

discovery for a healthy tomorrow

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House of Representatives Standing Committee on
Aboriginal and Torres Strait Islander Affairs
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Dear Sir/Madam

Submission to the inquiry into the operation of remote community stores in Aboriginal and Torres Strait Islander communities

The Menzies School of Health Research (Menzies) is Australia's leader in Indigenous and tropical health research. Menzies' evidence-based approach leads to ways to better prevent, treat and diagnose disease and to show how the social and physical environments in which health care is delivered can be improved for better health outcomes. Menzies' areas of expertise include Indigenous child and mental health, the social determinants of health such as housing and poverty, tropical and emerging infectious diseases, preventable chronic diseases and, increasingly, International health.

The operation of remote community stores in Aboriginal and Torres Strait Islander communities has an extremely important influence on nutrition in those communities, and Menzies congratulates the Standing Committee on holding this extremely important Inquiry.

As a scientific research organisation Menzies takes an evidence-based approach which relies on the gathering of baseline data, monitoring and evaluation; with the aim of providing evidence for necessary changes to policy and practice. This submission is based on research done by Menzies staff and partners for its Nutrition program.

This submission has been prepared by Dr Julie Brimblecombe, NHMRC Post Doctoral Research Fellow in the Preventable Chronic Diseases Division, and addresses the terms of reference of the inquiry together. A summary of our findings is as follows, and a number of recommendations can be found at the end of the submission:

- The diet of many Aboriginal people in remote communities is high in carbohydrates and low in fruit and vegetables with deficiencies in key micronutrients
- The quality of the food supply and hence people's food choices are largely beyond the control of individual community members. A healthier diet is not within the current means of Aboriginal people in remote communities.
- Within budgetary constraints, consumers in remote communities compromise quality, and maximise calories for every dollar spent.
- Low income, environmental conditions and availability are more important than poor food choices as explanatory factors.
- Whole-of-store (business and store management) approaches, including store manager compliance, are also important explanatory factors.
- Food outlets, services and traditional food sources that contribute to the food supply in remote communities other than the main store are also important.

Please find attached a Briefing Paper on Nutrition Improvement for Aboriginal People in Remote Townships (May 2008) which summarises the research on which this submission is based.

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Submission No 12.

Introduction

Relative to the wider Australian population, Aboriginal Australians experience high rates of premature mortality from preventable chronic diseases, notably type 2 diabetes, cardiovascular disease (CVD), cancer and renal failure¹. These conditions contribute significantly to the 17 year difference in life expectancy of Indigenous Australians relative to the Australian population¹. There is convincing evidence on the importance of high quality nutrition in protecting against these chronic diseases². Numerous studies have documented the strong association between nutrition and child development and later adult outcomes.

In the Northern Territory where the Indigenous population represents 13% of the total population, in remote areas, half (52.7%) of Aboriginal and Torres Strait Islander people are in the lowest income quintile³ and receive government pensions and allowances as their main source of income. It is well established that there are socio-economic inequalities in health, with socio-economically marginalised groups experiencing higher morbidity and mortality rates for preventable chronic diseases⁴. Furthermore, it has been shown consistently that food and nutrient intakes and food purchasing patterns are socio-economically patterned⁵⁻⁷ and are consistent with the higher rates of chronic disease documented among groups of lower socio-economic position. Internationally, material and economic constraints are gaining recognition as key determinants of dietary intake⁸.

In addition to subsistence food procurement, community stores play a vital role in contributing to the health of Indigenous Australians. Improvements in markers of type 2 diabetes and cardio-vascular disease have been reported in association with improvements in the quality of the store food supply^{9:10}.

Dietary patterns of Aboriginal people living in remote communities

Since the first Northern Territory government nutrition survey conducted in 1949, the dietary pattern observed among Aboriginal people living in remote Australia has been consistently reported as high in carbohydrates and low in fruit and vegetables with deficiencies in key micronutrients^{11:12:13:14:15:16}. A comprehensive assessment of diet among people in remote communities in the Northern Territory conducted by Lee et al¹⁷ in the late 1980s showed a dietary pattern similar to that reported in the past: a diet high in energy and sugars and moderately high in fat. Sugar, flour, bread and meat were reported to provide more than half the apparent total energy intake. In contrast to the high intakes of energy, sugar and fats, Lee et al¹⁷ reported low intakes of nutrients derived from fruit and vegetables such as dietary fibre, β -carotene and folic acid.

