

Cape York Food and Nutrition Strategy 2012-2017



Cape York Hospital and Health Service

Apunipima Cape York Health Council

Tropical Regional Services - Cairns Public Health Unit

Improving nutrition in Cape York

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Artist

Biography

Elizabeth Giblet

“Queenie”



In the old site first time we call that place old mission, I grew up there. Go to school every morning. We are poor village-Clarmont-Night Island-Wenlock-Pascoe. Used to walk from Clarmont to school every morning. We start school at 9 o'clock. 12 o'clock break off lunch. But when we in school we not make noise, we gotta listen. When 17, now I finished school. I start working now, I teacher. I teach grade 1 or kindy. Go to school every day tell story. We eat lunch in the feeding centre. A few old girls do the cooking. 3 o'clock we knock off. Go to our place now, our home. We use to have a grass house and they put bark on the side. They used to get floating timber. Make bed for us. We use to sleep on the ground make big bed.

We go get some bush tucker. We eat Yam. We have brown flour before. We used to cook damper. We go to Church every Sunday. At St James - Sir can we have meal please, can we have lunch? We have lunch up at the church house.

We used to go fishing. We used to take some oyster, crab. We used to take spear. Spear some fish or tingary (sting-ray). We used to eat big fish. We used to go out camping weekend. My Aunty and my Uncle take me out camping. We use to walk. We go from the old mission to Cutta Creek. We carry swag, water and flour. Especially we eat bush tucker and yam. They call that place Red Point. You gotta get there early. Ancha, that's for dancing. We use to cut culie tree. They use to use that for war- spear. Use big cane knife to cut that tree down. In the night you can't walk. You gotta sit quiet in your camp we call humpy.

We eat white fruit and red berry we call kaku in language. That's been long time we moved from there to here -1989, something like that. Especially we eat yam and that white fruit. We use to go in bush to collect them. We collect them red cherry.

We collect that bark name oonchi. We use to make big fire. Sitting before fire them old people use to tell us story. My Aunty and Uncle, when I was little girl, 10 or 9.

In our store up there in old mission we use to eat brown flour and brown sugar. Sometimes we eat yam and water. We not getting town water. We get river water. You gotta carry a bag and billy can. When that creek running. Sometime well you get water. We have the well water, the Pascoe and Clarmont. We use to plant our own banana, pawpaw, cassava. Every village had their own garden.

When we move here it's more easy now. More easy for our old people. Take them kids down beach, show them bush foods. We been working at old site and I been working in school and church. Now we have more easy. When I been here they be call me Queen Elizabeth.

In old mission I used to draw down beach. That's the one I always think about when painting.

Foreword

Dr Mark Wenitong



Healthy eating, good antenatal nutrition, as well as good nutrition in early childhood, and maintaining a healthy weight across the lifespan, are basic building blocks of good health and wellbeing for any community, family or individual.

Across Cape York, there are significant challenges in ensuring that these basic building blocks are present, accessible, and utilised.

To address this requires a broad based approach including consistent national, state, regional and local policy.

It also requires a cross portfolio approach, including the education sector, councils, stores, agriculture and community development, and, at health service delivery level, a whole of primary health care team approach.

Although we have a specialised health workforce of nutritionists, nutrition health workers, and dietitians, *good nutrition is everybody's business*.

At primary health care level this includes the General Practitioner, the Registered Nurse, the Indigenous Health Worker, the visiting specialist services, as part of holistic chronic disease teams. Important members of these teams also include allied health teams, public health, health promotion and prevention and healthy lifestyle teams. A nutrition strategy is as good as the teams and health professionals who “own” it and implement it. It also needs to resonate with, and be utilised by, communities, families and individuals.

While there are many expert health service providers and nutrition specialists working in Cape York, a consistent strategic approach is required that is aligned to best practice and latest evidence and this important strategy provides the framework to progress this.

Dr Mark Wenitong

Senior Medical Officer

Apunipima – Cape York Health Council

Background to development of the Cape York Food and Nutrition Strategy

The Cape York Food and Nutrition Strategy sets the strategic direction and operational framework for the Cape York nutrition workforce and key stakeholders over the next 5 years. The strategy will assist with the coordination and prioritisation of nutrition services and initiatives in and to the Cape York region. It is intended to enhance collaborative partnerships, avoid duplication and ensure consistency of services to all communities.

At the time of the development of the Cape York Food and Nutrition Strategy (June 2012), the Cape York nutrition workforce included public health nutritionists, community nutritionists, nutrition promotion health workers and community dietitians that work across the continuum of care. A number of other service providers and staff in Cape York work on a range of nutrition initiatives in Cape York and we have endeavoured to capture their work as part of this strategy also.

The Cape York Food and Nutrition Strategy is underpinned by the Ottawa Charter for Health Promotion [12] and also acknowledges the ongoing transition of Cape York communities to a community-controlled 'grass roots' approach to health care delivery [14].

Key state and national strategic documents were considered as part of the development of the Cape York Food and Nutrition Strategy. These include:

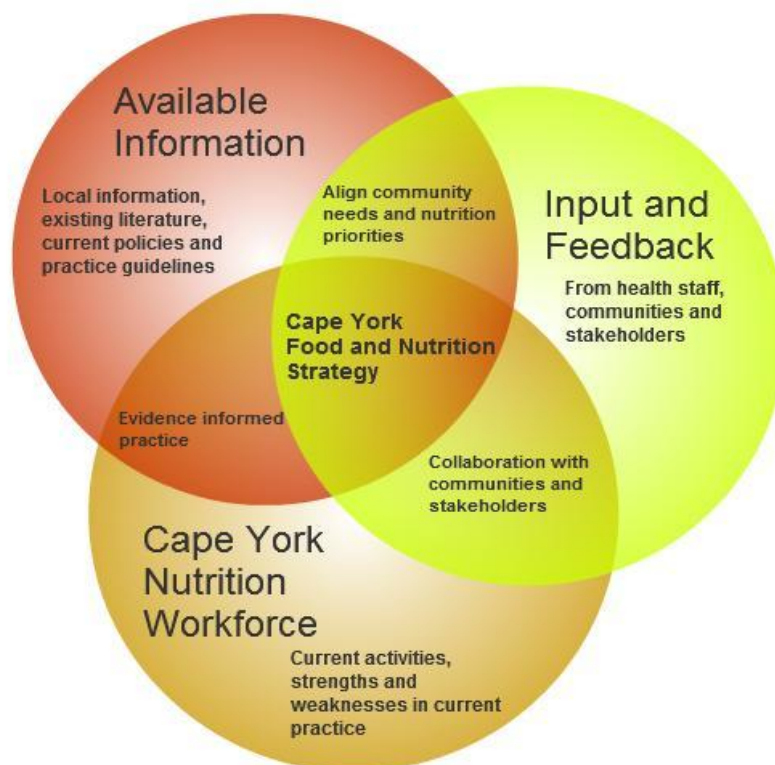
- Eat Well Queensland: Smart Eating for a Healthier State 2002-2012 [15]
- Queensland Strategy for Chronic Disease 2005-2015 [16]
- The National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan (2000-2010) [17]
- National Indigenous Reform Agreement (Closing the Gap) [18]
- National Strategy for Food Security in Remote Indigenous Communities (2009) [9]
- National Food Plan Green Paper (2012) [19]

We acknowledge that as part of the federal government's commitment to refocus the health system towards prevention, a comprehensive National Nutrition Policy will be developed over the next 3 years. A National Aboriginal and Torres Strait Islander Health Plan is also currently being drafted. The release of the Aboriginal and Torres Strait Islander Health Survey will provide up to date information on health and nutrition status, and is expected to be released October 2013

A summary report that highlights the key nutrition issues for Cape York is available from the Cape York Nutrition Network on request. The summary report is not intended to be a full systematic review of all available literature but will inform stakeholders of the current literature on selected nutrition related issues, and provides an evidence base for the development of the Cape York Food and Nutrition Strategy.

Figure 1.

Development process for the
Cape York Food and Nutrition Strategy



Vision for Nutrition in Cape York

By the Cape York Nutrition Network

- That people will feel empowered take ownership over their health and strive for a healthier lifestyle
- That all people will have access to sufficient amounts of healthy, affordable and quality food.
- That all children will have the opportunity to grow and develop to their full potential.
- That families will have the knowledge, skills, equipment and storage required to prepare healthy meals, budget for food and stay food safe.
- That all families will receive support and assistance to maintain a healthy weight and prevent and/or self-manage their chronic disease.
- That vulnerable groups will receive quality nutritional care.

Nutrition Related Health in Cape York

Good nutrition, healthy eating and maintaining a healthy weight are essential for the health and wellbeing of any community, family or individual [15]. It is well documented that Aboriginal and Torres Strait Islander people experience significantly poorer health outcomes compared with other Australians, in particular nutrition related health [20, 21].

Cape York is considered an area of health disadvantage. Across Cape York, there are significant barriers in ensuring that everyone has the opportunity to 1) have good nutritional status, 2) eat foods which are both healthy and affordable, and 3) have a lifestyle which supports the maintenance of a healthy weight and prevention of chronic disease. The region is predominantly classified as very remote [22] with an estimated population of 11,700 residents [23]. Cape York has a high proportion of Aboriginal and Torres Strait Islander people (51.3%) compared to the rest of Queensland (3.3%) [23]. The median age at death for Aboriginal and Torres Strait Islander people living in Cape York is approximately 20 years less than that of non-Aboriginal and Torres Strait Islander people [24].

Aboriginal people traditionally embraced a hunter-gatherer lifestyle which was nutrient dense and not excessive in energy [21]. There is no evidence that cardiovascular disease or type 2 diabetes existed as part of a traditional hunter-gatherer lifestyle [21]. Following European settlement, Aboriginal people were forced to depend on ration foods such as flour, sugar and tea that were inadequate in quantity and quality. This led to a breakdown in traditional food practices. A contemporary diet for Aboriginal and Torres Strait Islander people is generally high in fat, sugar and salt, and particularly energy dense. Poor dietary practices now impact greatly on the health of Aboriginal and Torres Strait Islander people [21, 25].

Overweight and obesity, together with physical inactivity are among the most significant risk factors affecting Aboriginal and Torres Strait Islander health [26]. Together with tobacco, these risk factors lead to chronic diseases such as cardiovascular disease and type 2 diabetes, which are responsible for the majority of the gap in life expectancy of Aboriginal and Torres Strait Islander people [27]. In Cape York, the leading cause of death between 2002-2005 was due to diseases of the circulatory system [24]. The hospital separation rate for coronary heart disease for Cape York health service district was 98% higher than the rest of Queensland [24]. Hospitalisation for Type 2 Diabetes was more than three times the rate of Queensland. Other nutrition related issues such as high blood cholesterol, high blood pressure, low fruit and vegetable intake and excessive alcohol consumption are also major contributors to the Aboriginal and Torres Strait Islander health gap. If we are going to improve the life expectancy of Aboriginal and Torres Strait Islander people, action needs to be taken to prevent these chronic diseases.

Nutrition and growth in early life are major determinants of health in adult life. The prevention of chronic disease needs to start with healthy mothers, infants and children [28]. Good nutrition during pregnancy and the first two years of a child's life can have a profound impact on a child's growth and development [29]. Indicators of poor health and nutrition in early life include low birth weight, poor growth in early life and overweight and obesity in childhood [11]. The Cape York Health Service district has a higher rate of low birth weight (< 2500 g) babies compared to the rest of Queensland [24]. In 2010-11, 11.2 per cent of all babies born from the Cape York Health Service district were registered as low birth weight, compared to a general figure of 4.6% of births for the rest of Queensland [7, 24].

There are a higher proportion of children and young people living in Cape York than the rest of Queensland. Over one third of the Aboriginal and Torres Strait Islander population in Cape York is under 14 years of age [24]. More than 25% of Aboriginal mothers in far north Queensland are less than 20 years of age, compared to less than 5% of non-Aboriginal mothers in far north Queensland [30]. The high proportion of young people and mothers having children at a younger age in Cape York has implications for health across the whole lifespan [31].

The broader determinants of health affecting Cape York

The National Strategy for Food Security in Remote Indigenous Communities [9, 10] defines the following terms:

Food security is the ability of individuals, households and communities to acquire appropriate and nutritious food on a regular and reliable basis using socially acceptable means.

