marginalized people in London. J Hum Nutr Diet 1999;12:179–99.

38. Stitt S, Griffiths G, Grant D. Homeless and hungry: evidence from Liverpool. Nutr Health 1994;9:275–87.

39. Tarasuk VS, Beaton GH. Women's dietary intakes in the context of household food insecurity. J Nutr 1999;129:672–9.

40. Smith AM, Baghurst KI. Dietary vitamin and mineral intake and social status. Aust J Nutr Diet 1993;50:163–71.

41. James WPT, Nelson M, Ralph A, Leather S. Socioeconomic determinants of health: the contribution of nutrition to inequalities in health. BMJ 1997;314:1545–9.

42. McMichael AJ. Social class (as estimated by occupational prestige) and mortality in Australian males in the 1970s. Community Health Stud 1985;9:220–30.

43. Luder E, Ceyens-Okada E, Koren-Roth A, Martinez-Weber C. Health and nutrition survey in a group of urban homeless adults. J Am Diet Assoc 1990;90:1387–92.

44. Austin C, Goodman C, Van Halderen L. Absence of malnutrition in a population of homeless veterans. J Am Diet Assoc 1996;12:1283–5.

45. Luder E, Boey E, Buchalter B, Martinez-Weber C. Assessment of the nutritional status of homeless adults. Public Health Rep 1989;104;5:451–7.

46. English RM, Bennett S. Overweight and obesity in the Australian community. J Food Nutr 1985;42:2–7.

47. Department of Primary Industries and Energy. World Food Summit, Australian country position paper. Canberra: DPIE; 1996.

48. Department of Health. Food and Nutrition Policy. Canberra: Commonwealth of Australia; 1992.

49. Strategic Intergovernmental Nutrition Alliance of the National Public Health Partnership. Eat Well Australia: an agenda for action for public health nutrition 2000–2010 (draft). Melbourne: National Public Health Partnership; 2000.

50. McGlone P, Dobson B, Dowler E, Nelson M. Food projects and how they work. York, UK: YPS for the Joseph Rowntree Foundation; 1999.

51. Kramer-LeBlanc CS, McMurry K. Discussion paper on domestic food security. Family Econ Nutr Rev 1998;11:49–78.

52. Tarasuk V, Davis B. Responses to food insecurity in the changing Canadian welfare state. J Nutr Educ 1996;28:71–5.

53. Toronto Food Policy Council. Reducing urban hunger in Ontario: Policy responses to support the transition from food charity to local food security. Toronto: Toronto Food Policy Council Discussion Paper Series No 1; 1994.

54. Eat Well SA. Food and Nutrition Programs run by South Australian agencies for people on low incomes—a snapshot: November 1998 – February 1999. Adelaide: Eat Well SA; 1999.

55. American Dietetic Association. Position of The American Dietetic Association: domestic food and nutrition security. J Am Diet Assoc 1998;98:337–42.