Work we have recently conducted as part of the Remote Indigenous Stores and Takeaway (RIST) project provides a description of current dietary patterns in six Indigenous communities in remote Australia¹⁸. It must be noted that the stores in these remote communities provided between 46 to 97 percent of recommended energy requirements for the community population. This indicates the importance of other food outlets, services and traditional food sources in contributing to the food supply in remote communities other than the main store¹⁹. We reported high intakes of carbohydrate with total sugars contributing disproportionately to energy availability, and low intakes of fruit and vegetables. Specific nutrients found to be inadequate were: fibre, magnesium, calcium, folate and potassium. Zinc was also found to be inadequate in two of the six community store food supplies. Sodium was much higher than recommended levels. The results from this work indicate that little has changed from that reported by Lee et al two decades previously.

Previous work we conducted that assessed the food supply available to a single community population in North East Arnhem Land through all food outlets and community services, showed a per capita sugar intake ten times that of wider Australia and a fruit and vegetable intake less than one-third that of wider Australia²⁰.

The following provides a description of dietary patterns based on store sales data for six community stores across remote Australia¹⁸:

Energy intake

Across all stores bread, sugar, flour, milk and soft drinks contributed between 39 to 46 percent of total energy availability.

Fat intake

In all stores oils and margarine contributed the most to total fat (between 21 to 30% across all stores). Milk, processed meats and pies/sausage rolls were important sources of fat.

Sugar intake

In all stores table sugar, soft drinks and cordial contributed the most to total sugar (between 49 to 66 percent).

Salt intake

The availability of sodium through the store food supply was found in excess of the recommended levels with bread and processed meats contributing the most to sodium availability.

Fruit and vegetable intake

The contribution of fruit and vegetables to total energy was minimal, however fruit and vegetables were important sources of several micronutrients (Vit C, folate, β -carotene and potassium) as well as fibre. The contribution of fresh fruit to total fruit availability was between 78 to 97 percent across all stores. For vegetables, fresh vegetables contributed between 61 to 87 percent across all stores, except for the central Australian store where canned and frozen vegetables contributed the most to total vegetables.

The nutritional quality of the food supply in summary

- Current dietary patterns based on store sales are similar to those reported two decades earlier: high intakes of carbohydrates and sugar and low intakes of fruit and vegetables
- People's diet in general appears to lack variety with only five foods contributing nearly half of energy availability: bread, sugar, flour, milk and soft drinks.
- Other food providers and food services such as fast food outlets, school canteens, child care centres, aged-care programs, butchers, bakeries and community gardens are increasingly contributing to the food supply in remote communities.
- Fresh fruit and vegetables are preferred to frozen and canned in most communities

Determinants of a poor quality diet

We have recently shown for an Aboriginal community in Northern Australia, a marked gradient in energy cost (\$ per MJ) between low quality foods rich in refined carbohydrate and fats and high quality foods which are recommended in all national nutrition guidelines (Brimblecombe, J. & O'Dea, K. unpublished, submitted to MJA). This finding is consistent with international data that has shown an inverse relationship between energy density and energy cost⁸. While nutrient dense foods, such as meat, fruit, fish, and vegetables, provide more nutrients per dollar spent, there is good evidence that with sustained budgetary constraints, quality is compromised before quantity, with consumers maximising calories per dollar spent.

The persistent dietary pattern observed across Aboriginal communities described above has been attributed to conservative food preferences developed through the historical government policy of rationing for Indigenous Australians from early European settlement through to the early 1970s²¹, and reinforced by contemporary issues of limited availability of healthy food choices, high food costs, limited household storage and food preparation capacity, and low nutrition and budgeting literacy²². While these factors are undoubtedly important, the work we have conducted highlights that low income is also a powerful driver of food choice - a factor compounded in remote communities by high cost of perishable foods such as meat, fruit, and vegetables²³. Indeed the environmental conditions (such as poor housing, poor store infrastructure, low income) that supported a flour, sugar, bread and tea diet in the past, remain relevant. In the next section we present available evidence in relation to the availability of healthy food and cost of the food supply, in remote communities.

Availability

The Australian Guidelines for Healthy Eating are based on empirical evidence linking diet with disease²⁴. The availability of foods consistent with the Australian Guidelines for Healthy Eating thereby increases a person's ability to attain good health. However the availability and range of healthy foods is often limited in remote communities²². Perishable items in particular such as dairy foods, meat, fish, fruit and vegetables have been shown to be frequently in short supply^{17,25}.