Food supply refers to the availability, cost, quality, variety and promotion of foods for local population groups that will meet nutritional requirements.

Food access refers to the range of physical and financial resources, supports, and knowledge, skills and preference that people have to access and consume nutritious food.

The broader determinants of health such as poverty, low levels of education and high levels of overcrowding are common underlying factors contributing to the poor health of people living in Cape York [32]. Even though some of the broader determinants of health sit outside the scope of the Cape York Food and Nutrition Strategy, they still need to be acknowledged due to the poor health outcomes they impose on Cape York communities.

People living in disadvantaged areas are generally at greater risk of chronic disease. The prevalence of overweight and obesity is 26% higher in the most disadvantaged areas of Queensland compared to the most advantaged areas [33]. Difficulty with employment and finances can affect food security, which also has implications for chronic disease [34]. Nearly all areas in the Cape York Region are classified as low socioeconomic status [24, 35]. The average personal income in Cape York is approximately 60% of the Australian average [36]. The Cape York Employment Strategy reports that there are very few 'real' jobs. Of the Aboriginal and Torres Strait Islander people aged over 15 years in Cape York, 60% are eligible for employment. Of those, 45% are employed under the community development employment program (CDEP), 12% are in other employment and 3% are unemployed [32].

Education and retention rates at secondary school are problematic in Cape York. Students from Cape York communities are usually required to attend boarding school in order to complete their secondary education. Approximately 43% of persons over 15 years in Cape York did not complete year 10 or equivalent [23]. Furthermore, only 9% of Aboriginal and Torres Strait Islander people in Cape York achieved year 12 or equivalent schooling, compared to 22% of Indigenous Queenslanders, and 38% of non-Indigenous Queenslanders [32].

Overcrowded living conditions are also a major issue in Cape York. Approximately 14% of Aboriginal and Torres Strait Islander households in Cape York are overcrowded with 27% of Aboriginal and Torres Strait Islander people living in overcrowded conditions [32]. 7.3% of all houses in Cape York with Aboriginal and Torres Strait Islander people living in them had 10 or more people compared to 1.2% in the rest of Queensland [32].

High risk behaviours can affect the health of families. Using available money to purchase alcohol, tobacco and illicit substances decreases the amount of money available to purchase food. This in turn can affect the food security of families. During 1999-2001, greater than 70% of people over 15 years of age in Cape York were smokers compared to 16% of people over 18 years old in the rest of Queensland [37]. A study from the United States found that food insecurity was experienced in 25.7% of adults in households with smokers, compared to 11.6% of adults in households without smokers [38]. Many of the communities in Cape York have alcohol management plans that have led to a decrease in alcohol consumption and related injury and violence [39]. However, illicit drug use in these communities is thought to be on the increase [39]. Nationally, approximately a quarter (23%) of Aboriginal and Torres Strait Islander people had recently used an illicit substance, and marijuana was the most common substance used [40]. Gambling has also been identified as a behaviour which decreases the amount of money available to purchase food.

Factors contributing to the poor health of Aboriginal and Torres Strait Islander people are complex, and are entwined within the broader determinants of health. Similarly, the nutrition issues and subsequent nutrition related illness experienced by Aboriginal and Torres Strait Islander people,

and management of these conditions is complex. A multifaceted approach to prevent and manage the poor health caused by inadequate nutrition is required.

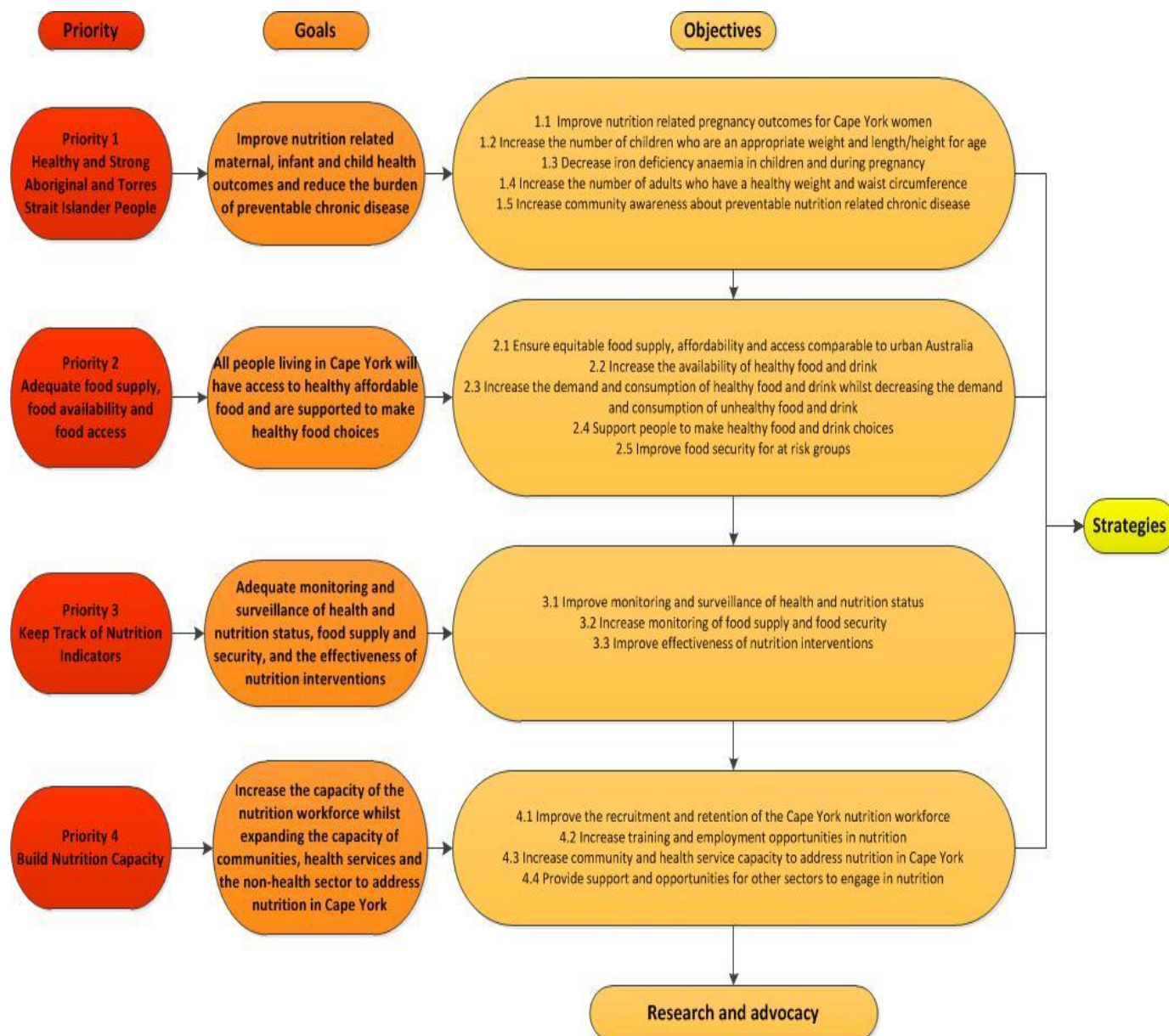
Guiding principles for the Cape York Food and Nutrition Strategy

1. The strategy aims to capture nutrition work across the whole continuum of care.
2. The focus of the strategy is for Aboriginal and Torres Strait Islander people, who make up the majority of the population living in Cape York.
3. The strategy encompasses a family centred approach to health care.
4. The strategy is evidence based, but also supports emerging and innovative approaches to nutrition.
5. The strategy is flexible enough for nutrition initiatives to be tailored to individual community's needs.
6. The strategy provides a reflection of past and current nutrition work and also the direction for the future.
7. The strategy is broad enough for specific components to be addressed at different levels of government depending on the political environment.
8. There is no funding attached for the implementation of the strategy, and additional funding will need to be sourced as the current Cape York nutrition workforce does not have the capacity to implement the full set of strategies.

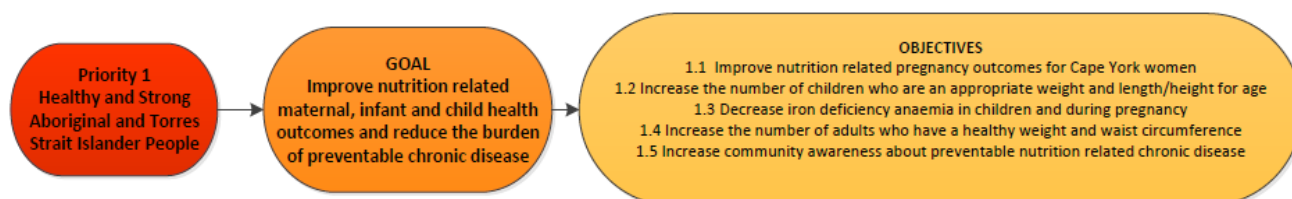


Framework for the Cape York Food and Nutrition Strategy

Figure 2.



Nutrition Priority 1 – Healthy and Strong Aboriginal and Torres Strait Islander People



There is good evidence that the effects of poor nutrition in pregnancy and during early life have lifelong consequences, including the onset of chronic disease [41]. Adequate nutrition plays a key role in the growth and development of babies and children, and is also vital for good maternal health and positive pregnancy outcomes. Poor maternal health, diabetes in pregnancy, low birth weight, iron deficiency anaemia, compromised growth in infancy and overweight and obesity in childhood are all of concern in Aboriginal communities.

The burden of chronic disease has significantly reduced the life expectancy of people living in Cape York. One third of the Aboriginal and Torres Strait Islander population is between 25 and 44 years and only 18% of the population is over 45 years of age [24]. Chronic diseases are substantially influenced by modifiable behaviours such as smoking, poor nutrition, alcohol consumption and physical inactivity. These behaviours greatly impact on the development of cardiovascular disease, diabetes and chronic kidney disease [20].

What did people say about nutrition for mothers, infants and children?

“The fruit and veg vouchers for pregnant mums are good”

— Health Worker

“The kids are a healthy weight but they are short, especially the boys” -School Teacher

“We seem to have two extremes - underweight kids and overweight kids” — Health Worker

“I see more skinny mums than overweight mums”

— Midwife

“I see kids drinking coke instead of milk, what does that do to their bones?” — Store manager

“Low iron in kids is a big problem, it affects how they learn at school”

— Health Worker

Mothers need to feel empowered to make healthy choices for their kids”

— Child Health Nurse

“We need to start with healthy mums in pregnancy and during breastfeeding”

— Health Worker

1.1 Improve nutrition related pregnancy outcomes for Cape York women

Improving nutrition related pregnancy outcomes for women has the potential to improve the health of the whole community, specifically for children's growth and development. Pregnant women are particularly at risk of nutrient deficiencies. This is due to increased nutrient demands to meet foetal requirements for growth and development. It is often difficult for mothers to meet the increased nutrient requirements during pregnancy through food alone [42, 43]. This may be even harder for mothers in Cape York due to issues around food security, food availability and food affordability. Micronutrient supplementation can assist women to achieve their increased nutrient requirements during pregnancy [44]. Folate supplementation for women planning to become pregnant and during the first 12 weeks of pregnancy, and iodine supplementation during pregnancy and breastfeeding is recommended nationally [45, 46]. Iron requirements in pregnancy are also particularly high, especially during the later half of pregnancy when the pregnant mother provides iron stores to her unborn child [45, 47]. There is emerging evidence for the use of multimicronutrient supplementation during pregnancy that includes iron and other micronutrients, rather than folate and iodine supplementation alone [44, 48].

Evidence shows that Aboriginal and Torres Strait Islander women of childbearing age have a high prevalence of low red cell folate [49]. There is evidence that folate supplementation in pregnant women can increase infants weight at birth [48, 49]. Folate deficiency is also an independent risk factor for cardiovascular disease. A recent study reported that the prevalence of low red cell folate was higher in Aboriginal participants (25.6%) than Torres Strait Islander participants (14.8%) [49]. The prevalence of folate deficiency among the general Queensland population is estimated at 2.5%. Smoking doubles the risk of having low red cell folate, independent of fruit and vegetable intake and alcohol consumption [49]. In 2010-11, 56.1% of Aboriginal and Torres Strait Islander women in Cape York smoked during their pregnancy, and this has decreased from 69.8% in 2005-2006 [30]. As women in Cape York have a high rate of tobacco use and high rates of chronic disease, smoking interventions should be widely targeted across all age groups to improve nutritional status and decrease risk of chronic disease.