The NT Market Basket Survey (MBS) reports on availability of a standard food basket (sufficient to feed a family of 3 adults and 3 children for 2 weeks) as well as on cost and food quality. In 2006, the availability of foods in the food basket ranged from 85% to 100%. However, the MBS was designed in the early 1990s within the constraints of providing food to remote communities and includes a range of very basic but practical food items. It is a once a year snapshot of the food quality, availability and price and does not capture fluctuations in availability over time such as the few days preceding delivery when fresh fruit and vegetable stocks are commonly depleted or near

depletion in some community stores^{25;26}. The availability of foods however in the Market Basket in general has substantially improved since a decade earlier²⁷.

The availability of food is normally determined by supply and demand. There are many intermediary factors between availability and consumption. As with cost of food, it is difficult to isolate availability and investigate its impact alone on nutrition improvement. The key factors identified in the literature as influencing store food availability are: attitudes and practices of store managers in relation to supporting nutrition improvement²⁸⁻³⁰; attention to adequate provisioning of recommended foods³⁰⁻³²; in-store promotion and consumer education^{10;9;31}; adequate store storage facilities^{30;33} and reliable transport for food delivery to the store^{30;31}.

Both Rowse et al^{29;34} and Lee et al²⁸ have commented on store manager compliance in relation to efforts to improve the availability and nutritional quality of the food supply. In assessing the impact of income management on store purchasing patterns³⁵, the positive impact of a progressive store manager alone on fruit and vegetable sales in a community in Northern Australia was dramatic. Indeed in the period of employment of the store manager, turnover of fruit and vegetables more than doubled³⁵.

From our experience and that of others³³ we believe that marked improvements in the availability and quality of the food supply can be achieved immediately without directed consumer education. For example, in the 1990s, Goto³³ observed increases in store food orders in association with interventions such as a reduced mark-up on chilled and grocery items; the commencement of a store community shuttle service; weekly rather than fortnightly barge deliveries; and store renovations to improve storage and refrigeration capacity. A further example of improvements in availability without directed nutrition intervention was reported by Taylor and Westbury in relation to the Barunga store in the East Katherine region of the NT³⁶. Improvements in the availability of fresh fruit and vegetables, fresh sandwiches and leaner cuts of meat occurred as the result of a "whole-of-store" approach to improving food quality through better business practices. This whole-of-store approach included employment and training initiatives, and developing and implementing stock management procedures³⁶.

We conducted a case study of an Arnhemland Progress Association (ALPA) member store from 2001 to 2005, and observed that many factors influenced the quality of the store food supply. Key factors related to store management and leadership, adequate infrastructure including refrigeration and storage and food display space, a well trained workforce and electronic systems for monitoring the turnover and sales of key foods such as fruit and vegetables. This work and what we have learnt from other studies has led to the development of a project to assess the feasibility of a monitoring and evaluation learning approach to improving the performance of food systems in remote communities for better food security. This project has recently received NHMRC funding. The approach is to be developed and trialed in four communities in Northern and Central Australia.

Price of food and affordability

Access to healthy foods for Aboriginal people living in remote Australia is limited by both the high cost of foods and by people's socio-economic situation³⁷. Surveys to assess the cost of a defined basket of foods in different states^{23;38} and the Northern Territory of Australia³⁹ have consistently demonstrated that food costs are higher outside major cities and increase with increasing categories of remoteness²³. Cost differentials of between 26 to 53 per cent across remote communities compared to urban centres have been reported³⁹.

There is some evidence that pricing policies can increase purchasing patterns. For example Harrison et al²³ believe that the relatively low mark-up on high fat/ high sugar food and drinks in remote stores in Queensland compared to the mark-up on fruit and vegetables has encouraged purchasing of unhealthy products. In some communities however, price differentials in remote community stores are used as a way of reducing margins on recommended foods (such as fruit and vegetables) and increasing mark-ups on products not recommended such as cigarettes and some take-away foods³⁰. The impact of this strategy of cross-subsidisation on influencing positive purchasing patterns has not been examined. The availability of electronic store sales data, now presents an unprecedented opportunity to rigorously evaluate the effect of such interventions on purchasing patterns.

A further disadvantage suffered by consumers of remote stores is the lack of consistent display of prices. While it is in the best interests of businesses operating in a competitive environment to clearly display prices, this is not the case in many communities where there is a monopoly or near monopoly. Consumers therefore do not have the basic information required to monitor and/or challenge product prices. We believe that in Indigenous communities where businesses often enjoy a monopoly, that government intervention is required to protect consumer rights.