Poorly controlled type 2 diabetes and gestational diabetes in pregnancy can predispose infants to chronic disease in adult life [50, 51]. The incidence of type 2 diabetes among young women aged 25-34 years in Cape York is 6 times the mainstream rate [30]. Between 2001-2005, 7.2% of pregnant women in Cape York had some form of diabetes in pregnancy [24]. While this is not much higher than the rest of the state, mothers in Cape York tend to be younger than other Queensland mothers and therefore the expected rate of diabetes in pregnancy would be less than the rest of Queensland. A healthy weight gain during pregnancy (not too much and not too little) is also important for good health outcomes for the mother and child [31]. An emphasis on initiatives

which promote a healthy weight gain and aim to prevent and effectively manage diabetes during pregnancy in Cape York women is needed.

Key Strategies:

- Provide consistent education for nutrition during pregnancy, specifically targeted to adolescents (e.g. Core of life)
- Develop and implement a protocol for micronutrient supplementation during pregnancy and breastfeeding for the Cape York Region
- Collaborate with store groups to ensure adequate supply and availability of foods fortified with folate, iodine and iron
- Broaden the Apunipima fruit and vegetable vouchers to improve nutritional status during pregnancy
- Improve the nutritional management of gestational diabetes and type 2 diabetes in pregnancy

Apunipima Baby Basket Project – A Making Tracks Initiative

The Apunipima Baby Basket project was developed to improve maternal and child health key performance indicators, specifically early antenatal presentation at clinics. In 2010-11, over 90% of pregnant women in Cape York attended 5 or more antenatal visits [7]. The baby basket project is funded through *Making Tracks*.

Three baby baskets are provided – at presentation at their first antenatal visit, prior to giving birth (arrival in Cairns) and when baby is around 6 months old. The baby baskets contain specific items, resources and educational materials to assist the mother during and after her pregnancy. The baby baskets are a great opportunity to educate mums about birthing, breastfeeding, baby care, the effects of smoking and alcohol, and good nutrition.

As part of the first baby basket, each mother is eligible for up to \$200 worth of fruit and vegetable vouchers for attending regular antenatal check-ups. The vouchers are a great way to promote good nutrition during pregnancy, and support the mother to purchase additional fruit and vegetables.

Nutrition related items in the baby baskets include folate supplements, the Bunjulbai booklet containing nutrition information, iron fortified cereal, a sipper cup, bowl and spoon to support complementary feeding.

1.2 Increase the number of children who are an appropriate weight/length for age

The rate of low birth weight babies is still higher in the Cape York (11.2%) compared to the rest of Queensland (4.6%) [7, 24] despite the rate of low birth weight babies decreasing from 14.5% in 2005-06 [7]. Low birth weight babies are at higher risk of mortality, have increased risk of experiencing learning difficulties and developing chronic disease later in life [31, 41]. Low birth weight and under nutrition during childhood are risk factors for chronic disease in adulthood, especially if they undergo rapid postnatal weight gain as infants [11, 41].

Breast milk is the ideal food for infants, and contains all the nutrients an infant needs for the first six months of life. Exclusively breastfed infants have a lower risk of gastrointestinal infections and otitis media, and higher haemoglobin concentrations [52]. Exclusively breastfed infants are thought to regulate their energy intake compared to formula fed infants, who often measure heavier between 9-12 months of age [53]. Continued breastfeeding is encouraged for the first 2 years of life as it continues to provide substantial amounts of key nutrients [53, 54]. Even though breastfeeding is the optimal source of nutrition for infants, a significant number of women in Cape York are thought to formula feed. Adequate support and information about how to formula feed safely and appropriately needs to be available to these women.

When a child is approximately 6 months of age, complementary foods are needed to ensure adequate nutrition and growth, as breast milk alone can no longer supply all of an infant's nutritional requirements, particularly for iron [53]. The right timing of complementary foods is important [53]. If complementary foods are introduced too early it can lead to increased infections and gastrointestinal problems, and if complementary foods are introduced too late it can lead to poor growth and malnutrition [54]. Complementary foods should be rich in nutrients and energy, clean and safe, locally available and affordable and easy to prepare from family foods [54]. Complementary foods need to include good sources of iron and zinc such as meat, fish, eggs and iron fortified cereal [45, 54].

Although the growth of Aboriginal and Torres Strait Islander children is generally improving, the rate of underweight, stunting and wasting in Aboriginal and Torres Strait Islander settings is higher than a healthy population profile where the expected prevalence of underweight is less than 2.3% [13]. Children in disadvantaged areas tend to become stunted over a longer period of time as a result of inappropriate weaning practices, repeated infections and poor diet [55, 56]. Stunting also has implications for the development of chronic disease. There is a significant association between stunting and overweight status in children [56]. More emphasis is to be placed on the prevention of growth faltering in Cape York that includes collaboration with a range of services and stakeholders. In order to prevent growth faltering, initiatives need to be targeted to community based nutrition education and comprehensive interventions that address the underlying causes of growth faltering

and meet best practice requirements [55]. Interventions need to involve carers, families, community health workers and community representatives.

In 2007-2008, over one quarter of Australian children aged 5-17 were overweight or obese [57]. In Queensland, 18.1% and 8.5% of children are classified as overweight and obese, respectively [33]. Childhood overweight and obesity is thought to be on the rise in Cape York, similar to the rest of Australia. We currently do not have information on the prevalence of childhood overweight and obesity in Cape York, although findings from the Northern Territory show that rates of childhood overweight and obesity among Aboriginal and Torres Strait Islander children is on the rise [6]. Interventions aimed at changing lifestyle behaviours such as increasing physical activity and increasing healthy dietary habits tend to result in small positive changes in behaviour but often there is no evidence that they have a significant effect on body mass index [11]. There is limited evidence for successful interventions targeting Aboriginal and Torres Strait Islander families of overweight and obese children. There is still a great need for interventions aimed at improving weight status to be targeted at the wider environment such as addressing the cost of healthy foods, food assistance programs, better food labelling, transport and taxes [11, 58].

Key Strategies:

- Ensure that adequate support and information is available to women about feeding infants and children
- Engage families in community based nutrition education and activities to support complementary feeding and healthy family foods
- Improve management of growth faltering in line with best practice principles (promotion of high nutrient foods rather than just high energy)
- Trial weight management programs for families of overweight children

1.3 Decrease iron deficiency anaemia in children and during pregnancy

High rates of iron deficiency and iron deficiency anaemia in infants and children in Cape York is a concern for childhood growth and development [59]. Prevention of anaemia is vital because if not treated early, anaemia can cause long term problems with learning and memory [60-62]. Analysis of child health check data from Cape York showed the prevalence of anaemia in children aged 6 months to 5 years of age to be approximately 25% [31], which is comparative to the prevalence of anaemia in Northern Territory communities at 22% [13]. A national survey of 1371 kids aged 9 months to 4 years of age in 2004 found that only 2% had anaemia [63].

Key Strategies:

- Conduct routine measurement of iron status of young women, pregnant women, infants and children
- Implement effective programs to prevent and manage anaemia in infants and children
- Promote availability of high iron baby foods and development of new high iron formulations

Kowanyama Sprinkles Project

(The Fred Hollows Foundation Early Childhood Nutrition and Anaemia Prevention Project Pilot)

The Sprinkles project is a pilot which aims to prevent iron deficiency and anaemia in children. Anaemia is generally treated with iron supplements, but the effects of the anaemia on brain development do not generally improve with supplementation. The best approach is to prevent anaemia in the first place. To prevent anaemia, children aged 6 -24 months in Kowanyama are provided with a daily sachet of a multimicronutrient supplement (Sprinkles) which is to be consumed with food. Community based education about high iron foods, complementary feeding and healthy family foods is also provided to study participants. Children who are identified as anaemic are not eligible to receive the sprinkles supplement.

Ten communities across Northern Australia are participating in the Sprinkles project. Results from the Sprinkles project are expected in mid-2012.

Aurukun Strong Blood Program

The Aurukun Strong Blood Program aims to assess the number of children suffering from poor growth and anaemia, and tailor appropriate interventions accordingly.

Results from the Aurukun Strong Blood Program are expected in late 2012, but preliminary results show high rates of anaemia and stunting, likely to be caused by chronic malnutrition.

1.4 Increase the number of adults who have a healthy weight and waist circumference

What did people say about a healthy weight and chronic disease?

“Some people keep on eating and eating and then they find out that they are diabetic” – Community Member

“People still go out a lot on the weekends. They eat fish and wallaby and damper cooked in ashes”
– Community Member

“There needs to be more education. Not just for the women but the men too”
– Midwife

“I am going to live happy and die happy”
– Community Member

“Now people have cars, everything has changed – what they do, what they eat”
– Community Member

“How do we get people motivated to have a healthy weight?” –
Health Worker

“You need to start with the kids and they will pass the messages to the adults”
– Community Member

“Can we have more displays for healthy eating? In the clinic and the store – Health Worker

Improving nutrition and controlling rates of overweight and obesity through diet and physical activity interventions are vital to the prevention and management of chronic disease [20]. Even a small weight loss can provide substantial health benefits. Reduction of dietary energy can achieve weight loss in the short term, but to maintain weight loss the requirements include attention also to behaviour change and regular physical activity [26]. Adopting healthy behaviours following the onset of chronic disease has been shown to reduce the progression and severity of the disease, increase functioning and extend longevity [64]. However, long term changes are needed to have a positive effect on health. This is often difficult as unhealthy behaviours become well-established habits that are often difficult to change when they have been repeated over a lifetime [64].

Three quarters of the burden of type 2 diabetes are due to being overweight or obese and being physically inactive [20]. According to the Cape York Health Service District Summary Report – Self Reported Health Status 2009-2010, 57.2% of adults were classified as overweight or obese, and 44.1% of adults were not engaged in regular physical activity at a sufficient level of health benefit [65]. In terms of dietary intake, 55.9% of adults reported that they consume the recommended two serves of fruit per day. Only 9.6% of adults reported that they consumed the recommended five serves of vegetables per day. The average intake of vegetables by adults was only half (2.6 serves) of what is recommended each day.

The diagnosis of a health condition is often a strong motivator for dietary change, and therefore interventions need to be targeted accordingly. Barriers to making positive dietary changes include the perceived higher cost of healthier foods, lack of family support, generational food preferences, poor oral health and depression [66].

There is limited published literature on the impact of nutrition related social marketing for Aboriginal and Torres Strait Islander settings. Queensland Health did conduct a series of focus groups with Aboriginal and Torres Strait Islander communities to determine whether the mainstream Go For 2&5 vegetables campaign was successful in increasing awareness about fruit and vegetable recommendations [67]. Even though people were generally familiar with the campaign, knowledge about the recommended daily serves of fruit and vegetables and the impact on increasing fruit and vegetable intake remained limited. Financial considerations were reported as the key barrier to increasing fruit and vegetable consumption [67]. This research emphasises that tailored social marketing campaigns that are culturally appropriate and take into account the broader determinants of health are required for Aboriginal and Torres Strait Islander settings.

Key Strategies:

- Implement appropriate and targeted social marketing campaigns to promote healthy weight and waist circumference (e.g. activities to support Swap It)
- Review and implement effective healthy lifestyle and weight management programs for Indigenous settings
- Support sustainable physical activity programs (e.g. Dance Combat, Beat It)
- Collaborate with councils to create supportive environments for healthy eating and physical activity

Swap It, Don't Stop It Campaign [3]

The Swap It Campaign is part of the Australian Government's Measure Up campaign. It is designed to show people how they can take steps to help reduce their waist measurement and improve general health and wellbeing. The Swap It campaign provides simple 'how' advice to help people reduce their waistline and lead a healthier lifestyle.

The Swap It campaign emphasises that lifestyle change is achievable, and is focused on positive thinking – that you can enjoy the things you love by cutting back, not cutting out. It also aims to be practical and encourages small positive changes in healthy eating and physical activity rather than drastic changes.