Freight subsidies have been a favoured solution to redressing food cost disparities⁴⁴, however McDonnell and Martin⁴⁵ believe that the cost of freight is less than perceived in the overall cost structure of stores and that store governance structures may be of more significance. Over a two year period of observing a community store in the Katherine region, Lewis⁴⁶ reported that the financial deterioration observed which contributed to the high cost of food, seemed likely to be due to either extremely poor management, large amounts of pilfering, stock shrinkage or loss, or fraudulent behaviour. The likelihood of store operations as an important contributor to high food costs rather than freight alone has supported an approach of examining store management practices, retailing practices, and pricing policies, to uncover inefficiencies where savings may be made and in turn prices reduced^{31,47,47}. Due to the factor of remoteness alone and to some extent the size of many remote communities, we are not so optimistic that efficient management and retailing practices alone will adequately reduce the cost of the food supply in remote communities. It is evident that in ensuring an adequate food supply at a reasonable cost to people in remote Australia, some form of government assistance is required. One of the concerns we have with regards to government assistance to stores is the need to make sure that benefits are passed on to the consumer in the form of reduced prices.

The relationship between high store prices and affordability has not been rigorously tested⁴⁸. However there is evidence suggesting that Aboriginal people are clearly disadvantaged by a combination of high store prices and low incomes. Poor quality diets have also been associated with low socio-economic position in Australia⁴⁰⁻⁴² and other developed countries^{5,6}. This is particularly significant for Indigenous Australians, where past estimates reveal nearly one-third (30.8%) of Aboriginal households in the severe poverty category⁴³. A disproportionate expenditure on food relative to income has been proposed as a reliable indicator of deprivation and poverty⁴⁹. In an analysis of available empirical Aboriginal expenditure data, Smith concluded that Aboriginal expenditure levels and patterns differed significantly from those of the wider Australian population, and that the expenditure patterns of many low-income Aboriginal households were indicative of poverty⁵⁰. Smith concluded:

The expenditure patterns of many low-income Aboriginal households are indicative of poverty: income levels are not even sufficient to meet basic material needs. Low-income Aboriginal households appear to be spending a higher proportion of their incomes on what are considered to be the basic necessities of life such as food, than the lowest income households amongst the total population. In these circumstances, Aboriginal expenditure is also characterised by expenditure on poor quality, cheap foodstuffs, second-hand goods, reliance on credit and on subsidised services. It appears that higher price of food and other goods at remote communities exacerbates Aboriginal poverty⁵⁰.

Low income combined with high food costs results in many Indigenous Australians spending a large proportion of their income on food²². In the absence of representative household expenditure data for the Australian Indigenous population, researchers and policy-makers have relied on surveys of the availability and cost of a standard basket of foods in remote Aboriginal community stores to assess the food affordability for Aboriginal people living in remote Australia. For these surveys, generally a basket of foods is designed to provide 95% of the energy requirements and 100% of the nutrient requirements for a hypothetical family of six⁵¹ for a fortnight period. The cost of the food basket is presented as a proportion of the estimated hypothetical family income based on welfare entitlements.

The 2006 survey for the Northern Territory, reported that households in remote communities in the NT would require 36 per cent of their income to purchase the food basket compared to 28% for an equivalent household living in an urban centre. This compares to all households in non-remote NT⁵² spending 12.1% of household income on food and non-alcoholic drinks and households in the lowest income quintile in non-remote NT, spending almost one half (49.4%) of mean gross weekly household income on food and non-alcoholic beverages. As the cost of food has been shown to be disproportionately higher in remote areas and that most people are on welfare, it is likely that most households in remote communities are spending more than half of their mean gross weekly household income on food and non-alcoholic beverages. The National Indigenous Health Equality target relating to food security for Indigenous Australians is that by 2018 more than 90% of Aboriginal and Torres Strait Islander families can access a standard healthy food basket (or supply) for a cost of less than 25% of their available income.

The reported cost of the NT Market Basket Survey indicates that a healthier diet is within the current means of Aboriginal people in remote communities. We do not agree with this. The NT Market Basket Survey while it provides evidence on the higher cost of food in remote communities, it does not provide an accurate assessment of food affordability as it does not reflect actual purchasing patterns and assumes conservative food preferences, limited availability of fresh produce in community stores, and the resources and desire to prepare all meals in the home. Indeed the foods included in the market basket are not the good quality foods recommended for the rest of Australia. On the basis of self-selected diets, it has been shown that high-quality diets cost more under normal circumstances⁵³⁻⁵⁵.