1.5 Increase community awareness about preventable nutrition related chronic disease

A high burden of chronic disease in Cape York is due to conditions such as cardiovascular disease, diabetes and chronic kidney disease. Chronic diseases are substantially influenced by modifiable behaviours such as smoking, poor nutrition, alcohol consumption and physical inactivity [64]. The 2001 Well Persons Health Check for Cape York Health Service District reports that approximately half of the men and women over the age of 35 had high blood pressure and approximately one third had high cholesterol [68]. The prevalence of type 2 diabetes among Aboriginal and Torres Strait Islander people is nearly four times the prevalence that is reported by non-Indigenous Australians [20]. The rate of type 2 diabetes mortality for the Cape York Health Service District is 289 per cent higher than the rest of Queensland [24].

Chronic kidney disease is commonly caused by poorly controlled high blood pressure and type 2 diabetes. Aboriginal and Torres Strait Islander people living in remote areas are at a greater risk of developing chronic kidney disease [69]. Between 2007-2008, Aboriginal and Torres Strait Islander people encompassed nearly 10% of new cases of end stage kidney disease, even though they represent only 2.5% of the Australian population [69]. Between 2008 and 2009, the hospitalisation rate for dialysis treatment among Aboriginal and Torres Strait Islander people was 11 times higher than for other Australians [69]. Management of end stage chronic kidney disease in remote areas is problematic and expensive, and therefore the focus needs to be on prevention.

Key Strategies:

- Support the development and implementation of appropriate and targeted community based initiatives for the prevention of chronic disease
- Support chronic disease self-management processes
- Improve community based care for chronic kidney disease and end stage kidney disease

Research and advocacy

- Conduct further research into breastfeeding and complementary feeding practices

Living Strong Program

Living strong is a group based lifestyle program that targets the adult Aboriginal and/or Torres Strait Islander populations [5]. An evaluation of 34 participants from the Queensland healthy weight program Living Strong found that over half the participants lost a significant amount of weight (56.5%). Most participants also indicated that they were making positive dietary changes through a qualitative questionnaire. The Living Strong program did not evaluate long term changes to diet or weight. Barriers to the success of the program were identified as poor attendance, lack of marketing and facilitator capability [5].

Nutrition Priority 2 – Adequate Food Supply, Food Availability and Food Access



What did people say about the availability and affordability of healthy foods?

“People buy lots of takeaways. Kids buy fried food and a coke for lunch”
– School teacher

“It would be good if the fruit and vegetables were cheaper” – Health Worker

“People like eating good food like bush tucker” –
Community member

“The biggest issue is the amount of junk people buy”
– Store Manager

“It would be good to have healthy food in the bairnaries at the stores and takeaways” – Store manager

“There is no tuckshop here, the kids don’t have healthy options”
– School Teacher

“Some healthy foods are too expensive”
– Community member

“The fruit and vegetables are nearly rotten by the time they get to the store”
– Community member

“It would be good if the stores were owned by the community”
– Community member

“People do the feast and famine thing”
–Health Worker

“During the mission times, all the communities had big gardens”
– Community Member

“Why can’t they just subsidise the healthy food?”
–Community Member

“I’d support a food subsidy by the government”
– Store Manager

“Garden projects could work, but there needs to be a well thought out plan” –Health Worker

“Why does all the food at community events have to be unhealthy? Sausages sizzles don’t set a good example”
– Health Worker

“Schools need to have healthy food available for kids”
– Director of Nursing

The remoteness of Cape York presents barriers for people to access healthy, affordable and quality food. The food supply in Cape York is affected by seasonality, with road access being cut to some communities for approximately 5 months of the year. In Cape York, food is delivered by truck during the dry season and by barge or plane during the wet season. Selected areas of Cape York rely on emergency resupply on an annual basis.

In remote areas, stores and takeaways provide approximately 90-95% of all food that is consumed in the community [6, 8]. Local community stores have the potential to positively influence the diet of community members through well supported nutrition programs. Initiatives that support the use of traditional bush foods and development of well-planned local food production projects can also encourage healthy eating behaviours. Increasing the variety of healthy foods available at local settings, and using strategies to increase the demand for healthy foods can result in positive health outcomes [6].

2.1 Ensure equitable food affordability, food availability and food access comparable to urban Australia

Good nutrition should be everybody's business, not just that of the nutrition workforce. Some of the key initiatives to improve food supply, access and affordability lie outside of the health sector. This is certainly the case in Cape York, which is affected by broader determinants of health such as poverty, overcrowded living conditions and low levels of education.

Remote areas such as Cape York experience higher food costs due to the increased cost that stores experience to cover freight, infrastructure and maintenance [8]. Remote and very remote stores are more likely to be independently owned or belong to chains with smaller buying power and stock a smaller range of generic products [70]. In Queensland, areas greater than 2,000km away from Brisbane can expect to pay at least 30% more for food [70]. The cost of fruit, vegetables and legumes more than 2,000 km from Brisbane is approximately 38.2% higher [70].

High food costs can act as a barrier to healthy eating, especially for socially disadvantaged groups. Approximately 30% of Aboriginal and Torres Strait Islander people are thought to experience food insecurity [34, 71]. Food security is also linked to obesity, where the risk of obesity is 20-40% higher in individuals who are food insecure [72]. Peoples dietary choices when experiencing financial difficulty tend to be driven by maximising energy value for money [73]. The combination of a limited income and high cost of healthy foods result in people purchasing a limited variety of 'cheap filling' foods such as bread, flour and white rice [8, 71, 73]. These foods are lower in cost compared to nutrient dense foods such as vegetables, fruit, lean meat and low fat dairy products [8]. Although bread, flour and white rice are not unhealthy foods, a healthy diet cannot be achieved if a range of foods from the other groups are not regularly consumed. This style of food purchasing is known as the 'economics of food choice theory', and is a major barrier for people to achieve a healthy diet [73].

Adequate household infrastructure such as working fridges, stoves, food preparation equipment and storage facilities are essential to prepare healthy meals and stay food safe. The adequacy of household infrastructure in Cape York is unknown. A study measuring household infrastructure in

Aboriginal communities in the Northern Territory reported that infrastructure commonly identified as not present or functioning were those required for the storage and preparation of food [74].

Key Strategies:

- Formation of a Cape York food supply working group to advocate for improvements in food availability and affordability to all levels of government
- Investigate improved models of transport to decrease cost and increase regular supply of goods
- Explore other mechanisms to improve food affordability, particularly for healthy foods (e.g. external subsidy, co-contribution card)
- Support initiatives that increase the supply of goods during the wet season (resupply guidelines)
- Investigate household infrastructure and opportunities to develop partnerships with other organisations to improve health hardware (fridge, stove, cooking equipment)
- Support regulation of the food industry in Cape York through appropriate food licencing

The Menzies School of Health Research – The Good Food Systems:

Good Food for All Project

This project is helping to empower four remote communities (Hopevale in QLD and 3 other remote communities in the NT) to improve the capacity of their community groups, store committees and other stakeholders involved in food security to plan together, monitor and support action for the improvement in the supply of food and people's access to food.

A number of practical and interactive planning and monitoring tools that support decision making have been developed and used to support planning, reflection and feedback which include the Food Systems Assessment Tool (FSAT), stores checklist, RIST Keeping Track of Healthy Foods tool and food sales reports and a Capacity Assessment Tool.

This project commenced in June 2009 and is planned to be completed in June 2013.

2.2 Increase the availability of healthy food and drink

Core foods are basic healthy foods that make up the main food groups such as fruit, vegetables, lean meat, low fat dairy and wholegrain bread and cereal products. To achieve a healthy diet, core foods should make up the majority of what is consumed. High consumption of 'cheap filling' food and drinks (also known as non-core food and drink) can contribute to the development of overweight and lead to chronic disease [26]. The sale of large quantities of non-core food and drink in Aboriginal and Torres Strait Islander communities is concerning. In Aboriginal communities, 44 % by weight/volume of food and drink sales are non-core food and drinks [8]. The amount of high

sugar soft drinks sold is 156 per cent higher than the quantity of fruit and vegetables sold in Aboriginal communities [8]. Furthermore, in Aboriginal communities, there are more than 12 full sugar soft drinks for every diet soft drink sold, compared to an average of 2.2 full sugar soft drinks for every diet drink sold in other parts of Australia.

National and state nutrition policies and guidelines are available for early childhood settings [75] and schools [1]; however, they are often not implemented throughout Cape York. This is thought to be due to a number of reasons including high staff turnover, lack of support and guidelines which are appropriate to remote and Aboriginal and Torres Strait Islander Settings.

Catering guidelines provide an opportunity to role model healthy eating behaviour, and has the potential to improve the nutrition related health of staff and community members [76-78]. As Aboriginal and Torres Strait Islander people suffer and overall burden of disease that is 2.5 times that of the Australian population, it makes sense to be providing healthy food and beverage options at every opportunity available.

Key Strategies:

- Implement healthy food and drink policy and/or guidelines in local store and takeaways (e.g. product placement, planograms)
- Work in partnership with councils to create supportive environments for healthy food and drink choices (e.g. incentives to stock healthy foods through council fees, food licencing based on type of food sold, warehousing)
- Support community garden and primary industry projects that increase the availability of locally produced foods (e.g. Stephanie Alexander Kitchen Gardens)
- Promote benefits of traditional food practices as part of community nutrition programs (as a means of improving nutrition, increasing physical activity and fostering social and emotional wellbeing)
- Support community based programs that increase the availability of healthy food and drink (e.g. Smart choices in schools and tuckshops, school breakfast programs, sporting facilities)
- Support the implementation of catering guidelines in workplaces (ABC, QAIHC, councils)

Smart Choices – Healthy Food and Drink Supply Strategy for Queensland Schools [1]

Smart Choices acknowledges that schools have an important role in promoting healthy eating and physical activity to students and providing an environment that supports a healthy lifestyle. Effective school based nutrition and health interventions can also help improve academic performance.

The Smart Choices strategy aims to address the nutritional value of food and drinks supplied at school or school activities by offering healthy choices. This covers foods supplied in the school environment such as tuckshops, vending machines, school camps, fundraising, classroom rewards, school events and foods used in curriculum activities.

Remote Indigenous Stores and Takeaways (RIST) Resources

The RIST resources were designed to assist managers of stores and takeaways in remote Indigenous communities to provide and promote healthy food and drink choices. An evaluation of the RIST resources was conducted in 2010 and it was found that the resources were used mainly by nutritionists rather than store managers [8].

Commonly used resources include:

- Guidelines for remote community stores: guidelines for stocking healthy food in remote community stores
- Marketing ideas for healthy food in remote community stores
- Checklist: How healthy is your store?
- Heart foundation buyers guide
- Maximising the shelf life of fruit and vegetables

2.3 Increase the demand and consumption of healthy food and drink whilst decreasing the demand and consumption of unhealthy food and drink

Local community stores have the potential to positively influence the diet of community members through well supported nutrition programs. Increasing the variety of healthy foods available and using strategies to increase the demand for healthy foods can have positive health outcomes [6]. The Remote Indigenous Stores and Takeaways (RIST) evaluation found that store managers generally support promotion of healthy choices, but are time poor and lack relevant nutrition expertise. Store managers have the core responsibility of general store operations and maintaining profitability which means they are often unable to undertake the additional work of nutrition promotion. Some store managers would like to make healthier changes to their stores, but want it to be supported by the community. Store managers are generally happy to collaborate with nutritionists who have the capacity to undertake nutrition promotion projects [8]. Generally, successful store based nutrition initiatives are the result of collaboration with and support from store management and other community bodies.

Cross subsidisation is the method of increasing the cost of unhealthy foods and decreasing the cost of healthy foods to support healthful food purchasing behaviours. Some investigations have been made into the effectiveness of cross subsidisation and price elasticity [79], but it is not specific to remote or Aboriginal and Torres Strait Islander settings. It is thought that the limitations in availability of the food supply and the uniqueness of communities in relation to food purchasing behaviours may result in different effects from cross subsidisation and price elasticity compared with the rest of Australia.

Key Strategies:

- Evaluate effectiveness of cross subsidisation practices as a means to increase purchase of healthy foods and decrease purchase of unhealthy foods
- Implement initiatives which assist people to easily identify healthy food and drink choices
- Implement projects that improve the nutritional quality and increase purchase of healthy takeaway foods
- Implement projects that support healthier drink choices

The Jimmy Little 'Thumbs up' For Good Tucker Program [4]

The Jimmy Little 'Thumbs Up' Healthy Food Seal of Approval makes the healthy choice the easy choice. It helps customers of community stores to identify which foods are good for you, will sustain your energy and keep you from getting diabetes by pointing customers to healthy food items like fruit, vegetables, lean meat and water. Participating stores also display the Uncle Jimmy recipe of the month which provides healthy and easy meal options as an alternative to fast food and sugar laden choices. The 'Thumbs Up' School Program is linked to the Healthy Food Seal of Approval. It provides music and new media workshops in schools which are aimed at indigenous children aged 5-16. The 'Thumbs Up' School program promotes healthy eating education and information in partnership with local stores and health services.

Selected stores in the Northern Territory, Western Australia, APY Lands of South Australia and Far North Queensland promote the 'Thumbs Up' message in their community stores including the Retail Stores Group in Kowanyama, Pormpuraaw and Lockhart River.

The Menzies School of Health Research Nutrition Promotion and Education in Remote Community Stores Project

The Menzies Nutrition Promotion and Education in Remote Community Stores Project was undertaken to develop a practical resource package using shelf labels to promote healthier choices in remote indigenous community stores. This project has provided insight into what sort of shelf labelling systems exist, which ones are effective and accepted by remote indigenous communities and how best to work with people in remote communities to develop context-specific shelf label programs for their local stores. Four remote stores across Australia participated in the development and pilot of this project; including the Retail Store in Pormpuraaw. This project was funded by the Fred Hollows Foundation.

2.4 Support people to make healthy food choices

What did people say about making healthy food choices?

“You should put the diabetic food in one place in the store so it is easy to see”

- Community Member

“Labels in the store would be good to show which foods are the healthy ones”

– Community member

“Bad food and drink preferences like Coke are hard to change”

– Health Worker

“The healthy foods should be in your face, at eye level”

– Community member

A combination of the high cost of food in Cape York and lower levels of income can create significant barriers to maintaining a healthy diet. Although food costs and poverty need to be addressed at a government level, it pays to have additional skills in financial literacy and food budgeting at a community level. Increasing knowledge, skills and self-efficacy around healthy eating can enable people to choose a healthier diet, and increase the demand for healthy food at a community level [66].

Key Strategies:

- Implement nutrition initiatives in early childhood settings (e.g. Get up and Grow)
- Provide support to schools to implement nutrition initiatives and build nutrition into the curriculum (e.g. Healthy Jarjums, Need for Feed, Smart Choices)
- Implement financial literacy and food budgeting programs (e.g. Foodcents)
- Implement cooking skills programs as part of other healthy promoting programs (e.g. Good Quick Tukka)
- Link nutrition messages with other health promotion initiatives (oral health, tackling smoking)

Good Quick Tukka Program

The Good Quick Tukka Program was developed by the Queensland Aboriginal and Islander Health Council and aims to increase cooking skills, and the preparation and consumption of nutritious meals.

Good Quick Tukka incorporates a ‘pass it on’ concept to get more people involved in cooking and reinvigorate passion for food in the community.

This program is targeted at children, young people and adults, and also aims to identify enablers and barriers for cooking among Aboriginal and Torres Strait Islander people.

2.5 Improve food security for at risk groups

What did people say about food security?

“Issues such as tobacco, alcohol and drugs mean that nutrition often isn’t a priority”

– Health Worker

“After everything else, there is so little left for families to buy food” – Community member

“I recently saw a lady select a few items including formula and cigarettes. When they added up the total and it was more than she had, she put back the formula and bought the cigarettes” – Store Manager

“Gambling is a big issue, but it is hard to change”

– Community member

The remoteness, higher proportion of Aboriginal and Torres Strait Islander residents and low levels of income have resulted in Cape York being an area of health disadvantage. Certain population groups are particularly vulnerable to food insecurity, poor nutritional status and diet-related disease. These include people on low incomes, Aboriginal and Torres Strait Islander people, homeless people, residents of remote areas, people with mental health problems, people from non-English speaking backgrounds and people with disabilities [15].

High rates of disability, disengaged older people and alcohol and drug use are also apparent in Cape York. Aboriginal and Torres Strait Islander people aged between 0-64 years of age are 2.4 times more likely to need assistance with core activities of daily living than non-Aboriginal and Torres Strait Islander people [80]. Between the ages of 45-54, the rate is nearly triple that of non-indigenous Australians [80]. Furthermore, 46% of Aboriginal and Torres Strait Islander people aged 18-64 years with severe or profound core activity limitations report problems accessing service providers. People who require assistance with core activities of daily living can include actions such as shopping for food, preparing food and being independent with meals. In Cape York, there are approximately 50 people registered with disability services as having moderate or severe disabilities, with another 70 people with less severe disabilities receiving generalised support from disability services [81].

Older Aboriginal and Torres Strait Islander Australians play a significant role in maintaining traditions and links to Indigenous culture, as well as being role models, supporters and educators for the younger generation. The number of older Aboriginal and Torres Strait people (50 years and over) is on the increase. However, older people represent a small proportion of the total Aboriginal and Torres Strait Islander population (12%) compared to the non-Indigenous population over 50 years of age (31%) [82]. Over a quarter of the older Aboriginal and Torres Strait Islander population lives in remote and very remote areas, compared to less than 2% of non-Indigenous

Australians [82]. Older Aboriginal and Torres Strait Islander people tend to use aged care services at both higher rates and younger ages due to their poorer health status and higher levels of socioeconomic disadvantage [82]. The leading cause of disease in older Aboriginal and Torres Strait Islander people is cardiovascular disease followed by cancer, diabetes, chronic respiratory disease and nervous system disorders [70]. Dementia is also an emerging problem for Aboriginal and Torres Strait Islander people at comparatively young ages. Adequate nutrition support needs to be available for elderly and disabled people in Cape York, including support their families and carers.

Key Strategies:

- Explore use of targeted programs and other support mechanisms to improve food security for mothers, infants and children (e.g. Red Cross, Food Bank, WIC program)
- Identify service coordination gaps between the nutrition workforce, aged care and disability services that impact on nutritional status
- Develop partnerships with Home and Community Care (HACC) services to improve nutrition outcomes, particularly meals on wheels
- Conduct menu reviews at local facilities on request

FOODcents program [2]

FOODcents was developed in Western Australia and is an education program that helps families to achieve a healthy diet and to have enough money for their food shopping.

The program is based on the concept that to have a healthy diet, people should spend their money on healthy 'core' foods and spend less money on unhealthy 'non-core' food items.

Core foods are often the cheapest, so using this spending model means healthier foods will be purchased and more money will be saved.

FOODcents has been adapted for Aboriginal and Torres Strait Islander settings.

Advocacy and Research:

- Conduct further research/mapping into Cape York store and takeaway governance to identify possible leverage points where nutrition can be improved
- Explore council regulation and licencing around healthy home takeaways
- Advocate for the need to address the broader effects of poor nutrition caused by smoking, alcohol, illicit drug use and gambling to be addressed

Nutrition Priority 3 – Keep track of nutrition indicators



3.1 Improve monitoring and surveillance of health and nutrition status

Good systems of monitoring and surveillance are essential to identify key nutrition issues and measure the effectiveness of targeted health and nutrition initiatives. Without good systems of monitoring and surveillance we cannot accurately determine the nutrition situation in Cape York, what nutrition issues we need to prioritise as a workforce or what impact our work has to achieve improved health and nutrition outcomes. The key nutrition indicators we need to be measuring as a workforce are identified in Appendix 2.

We currently do not have a single point of data collection for specific nutrition indicators in Cape York. It would be ideal to have a single point of data collection that could automatically generate meaningful reports upon request. In order to currently stay updated on nutrition indicators, our workforce will need to access, collate and disseminate useful information from each of the main points of data collection.

The current points of data collection for nutrition indicators in Cape York include

- 1) Epidemiology - information can be generated from perinatal statistics, hospital separation data and self-reported health status reports.
- 2) Ferret - a primary health care patient information and recall system that is aligned to the chronic disease guidelines. The accuracy of Ferret is dependent on staff regularly entering information and updating the system.
- 3) One21Seventy - a process for continuous quality improvement that uses a representative sample of the population, and this can also provide quality information.
- 4) Apunipima Healthy Lifestyle register - keeps track of individual Dietetic interventions.

Key Strategies:

- Produce an annual report containing information on nutrition related maternal and child health, chronic disease, food supply and food security outcomes (Appendix 2)
- Include routine reporting of iron and folate status in pregnancy
- Improve screening and surveillance of gestational diabetes and type 2 diabetes in pregnancy
- Improve continuity of care for chronic disease patients transitioning between Cape York, Cairns Base Hospital and Cairns Diabetes Centre

Appropriate Growth Charts

Monitoring the growth of children can provide an indication of their overall health and development [6]. Individual children can be tracked against a reference chart for expected growth, and growth faltering can be detected when there is a reduction in the expected rate of growth along an infant's previously defined growth curve [10]. In areas of disadvantage, growth faltering typically occurs at 6 months of age if children are transitioning to foods which are inadequate in quantity and quality. Globally, there are concerns about using the Centre for Disease Control (CDC) growth charts because they are based on a population where overweight and obesity is highly prevalent in childhood [10]. Queensland Health currently uses the CDC growth charts to track the growth of children, which have been endorsed by the National Health and Medical Research Council. However, the CDC growth charts have the effect of labelling children as underweight and requiring intervention when they were clinically well nourished [11]. This has implications for growth monitoring in Cape York, which has traditionally had higher rates of growth faltering than other parts of Australia.

The World Health Organisation (WHO) growth charts are considered more appropriate because their growth trajectory is based on breast fed babies rather than formula fed babies [10]. Northern Territory has already made the change to using the WHO growth charts to monitor child growth [13].

3.2 Improve effectiveness of nutrition interventions

Published evaluations of nutrition and physical activity interventions conducted in Aboriginal and Torres Strait Islander settings are very limited. Available publications present qualitative and basic anthropometric data [83]. There needs to be a commitment by health staff working in remote Aboriginal and Torres Strait Islander settings to incorporate thorough evaluation methodologies into program and project design. Staff should also be encouraged to share and publish their results back to communities, health professionals and stakeholders.

Key Strategies:

- Incorporate thorough evaluation methodologies into program design for community based nutrition initiatives
- Develop agreed criteria for the evaluation of programs addressing food and nutrition systems and nutrition health of Aboriginal and Torres Strait Islander people in Cape York
- Support the development of peer reviewed literature for Cape York nutrition initiatives
- Continued monitoring of dietetic interventions through the Chronic Disease Register

3.3 Increased monitoring of food supply and food security

Store sales data is useful to provide an insight into apparent consumption and the proportion of healthy and unhealthy food and drink sold. The Healthy Food Access Basket (HFAB) report provides information on food availability and affordability at a state-wide level stratified by the ABS ARIA+ remoteness category. However, information specific to food availability and cost of food through all retail outlets in Cape York are currently not collected or monitored.