We are currently investigating poverty as a key driver of diet for Aboriginal people in remote Australia and the cost of dietary improvement to meet Australian government dietary recommendations. We are not aware of any previous studies that have examined the cost of dietary improvement for Indigenous Australians. However Mr J Treganza for some years now has advocated for government subsidies on healthy food⁵⁶ believing that a household in the Anangu Pitjantjatjara Yankunytjatjara Lands (APY Lands) cannot afford to buy food to meet their nutritional requirements. In spite of believing that poverty is a key driver of poor food choices for Aboriginal people in remote Australia, we believe that there is scope to achieve a huge improvement in people's diets through improvements in the availability and quality of food in community stores. Preliminary findings from the work we are doing indicate that dietary change for Aboriginal people in remote communities would require: increased fruit and veg (2 – 3 times current levels), a reduction of sweets (sugar, soft drinks), and an increase in milk and yoghurt, fish and cereals (2 to 2.5 times). This early analysis suggests that there is a tendency for cost to increase to meet recommendations but it is not marked and it is not necessary. However the changes required are very large and probably not acceptable or palatable (for example less meat and more legumes). People enjoy fresh fruit and vegetables and in general prefer meat and fish to legumes. It is therefore highly likely that acceptable dietary improvement has cost implications above what people are already spending on food and drinks.

In addition to the cost to the consumer to comply with dietary recommendations, others costs to support the supply, purchase and consumption of a recommended diet that includes more perishables such as fruit, vegetables, lean meat and fish, need to be considered. These include: the cost of refrigeration and associated power costs; improved housing infrastructure for better storage and food preparation facilities; and most importantly, improved store infrastructure and carrying capacity.

Store Interventions

For many years, the role of stores in contributing to the health and well-being of community people has been largely overlooked, resulting in a food supply that in many places is uncertain, variable in quality, and costly. Recently, in the Northern Territory particularly, the Australian government has directed resources to addressing the food supply in remote communities through the Community Stores NTER Operations Centre and Outback Stores. While these initiatives indicate a significant step forward in achieving a food supply for Indigenous Australians equitable to their Australian contemporaries, there remain key issues that need to be considered in achieving a sustainable, quality and affordable food supply for Indigenous Australians. These issues concern:

- Adequate and appropriate support for local food production
- Building and supporting the capacity of Indigenous Australians to manage and oversee their food supply
- Adequate and appropriate support for access to and development of traditional food sources and subsistence food procurement
- Assistance re the provision of adequate store infrastructure to stock and display fresh produce
- Adequate housing to address problems of overcrowding, lack of appropriate storage space and poorly maintained kitchen hardware
- The gap that will remain in terms of food affordability as a result of poverty

The final point that we would like to raise is the need for an appropriate program design, data collection, monitoring and evaluation mechanism to be set up from the beginning of any program that might result from this Inquiry. For example there is an opportunity to establish a co-ordinated system for ongoing surveillance of the food supply and evaluation of interventions in remote communities through current initiatives. We have developed an automated tool for monitoring the turnover and sales of key foods in stores and are very interested in contributing to the development of such a surveillance and evaluation system. In particular, a system that is integral to building community capacity to influence their food system.

Recommendations

Menzies recommends that the following specific actions be considered:

- A 'whole-of-store' and food systems approach to the entire business practices of community stores, in addressing the issue of healthy food.
- Measures that assume that key decisions are within the control of individual community members – such as income management or education should not be relied upon.
- Regulation of display of prices through store licensing requirements.
- Subsidising the cost of healthy foods should be strongly considered.
- Subsidising store infrastructure costs such as refrigeration is very important.

- Compliance measures directed at food outlets and services that contribute to the food supply in remote communities other than the main store, should be considered.
- Investment in building community capacity to influence food systems and manage stores.
- Measures aimed at improving access to traditional food sources.
- Consideration, in conjunction with Menzies, of support for establishing a surveillance system to monitor the turnover and sales of key foods in stores and to provide timely and ongoing evaluation of interventions.

Thank you for the opportunity to comment and we look forward to the outcomes of this inquiry.

Yours sincerely,

Professor Jonathan Carapetis
 Director
 Menzies School of Health Research

Att: Briefing Paper on Nutrition Improvement for Aboriginal People in Remote Townships (May 2008)

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NUTRITION IMPROVEMENT FOR ABORIGINAL PEOPLE IN REMOTE TOWNSHIPS

briefing paper May 2008

Poor nutrition is a key contributor to the 17 year difference in life expectancy of Indigenous Australians relative to the overall Australian population. Poor quality diet is an important risk factor for three of the four major causes of death (cardiovascular disease, cancer and type 2 diabetes) in the Australian Indigenous population¹. Access to nutritious food is paramount to learning, development and quality of life from conception through to old age.

Knowledge of the factors influencing nutrition is needed to guide effective strategies and policies for nutrition improvement.

This briefing paper presents a summary of the key findings from a study conducted at the Menzies School of Health Research of the key factors influencing the dietary intake of an Aboriginal population in remote Northern Australia, and elaborates on the implications for improving nutrition status for Indigenous people in remote and rural Australia.

Key Findings from a remote NT Indigenous community

WHAT PEOPLE EAT

As reported for other rural and remote Indigenous populations, the diet of the study population was high in refined carbohydrate and low in fresh fruit and vegetables.

Potassium, folate and all other micronutrient intakes were dramatically less than that of the rest of Australia.

Only four foods – white bread, white flour, milk powder and sugar – provided more than half of the energy intake.

People call these four the “long-life” foods because they can be stored, shared at least cost, divert hunger and sustain people over the pay/pension cycle.

These “long-life” foods provide most calories for least cost (see Figure, page 2). In comparison, fresh fruit, vegetables, lean meat and fish (nutrient rich and highly recommended foods) were ten to 100 times more expensive, as illustrated in Figure (page 2).

This food consumption pattern is similar to that reported for low income populations in other economically developed countries²⁻⁴.

Table 1 compares the typical diet of a person in this remote community (derived from food sales data) with what is recommended. Major changes in purchasing patterns would be required to reach the recommended goal: for example, 5 times the fruit, 4 times the vegetables and less sugar and high fat foods.

TABLE 1: ACTUAL AND RECOMMENDED DIET

Food item	Actual quantity (g) per capita per day	Modelled quantity (g) per capita per day
Fruit	41	245
Vegetables	76	285
Milk powder	30	50
Wholegrain bread	9	22
Table sugar	96	48
Aerated added sugar drinks	248	132
Canned corned beef	15	8
Hot chips	25	12
Pies	15	7

What Food Costs

Food in general cost 50% more than in Darwin.

Families spent on average an estimated 38% of their income on food and non-alcoholic beverages. This compared to 29.8% for the lowest non-remote income Australian households and 13.6% for the average Australian household⁵.

Dietary improvement to meet recommendations as shown in Table 1 would require at least 44% of household income.

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What People Know

People in the study community knew the healthy foods and understood the relationship between food and health.

Both adults and school aged children reported a preference for fresh fruit and traditional foods.

People did not fully understand the western food system: origins of food, manufacturing process, use-by-dates, and consumer rights.

"Very hard for me to get these foods – because I don't have money, I only have small rrupia [money]. These are big money in the shop. I only have these [referring to fruit and vegetables] in Darwin or Gove....here, \$100 or \$200 little bit of food. And that is why people only buy flour" – Quote from senior woman in study community, 2005