Key Strategies:

- Use state-wide market basket survey to advocate for equity in food availability and affordability
- Monitor food availability and affordability of local stores and takeaways in Cape York
- Monitor food expenditure through local apparent consumption and household expenditure data
- Collect information on local food supply issues and disseminate to stakeholders



Research and advocacy:

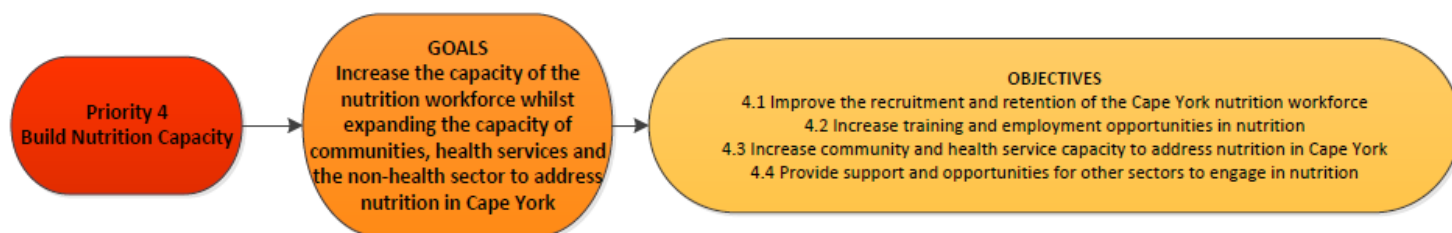
- Advocate for a single point of data collection for key nutrition indicators
- Advocate for the mandatory use of the World Health Organisation growth charts to monitor child growth
- Promote continued use of the chronic disease guidelines

Healthy Food Access Basket (HFAB) Survey 2010

The HFAB survey provides a cross-sectional assessment of the cost and availability of a standard basket of basic healthy food items throughout Queensland. Foods chosen to be included in HFAB represent commonly available and nutritious foods consistent with the Australian Guide to Healthy Eating. The amount of food included is estimated to feed a family of 6 people for two weeks that provides greater than 70% of the nutritional requirements and 95% of the estimated energy requirements.

The basket contents are currently being reviewed to reflect the revised dietary requirements, which consider eating patterns to reduce the burden of chronic disease as well as provide adequate nutrition.

Nutrition Priority 4 – Build Nutrition Capacity



Good nutrition is vital to improve maternal and child health, and to prevent obesity and chronic disease within the Aboriginal and Torres Strait Islander population. The need to improve nutrition in Cape York has resulted in an increased demand for an experienced public health and community nutrition workforce. High turnover of staff is a feature of service delivery in rural and remote Indigenous primary health care services [84]. The need to develop and expand the local indigenous nutrition workforce is a primary issue. High turnover of staff and lack of indigenous staff trained in nutrition makes it difficult to maintain a consistent approach to program planning, and service delivery. In order to maintain quality nutrition service to Cape York, more emphasis needs to be placed on recruitment and retention of nutrition staff, particularly indigenous nutrition staff. Benefits of increased participation in health by Aboriginal and Torres Strait Islander people includes (but is not limited to) – being able to empathise and understand social/cultural contexts, ability to interpret Western medicine into Indigenous understanding of holistic concepts and spiritual attributes of health, and seen as leaders and advocates by the community [84].

4.1 Improve the recruitment and retention of the Cape York Nutrition Workforce

In Queensland, there is a lack of accredited training for generalist health workers who want to specialise in nutrition. This makes it difficult to source a well skilled nutrition workforce, because the training is simply not available.

Formal mentoring between Aboriginal Health Workers and Community Nutritionists/Dietitians is one way to improve service delivery into communities. This mentoring process fosters the transfer of skills and expertise ‘both ways’ so that non-Indigenous health service providers may better understand and respond to the needs to Aboriginal and Torres Strait Islander people, and Aboriginal health workers may take more control of their own community health needs. In Cape York, the Advanced Health Worker (Nutrition Promotion) position is co-located or has a formal working partnership with the Community Nutritionist. The Health Worker brings expertise and provides guidance and support around cultural issues. The Community Nutritionist can offer nutrition and project management expertise.

At the time of the development of the Cape York Food & Nutrition Strategy (June 2012), the nutrition workforce consisted of:

- 3.5 FTE Community Dietitians (+0.5FTE Nutrition Team Leader)
- 3 FTE Community Nutritionists
- 4 FTE Nutrition Promotion Health Workers

There was also additional nutrition support provided by Tropical Regional Services – Cairns Public Health Unit Nutrition Team, a designated Retail Stores Nutritionist and various project officers undertaking shorter term nutrition related projects.

Due to changes in commitments by funders, the Tropical Regional Services – Cairns Public Health Unit Nutrition Team was disbanded in October 2012). In the Cape York Hospital and Health Service, 2 FTE Nutrition Promotion Health Worker positions and 2 FTE Community Nutrition Positions are no longer funded. However, 2 additional Dietitian positions will be recruited to in the Weipa and Cooktown areas.

Gaps identified in the Cape York Nutrition Workforce (as at December 2012)

Two key gaps in the current nutrition workforce have been identified by the nutrition service providers. The area of coverage for the community nutritionist in the middle cluster of Cape York is too large for one position, so an additional 1.0 FTE is required. Furthermore, the Weipa and Cooktown hospitals do not receive a quality Dietetic service, particularly because Cooktown hospital now has a functioning dialysis unit. An additional 1.0 FTE for a Dietitian would be required to cover this.

Gaps identified in the Cape York Nutrition Workforce (as at March 2013)

A new gap in the nutrition workforce has emerged with the disbanding of the Tropical Regional Services – Cairns Public Health Unit Nutrition Team who provided the service that specifically targeted prevention at a regional level through public health nutrition initiatives.

The loss of these positions has resulted in a significant reduction in capacity to undertake nutrition activities by the existing nutrition workforce in public health nutrition in Cape York.

In addition, loss of key sections of the nutrition workforce (Public Health Nutrition) will result in the need to source new project funding to support the implementation of the Cape York Food and Nutrition Strategy.

Key Strategies:

- Advocate for additional nutrition services where gaps have been identified
- Support capacity building of Advanced Nutrition Promotion Health Worker staff
- Support formal mentoring partnerships between Dietitians/Nutritionists and Nutrition Promotion Health Workers

4.2 Increase training and employment opportunities in nutrition**Key Strategies:**

- Strengthen partnerships with the university sector for undergraduate student placement and research opportunities
- Provide clinical educator support to nutrition staff working in Cape York to facilitate remote student placements
- Investigate the potential to offer school based traineeships in nutrition
- Identify a sustainable model to provide nutrition training to health workers
- Encourage well supported local employment opportunities offered as part of nutrition program delivery

4.3 Increase community and health service capacity to address nutrition in Cape York

The direct nutrition workforce is not the only staff able to promote good nutrition in Cape York communities. There are significant opportunities for local health staff and other community based services to promote and deliver good nutrition messages. Increasing the capacity of locally based staff is beneficial, because the knowledge stays within the community.

Key Strategies:

- Incorporate mandatory nutrition training as part of orientation for nurses and generalist health workers in Cape York
- Improve access to online nutrition training to remote health staff (e.g. through PaRROT)
- Develop partnerships with local health workers to support nutrition care and chronic disease self-management processes
- Provide information and support for basic food handler training in communities
- Engage and communicate with health action teams, council members and community leaders about local nutrition issues
- Continuation of the Cape York Nutrition Network (see Appendix 4 – Terms of Reference)

4.4 Provide support and opportunities for other sectors to engage in nutrition

Key Strategies:

- Develop linkages with the mining sector (who have the potential to positively influence food availability and affordability)
- Strengthen partnerships with the retailing industry
- Develop partnerships with local councils
- Develop partnerships with the education sector
- Develop partnerships with other sectors providing services to Cape York

Research and Advocacy:

- Advocate for nutrition strategies to be included in local government planning schemes

Governance and Reporting for the Cape York Food and Nutrition Strategy

The Cape York Food and Nutrition Strategy captures areas that our current workforce are progressing, as well as areas our workforce intends to progress over the next five years. At this stage, sections of the strategy will need to be wait-listed due limited workforce and funding capacity.

The implementation of the Cape York Food and Nutrition Strategy and Action Plan will be led by the Cape York Nutrition Network under the auspice of the Cape York Primary Health Care Partnership Council. As there is no funding currently allocated for the implementation of the strategy, responsibility to source funding will be a collective effort from members of the Cape York Nutrition Network.

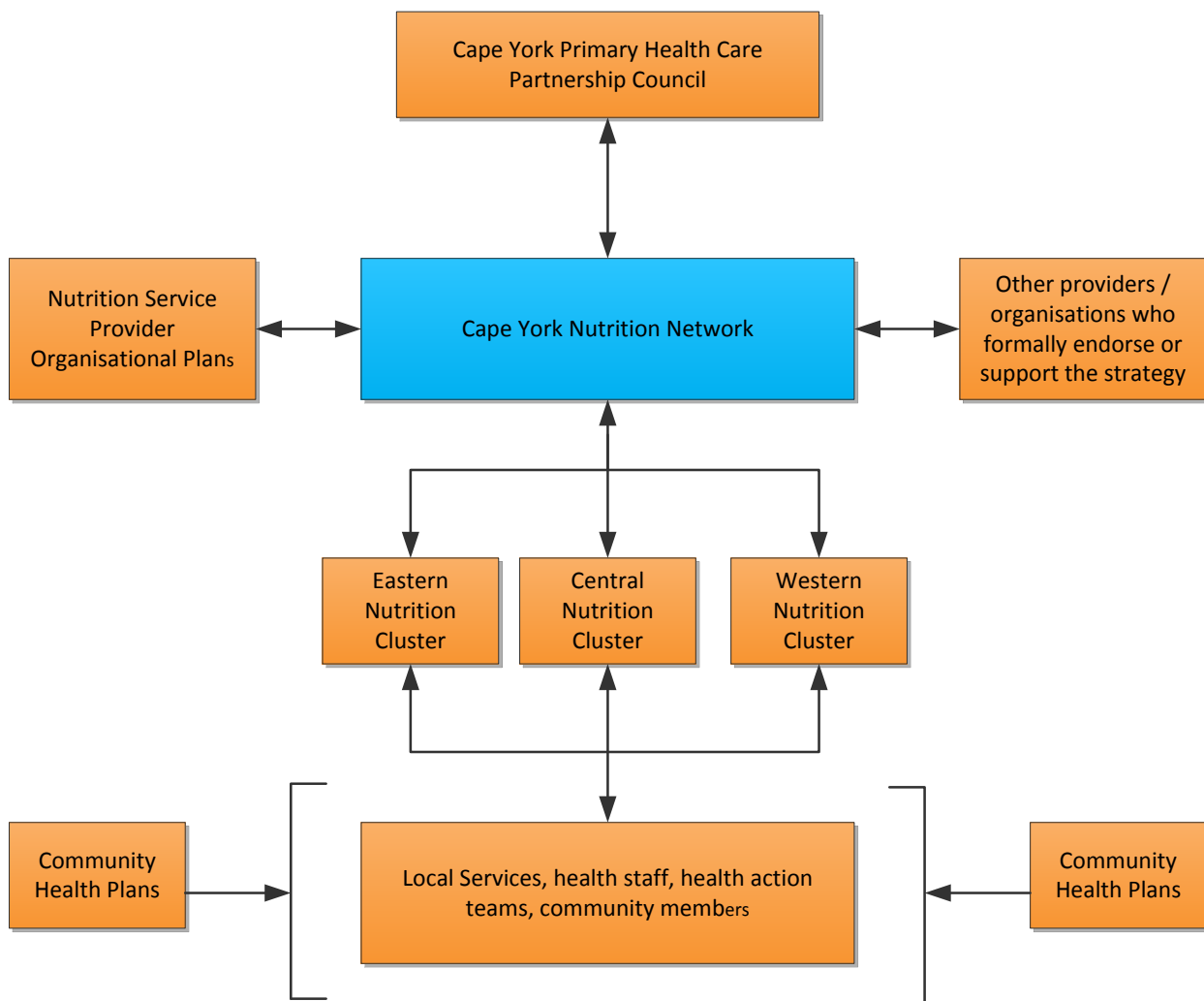
Individual members of the Cape York Nutrition workforce will be able to absorb smaller sections of the strategy that are aligned with current organisational directives. For these sections, key actions will become embedded in workplans of the Cape York nutrition workforce. Service operational plans and community health plans will also be used to guide planning at a local community level.

Progress of the Cape York Food and Nutrition Strategy and Action Plan will be monitored through the Cape York Nutrition Network and regular communication of progress provided by reports to the Cape York Primary Health Care Partnership Council. Local nutrition staff will be responsible for communicating the progress of the Cape York Food and Nutrition Strategy and Action Plan to the Cape York Nutrition Network via the Eastern, Central and Western Nutrition Clusters. Nutrition Clusters will consult and liaise with Health Action Teams, community members and local services.