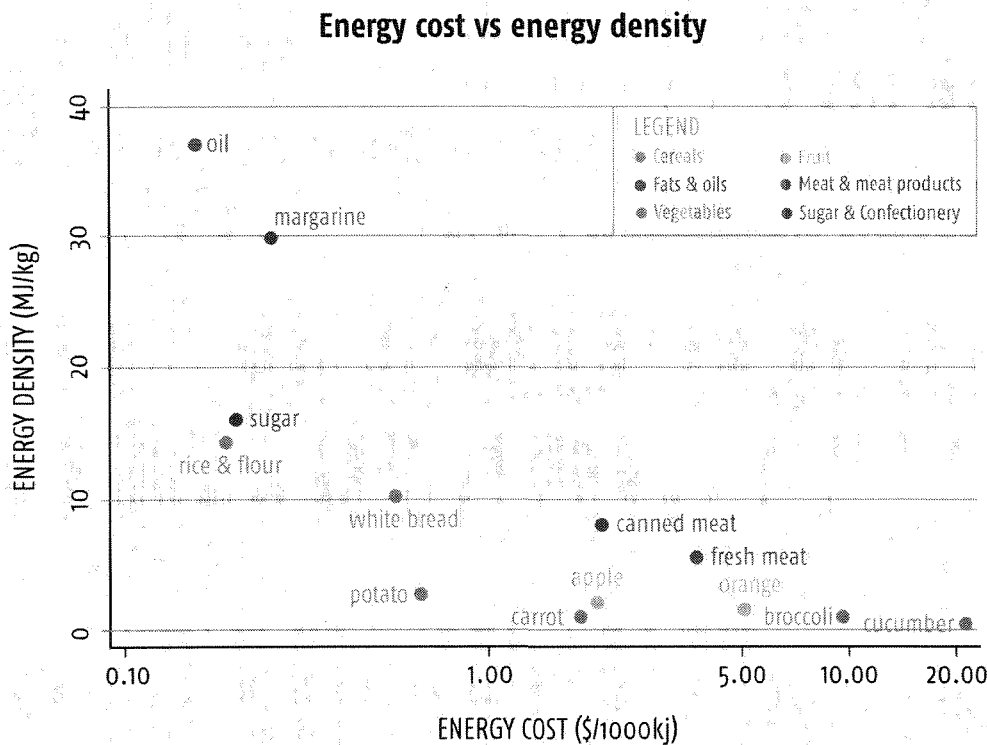
What Can Be Done

We documented a "whole of store" approach to address store management and leadership, workforce development, improved infrastructure, and effective feedback systems for decision-making.

We showed from a low base, a 48% increase in turnover of fruit and a 68% increase in fresh vegetable turnover.

While this is an impressive change, it still falls far short of what is recommended. It is clear that economic constraints limit the capacity of most families (particularly the many reliant on welfare payments) to further improve the quality of their diets. Nevertheless this demonstrates that Indigenous people in remote communities will purchase more fruit and vegetables given the opportunity.

FIGURE: DOLLARS PER CALORIE BASED ON STORE SALES DATA FOR STUDY COMMUNITY



Key finding: Not surprising people in poverty have the worst diets – good food costs more

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Conclusion

Poverty is a major contributor to poor nutrition for many Indigenous people. It is well established that people on low incomes maximise calories for the least cost.

In the past, the emphasis for nutrition improvement has been largely on nutrition education. While this is important, the role of poverty must also be recognised.

Government intervention can help in ensuring the availability of healthy food and in pricing. Interventions at the community level, focused in particular around the store, can ensure the availability of healthy foods over the long term.

FACTS IMPACTING ON NUTRITION FOR INDIGENOUS PEOPLE IN WIDER AUSTRALIA

National Aboriginal and Torres Strait Islander survey (1994):
30% worry about going without food (higher in remote compared to non-remote)⁶.

National Aboriginal and Torres Strait Islander Social Survey (2002):
30% of Indigenous households reported days without money in last 2 weeks⁷.

- A healthy food access basket in QLD in 2004 cost 30% more in very remote areas compared to major cities⁸.
- In 2006 in the Northern Territory (NT) a healthy basket of foods cost 29% (range 24% to 56%) more in remote areas compared to Darwin⁹.

- In the NT in 2001, 62% of houses surveyed had non-functioning storage and food preparation facilities: kitchen bench, cook-top, oven. Less than half had a functioning fridge¹⁰.
- In Aboriginal communities across Australia only 6% of houses had functioning nutritional hardware (storage space for food, preparation bench space, functioning stove and sink)¹¹.
- Community-based interventions that improve the food supply can reduce risk of cardiovascular disease. Impacting on obesity and type 2 diabetes is more challenging requiring the addressing of broader socio-economic conditions^{12,13}.

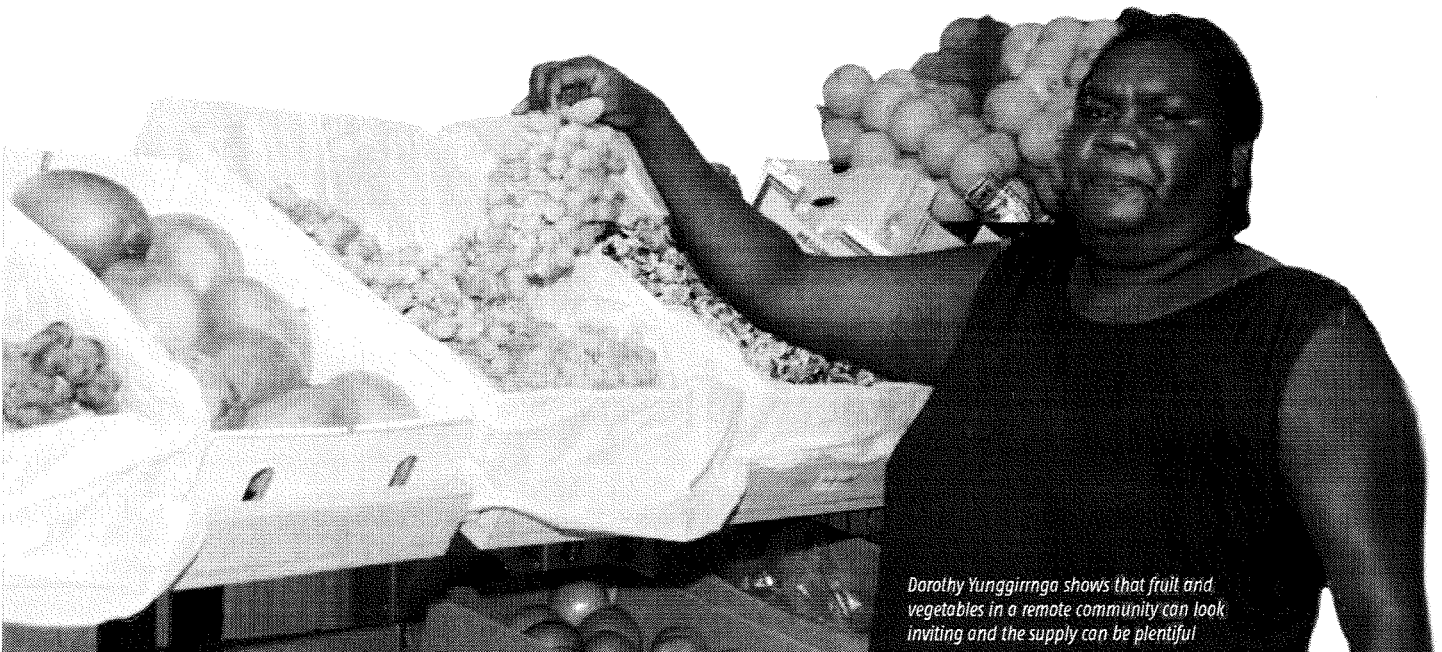
CHALLENGES

Strategies to alleviate poor nutrition for Indigenous people cannot be made without addressing their socio-economic circumstances.

Multi-level approaches are needed that are empowering for Indigenous people, are planned with the community and involve Indigenous people as key decision-makers.

A key component of the long-term improvement in the food supply is the training and support of an Indigenous nutrition workforce at the community level and appropriate systems to ensure the maintenance of quality assurance.

A particular future challenge will be in the provision of an affordable healthy food supply with rising fuel and food prices.



Dorothy Yunggirrnga shows that fruit and vegetables in a remote community can look inviting and the supply can be plentiful

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Recommendations

STOP GAP IN THE SHORT TERM

1. That the Australian Government explore options to provide immediate access to nutritious food for Indigenous people in rural and remote Australia.

A voucher system for the purchase of a weekly basket of nutritious foods is probably the most practical and cost effective option in the first instance. This could eventually be extended to disadvantaged families where ever they are located (both Indigenous and non-Indigenous)

The Women, Infants and Children (WIC) program in the US provides a voucher system for the purchase of healthy foods for disadvantaged mothers and children, which is linked in with the health and welfare system. The vouchers can only be used for specific foods and are not tradable for cash. This program has been extensively evaluated and shown to be highly cost effective in terms of both health and social outcomes.

LONG LIFE AND SUSTAINABLE

2. That the Australian Government explore options to provide lasting affordable, fresh and quality food for Indigenous people in remote and rural Australia.

Recommended options:

- a. That any barriers to the trade of locally produced food across northern Australia be eliminated. For example, the food produced in Lake Argyle region of northwest Australia must currently be trucked to Perth for marketing – it could provide local fresh food across northern and central Australia.
 - b. Consider options to encourage local food production and agribusinesses in Indigenous communities (agriculture, bakeries etc)
 - c. Consider options to support Indigenous people in the economic development of traditional food resources
 - d. Support for adequate food storage infrastructure in remote stores (refrigeration etc).
3. Development of an Indigenous workforce to manage stores and provide nutrition support to families in remote and rural communities.

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Mr Frank Djirrimbilwuy, Ms Dorothy Yunggirnga, Joseph McDonnell, Dr Susan Sayers, Professor Kerin O'Dea and Professor Jonathan Carapetis assisted with the preparation of this briefing paper.

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Or refer to "enough for rations and a little bit extra: challenges of nutrition improvement in an Aboriginal community in North-East Arnhem Land", PhD thesis <http://tinyurl.com/2wppqoq>