The implementation of the Cape York Food and Nutrition Strategy is expected to be a significant body of work. The Cape York Nutrition Network recommends additional funding for a project position to lead and progress the implementation and monitoring of the strategy and to support the efficient functioning of the Cape York Nutrition Network. Without the establishment of a project position, the implementation and monitoring of the progress of the strategy will be significantly restricted.



Figure 3. Governance and reporting of the Cape York Food & Nutrition Strategy



Conclusion

The reasons behind the poor health of Aboriginal and Torres Strait Islander people are complex, and are entwined within the broader determinants of health. Similarly, the nutrition issues and subsequent nutrition related illness experienced by Aboriginal and Torres Strait Islander people is complex, and a multifaceted approach is required to prevent and manage the poor health caused by inadequate nutrition. The Cape York region has the added complication of being remote, which impacts on food supply and access to health services for its residents. Nutrition needs to be addressed across the lifecycle, starting with healthy mothers, infants and children. Poor maternal and child health is linked to chronic disease later in life. If we can tackle overweight in both children and adults through improved nutrition and increased physical activity, this has the potential to greatly decrease the onset of chronic diseases.

This strategy aims to identify the key issues affecting nutritional health in Cape York. Improving nutrition outcomes in Cape York requires a strong commitment by a range of sectors including the local nutrition workforce and other key stakeholders such as the wider health workforce, education, councils, local government and housing. In addition we require a strong commitment from all levels of government in order to make the broader environmental changes that impact on the nutritional status of people living in Cape York.



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Appendix 1 – Summary of Cape York Food and Nutrition Strategies including workforce responsibilities

*Workforce responsibilities are aligned to the Delivery of Nutrition & Dietetics Services across the Continuum of Care: A Framework for the nutrition workforce in Queensland Health [85].

Nutrition Priority 1 – Healthy and Strong Aboriginal and Torres Strait Islander People

Objectives	Strategies	D	C	P	M	Indicators
1.1 Improve nutrition related pregnancy outcomes for Cape York women	<ul style="list-style-type: none"> Provide consistent education for nutrition during pregnancy, specifically targeted to adolescents (e.g. Core of Life) Develop and implement a protocol for micronutrient supplementation during pregnancy and breastfeeding for the Cape York region Collaborate with store groups to ensure adequate supply and availability of foods fortified with folate, iodine and iron Broaden the Apunipima fruit and vegetable vouchers to improve nutritional status during pregnancy Improve the nutritional management of gestational diabetes and type 2 diabetes in pregnancy 	X	X	X		Number of children born a healthy birth weight Iron deficiency anaemia and folate deficiency in pregnancy Rate of gestational diabetes Breastfeeding rates on discharge from hospital, at 3 and 6 months
1.2 Increase the number of children who are an appropriate weight and length/height for age in Cape York	<ul style="list-style-type: none"> Ensure that adequate support and information is available to women about feeding infants and children Engage families in community based nutrition education and activities to support complementary feeding and healthy family foods Improve management of growth faltering in line with best practice principles (promotion of high nutrient foods rather than just high energy) Trial weight management programs for families of overweight children 	X	X	X		Prevalence of iron deficiency anaemia in children under 5yo Prevalence of wasting, stunting and underweight in children under 5 years Childhood growth (including overweight) up to 18 years
1.3 Decrease iron deficiency anaemia in children and during pregnancy	<ul style="list-style-type: none"> Conduct routine measurement of iron status of young women, pregnant women, infants and children Implement effective programs to prevent and manage anaemia in infants and children (e.g. Sprinkles anaemia prevention project) Promote availability of high iron baby foods and development of new high iron formulations 	X		X		No. of adults who have a healthy BMI and waist circumference Rate of type 2 diabetes
1.4 Increase the number of adults who	<ul style="list-style-type: none"> Implement appropriate and targeted social marketing campaigns to promote a healthy weight and waist circumference (e.g. activities to support Swap It) 		X	X		Rate of chronic kidney disease and

have a healthy weight and waist circumference	<ul style="list-style-type: none"> Review and implement effective healthy lifestyle and weight management programs for Indigenous settings Support sustainable physical activity programs (e.g. Dance Combat and Beat it) Collaborate with councils to create supportive environments for healthy eating and physical activity 		X	X		end stage kidney disease
1.5 Increase community awareness about preventable nutrition related chronic disease	<ul style="list-style-type: none"> Support the development and implementation of appropriate and targeted community based initiatives for the prevention of chronic disease. Support chronic disease self-management processes Improve community based care for chronic kidney disease and end stage kidney disease 	X X	X			Number of programs implemented and evaluated that aim to reduce/manage chronic disease
Research and advocacy	<ul style="list-style-type: none"> Conduct further research into breastfeeding and complementary feeding practices in Cape York 			X		Potential Partners
Resources	Core of life - http://www.coreoflife.org.au/who-why-c-o-l/col-indigenous-program/ Growing strong - http://www.health.qld.gov.au/ph/documents/hpu/growing_strong.asp Living Strong - http://www.health.qld.gov.au/lightenup/living_strong/default.asp Measure up - http://www.measureup.gov.au/internet/abhi/publishing.nsf/content/home Healthy Active Communities - http://www.activehealthycommunities.com.au/					Doctors and Clinic staff, QH and ACYHC Midwives, RFDS Child Health Nurses, Health Promotion, ACYHC Family Health Team, Cairns Diabetes Centre, Family Health Team, Mookai Rosie, Retailing Industry, Sport and Rec

*D = Dietitian, C = Community Nutritionist, P = Public Health Nutrition, M = Management

Appendix 1 – Summary of Cape York Food and Nutrition Strategies (continued)

Nutrition Priority 2 – Adequate Food Supply, Food Availability and Food Access

Objectives	Strategies	D	C	P	M	Indicators
2.1 Achieve equitable food supply, affordability and access comparable to urban Australia	<ul style="list-style-type: none"> • Formation of a Cape York food supply working group to advocate for improvements in food availability and affordability to all levels of government • Investigate improved models of transport to decrease cost and increase regular supply of goods • Explore other mechanisms to improve food affordability, particularly for healthy foods (e.g. external subsidy, co-contribution card) • Support initiatives that increase the supply of goods during the wet season (e.g. resupply guidelines) • Further investigate household infrastructure and opportunities to develop partnerships with other organisations to improve health hardware (e.g. fridge, stove, cooking equipment) • Support regulation of the food industry in Cape York through appropriate food licencing 		X	X		Availability and affordability of food through local monitoring (and RIST)
				X		Measure changes to disparity in food availability and affordability (HFAB)
				X		Apparent consumption data from sales of healthy and unhealthy food and drink
			X	X		
			X	X		Rates of food insecurity
				X		Number of nutrition policy and guidelines implemented
2.2 Increase the availability of healthy food and drink	<ul style="list-style-type: none"> • Implement healthy food and drink policy and/or guidelines in local store and takeaways (e.g. product placement, planograms) • Work in partnership with councils to create supportive environments for healthy food and drink choices (e.g. incentives to stock healthy foods through council fees, food licensing based on type of food sold, warehousing) • Support community garden and primary industry projects that increase the availability of locally produced foods (e.g. Stephanie Alexander Kitchen Gardens) • Promote benefits of traditional food practices as part of community nutrition programs (as a means of improving nutrition, increasing physical activity and fostering social and emotional wellbeing). • Support community based programs that increase availability of healthy food and drink (e.g. Smart Choices in schools and tuckshops, school breakfast programs, guidelines at sporting facilities) • Support the implementation of catering guidelines in workplaces (e.g. ABC, QAIHC, councils) 		X	X		Number of nutrition initiatives implemented in local settings
			X	X		Partnerships with councils
			X			Potential partners Menzies School of Health Research, Cape York Institute, Education Queensland, CYAAA, Councils, Retailing Industry, environmental health, early childhood settings, schools, Home and Community Care, D&R, disability services
			X			
			X			
		X	X			

2.3 Increase the demand and consumption of healthy food and drink whilst decreasing the demand and consumption of unhealthy food and drink	<ul style="list-style-type: none"> Evaluate effectiveness of cross subsidisation practices as a means to increase purchase of healthy foods and decrease purchase of unhealthy foods Implement initiatives which assist people to easily identify healthy food and drink choices Implement projects that improve the nutritional quality and increase purchase of healthy takeaway foods Implement projects that support healthier drink choices 		X		
2.4 Support people to make healthy food and drink choices	<ul style="list-style-type: none"> Implement nutrition initiatives in early childhood settings (e.g. Get up and Grow) Provide support to schools to implement nutrition initiatives and build nutrition into the curriculum (e.g. Healthy Jarjums, Need for Feed, Smart Choices) Implement financial literacy and food budgeting programs (e.g. Foodcent\$) Implement cooking skills programs as part of other health promoting programs (e.g. Good Quick Tukka) Link nutrition messages with other health promotion initiatives (e.g. oral health, tackling smoking) 	X	X X X X	X	
2.5 Improve food security for at risk groups	<ul style="list-style-type: none"> Explore use of targeted programs and other support mechanisms to improve food security for mothers, infants and children (e.g. Red Cross, Foodbank, WIC program) Identify service coordination gaps between the nutrition workforce, aged care and disability services that impact on nutritional status Develop partnerships with Home and Community Care (HACC) services to improve nutrition outcomes, particularly meals on wheels Conduct menu reviews at local facilities on request 	X X X	X	X	
Advocacy and research	<ul style="list-style-type: none"> Conduct further research/mapping of Cape York store and takeaway governance to identify possible leverage points where nutrition can be improved Explore council regulation and licensing around healthy home takeaways Advocate for the need to address the broader effects of poor nutrition caused by smoking, alcohol, illicit drug use and gambling 		X	X X X	
Resources	Remote Indigenous Gardens Network - http://www.remoteindigenousgardens.net/ Resupply guidelines - http://disaster.qld.gov.au/Disaster%20Resources/Documents/Resupply%20Guidelines.pdf Remote Indigenous Stores and Takeaways Resources - http://www.healthinonet.ecu.edu.au/health-risks/nutrition/resources/rist Smart Choices - http://education.qld.gov.au/schools/healthy/food-drink-strategy.html/ Get up and Grow - http://www.health.gov.au/internet/main/publishing.nsf/Content/phd-early-childhood-				

	<p>nutrition-resources</p> <p>Food for sport - http://www.communities.qld.gov.au/sportrec/industry-information/clubs/food-for-sport</p> <p>Queensland Health A Better Choice - http://www.health.qld.gov.au/ph/Documents/abetterchoice/32511.pdf</p> <p>QAIHC Catering Guidelines – www.gaihc.com.au</p> <p>Smarter Serve: Good Food For our Community - http://www.healthinfonet.ecu.edu.au/key-resources/promotion-resources?lid=23263</p> <p>H2O Fruit and Veg to Go - http://www.hggw.com.au/sites/default/files/H20%20fruit%20and%20vege%20to%20go%20bookletSC.pdf</p> <p>Healthy Jarjums - http://www.health.qld.gov.au/healthieryou/healthyjarjums.asp</p> <p>Food Cents - http://www.foodcentsprogram.com.au/</p> <p>Need for feed program - http://www.needforfeed.com.au/</p> <p>Good quick tukka - http://www.healthinfonet.ecu.edu.au/key-resources/programs-projects?pid=669</p> <p>Flour drum cooking - http://www.ethicalnutrition.com.au/Flour-Drum_Stove.htm</p>	
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*D = Dietitian, C = Community Nutritionist, P = Public Health Nutrition, M = Management

Appendix 1 – Summary of Cape York Food and Nutrition Strategies (continued)

Nutrition Priority 3 – Keep Track of Nutrition Indicators

Objectives	Strategies	D	C	P	M	Indicators
3.1 Improve monitoring and surveillance of health and nutrition status	<ul style="list-style-type: none"> Produce an annual report containing information on nutrition related maternal and child health, chronic disease, food supply and food security outcomes (Appendix 2) Include routine reporting of iron and folate status in pregnancy Improve screening and surveillance of gestational diabetes and type 2 diabetes in pregnancy Improve continuity of care for chronic disease patients transitioning between Cape York, Cairns Base Hospital and Cairns Diabetes centre 	X		X	X	<p>Annual Cape York nutrition report (including Dietetic services)</p> <p>Nutrition care protocol for gestational diabetes and type 2 diabetes in pregnancy</p>
3.2 Increase monitoring of food supply and food security	<ul style="list-style-type: none"> Use state-wide healthy food access basket survey to advocate for equity in food availability and affordability Monitor food availability and affordability of local stores and takeaways in Cape York Monitor food expenditure through local apparent consumption and household expenditure data Collect information on food supply issues and disseminate to stakeholders 		X	X		<p>Nutrition care protocol for nutrition related chronic disease</p> <p>Increase in the amount of evaluated nutrition initiatives</p> <p>Routine monitoring of local stores and takeaways</p>
3.3 Improve effectiveness of nutrition interventions	<ul style="list-style-type: none"> Incorporate thorough evaluation methodologies into program design for community based nutrition initiatives Develop agreed criteria for the evaluation of programs addressing food and nutrition systems and nutritional health of Aboriginal and Torres Strait Islander people in Cape York Support the development of peer reviewed literature for Cape York nutrition initiatives Continued monitoring of dietetic interventions through the Apunipima Chronic Disease Register 	X	X	X	X	<p>Potential Partners Epidemiology, FERRET staff, One21Seventy</p>
Research and advocacy	<ul style="list-style-type: none"> Advocate for a single point of data collection for key nutrition indicators Advocate for the mandatory use of World Health Organisation growth charts to monitor child growth Promote continued use of the chronic disease guidelines 			X		
Resources	<p>Healthy Food Access Basket - http://www.health.qld.gov.au/ph/documents/hpu/hafb-2010.pdf</p> <p>Chronic disease guidelines - http://www.health.qld.gov.au/cdg/html/cdg_resource.asp</p> <p>WHO Growth Charts - http://www.who.int/childgrowth/en/</p>					

Appendix 1 – Summary of Cape York Food and Nutrition Strategies (continued)

Nutrition Priority 4 – Build Nutrition Capacity

Objectives	Strategies	D	C	P	M	Indicators
4.1 Improve the recruitment and retention of the Cape York Nutrition Workforce	<ul style="list-style-type: none"> Advocate for additional nutrition services where gaps have been identified Support capacity building of Advanced Nutrition Promotion Health Worker staff Support formal mentoring partnerships between Dietitians/Nutritionists and Nutrition Promotion Health Workers 				X X X	Number and retention rate of nutrition staff working in Cape York Number of formal mentoring partnerships
4.2 Increase training and employment opportunities in nutrition	<ul style="list-style-type: none"> Strengthen partnerships with the university sector for undergraduate student placement and research opportunities Provide clinical educator support to nutrition staff working in Cape York to facilitate remote student placements Investigate the potential to offer school based traineeships in nutrition Identify a sustainable model to provide nutrition training to health workers Encourage well supported local employment opportunities to be offered as part of nutrition program delivery 			X	X X X X	Number of school based traineeships and university students undertaking training in Cape York
4.3 Increase community and health service capacity to address nutrition in Cape York	<ul style="list-style-type: none"> Incorporate mandatory nutrition training as part of orientation for nurses and generalist health workers in Cape York Improve access to online nutrition training to remote health staff (through PaRROT) Develop partnerships with local health workers to support nutrition care and chronic disease self-management processes Provide information and support for basic food handler training in communities Engage and communicate with Health Action Teams, council members and community leaders about local nutrition issues Continuation of the Cape York Nutrition Network 	X X X	 X X	X	X X	Potential Partners QAIHC, Universities, Councils, Retailing Industry, Education Queensland, Mining sector
4.4 Provide support and opportunities for other sectors to engage in nutrition	<ul style="list-style-type: none"> Develop linkages with the mining sector (who have the potential to positively influence food availability and affordability) Strengthen partnerships with the retailing industry Develop partnerships with local councils Develop partnerships with the education sector 		 X X	X X X X		

	<ul style="list-style-type: none"> Develop partnerships with other sectors providing services to Cape York 				X	
Research and advocacy	<ul style="list-style-type: none"> Advocate for nutrition strategies to be included in local government planning schemes 		X	X		
Resources	Indigenous Nutrition Workforce - http://www.healthinfonet.ecu.edu.au/uploads/docs/Nutrition_Workforce2.pdf PaRROT - www.health.qld.gov.au/parrot					

* D = Dietitian, C = Community Nutrition, P = Public Health Nutrition, M = Management

Appendix 2 – Keeping Track of Nutrition Indicators

Maternal Health				
Indicator	Epidemiology	One21Seventy	Ferret	Comments
Maternal age	✓			Perinatal Database
Gestational age at birth	✓	✓	✓	Perinatal Database
Birth weight of infant	✓	✓	✓	Perinatal Database
Birth weight distribution	✓			Perinatal Database
Birth weight for gestational age	✓			Perinatal Database
Gestational age at first antenatal visit		✓		
Number of antenatal visits	✓	✓		One21Seventy more accurate
Folate status in pregnancy				Can request to be included in One21Seventy May be possible to include in AUSLAB Could include as retrospective birth mother history (CD guidelines p.37)
Iron status in pregnancy				Can request to be included in One21Seventy May be possible to include in AUSLAB Could include as retrospective birth mother history (CD guidelines p.37)
Record of folate prescription prior to conception		✓		

Appendix 2 – Keeping Track of Nutrition Indicators (continued)

Maternal Health (continued)				
Indicator	Epidemiology	One21Sev enty	Ferret	Comments
Record of folate prescribed before 20 weeks		✓		Could we include record of folate supplementation as part of FERRET antenatal assessment? Or retrospective has part of maternal history
Record of iron prescription during pregnancy		✓		
Pregnancy weight first trimester		✓		
BMI first trimester + record of follow up if <20 or >30		✓		
OGTT 26-30 weeks + follow up if abnormal result		✓	✓	FERRET has process for OGTT 75g (in pregnancy)
Gestational diabetes	✓	✓	✓	Perinatal database Ferret GDM care plan
Postnatal GDM follow up			✓	
Alcohol use during pregnancy		✓	✓	From FERRET antenatal assessment
Smoking during pregnancy		✓	✓	From FERRET antenatal assessment
Illicit drug use during pregnancy		✓	✓	From FERRET antenatal assessment

Appendix 2 – Keeping Track of Nutrition Indicators (continued)

Child Health				
Indicator	Epidemiology	One 21 Seventy	Ferret	Comments
Breastfeeding			✓	FERRET – Nutrition - Newborn and Child
Use of formula			✓	FERRET – Nutrition - Newborn and Child
Complementary foods/solids			✓	FERRET – Nutrition - Newborn and Child
Any cow's milk			✓	FERRET – Nutrition - Newborn and Child
Any tea/soft drink			✓	FERRET – Nutrition - Newborn and Child
Any fruit			✓	FERRET – Nutrition - Newborn and Child
Any vegetables			✓	FERRET – Nutrition - Newborn and Child
Haemoglobin			✓	Well child health check
Weight for age			✓	CDC charts
Length/height for age			✓	CDC charts
BMI for kids 2-18 years	✓		✓	CDC charts Self-reported health status

Appendix 2 – Keeping Track of Nutrition Indicators (continued)

Child Health (continued)				
Indicator	Epidemiology	One 21 Seventy	Ferret	Comments
Evidence of growth faltering or FTT		✓		
Evidence of overweight or obesity		✓	✓	FERRET has process record of education for a healthy weight - child
Serves of fruit			✓	5+ years
Serves of veg			✓	5+ years
Sugary drinks			✓	5+ years
Number of meals per day			✓	5+ years

Appendix 2 – Keeping Track of Nutrition Indicators (continued)

Adult health				
Indicator	Epidemiology	One21 Seventy	Ferret	Comments
Food insecurity		✓	✓	Need to revise food security question
BMI	✓		✓	Self-reported health status
Waist circumference			✓	
Record of BI for weight, nutrition, exercise		✓	✓	
Lipid profile			✓	FERRET has process record of education for dyslipidaemia
Blood pressure	✓	✓	✓	Self-reported health status One21Seventy doesn't give measure
Type 2 diabetes		✓	✓	One21Seventy doesn't give measure FERRET has record of HbA1C
Chronic kidney disease/ renal disease		✓	✓	One21Seventy doesn't give measure FERRET has process record of education for CKD
Dietetic interventions				Apunipima CD register
Supplement use				Apunipima CD register
HACC client			✓	Record of HACC ONI tier 1 and 2 assessment

Appendix 2 – Keeping Track of Nutrition Indicators (continued)

Miscellaneous				
Indicator	Epidemiology	One21 Seventy	Ferret	Comments
Local apparent consumption data				Would need to do our own local surveys
Physical activity level	✓		✓	Self-reported health status
Fruit consumption	✓		✓	Self-reported health status
Vegetable consumption	✓		✓	Self-reported health status Check potato isn't included in this
Soft drink consumption			✓	

Appendix 3

Cape York Nutrition Network

Terms of Reference

Preamble

Nutrition is an underlying contributor to much of the poor health and early death suffered by Aboriginal and Torres Strait Islander people living within the communities of Cape York Health and Hospital Network (CYH&HN). Since 2002, increased investment has seen the nutrition and dietetic services in CYHSD increase substantially with new positions sourced to improve the health and wellbeing of people living in Cape York communities through improved food systems, nutrition policy and good nutrition.

Purpose

The Cape York Nutrition Network (CYNN) was established in October 2008 to:

- Enhance collaborative partnerships and capacity of all practitioners and organisations working across the CYHSD,
- Facilitate the coordination of nutrition and dietetics services, and
- Improve nutrition related outcomes of Cape York communities by ensuring delivering of best practice in nutrition and dietetics,
- Improve coordination and communication between organisations to avoid duplication of nutrition related work.

Function

The CYNN will:

- ✓ Unite as a collective body to support and advocate for nutrition and dietetic strategies.
- ✓ Update mapping of nutrition and dietetic services provided in Cape York
- ✓ Maintain consistency in nutrition and dietetic service delivery across Cape York.
- ✓ Avoid duplication of clinical, community, and population nutrition and dietetic services across Cape York through the development and application of the Cape York Food and Nutrition Strategy.
- ✓ Monitor the progress of the Cape York Food and Nutrition Strategy via the Cape Nutrition Cluster Working Groups to the Cape York Partnership Council
- ✓ Develop and maintain sustainable networks between organisations - information sharing, communication pathways, maximizing collaboration opportunities.
- ✓ Sharing professional development opportunities.
- ✓ Advocating for recognition of the value food security plays in addressing chronic disease.

Values

- The contributions of all group members are equally valued.
- Group members foster a culture where ideas, expertise and resources are shared.
- The group is committed to best practice.
- Aboriginal and Torres Strait Islander input is fostered and valued.

Membership

All members are encouraged to participate equally wherever possible. It is crucial for the ongoing success of this group that the responsibilities of the Cape York Nutrition Partnership are *shared* among its members. Membership is encouraged from persons/organisations with a professional role in the delivery of nutrition and dietetic services within the communities of Cape York.

Core membership:

Cape York Hospital and Health Service
Manager, Healthy Lifestyle Team, Weipa
DON Multipurpose Health Service, Cooktown or Weipa
Community Nutritionists
Advanced Health Workers Nutrition
Representative CYH&HN Training & Development Unit, Weipa-based
Representative Queensland Health Preventive Health Unit, Brisbane

Apunipima Cape York Health Council
Team Leader – Nutrition and Dietetics
Community Nutritionist
Dietitians
Advanced Health Worker Nutrition
Team Leader – Health Promotion
Team Leader – Healthy Lifestyle Team

Non-government Organisations
QAIHC - nutrition

Associate members:

Cairns Cape York Hospital and Health Service Nutrition and Dietetic representatives (2) including representation from Cairns Diabetes Centre and Community Health
Island and Cape Wholesalers Distribution
Retail Stores Representative/ DATSIMA
Cape York Partnerships
Menzies School of Health Research
Wuchhopperen representative - Dietitian/ Health Lifestyle Team member
University representatives – Queensland University of Technology and/or Sunshine Coast University and/or James Cook University

Frequency of Meetings

Meetings will be held two times per year (May and October/November). One meeting will be via teleconference or videoconference (whichever is decided) and the other will be face to face. The location for the face to face meeting will be in Cairns. Extraordinary meetings may be called by Chair in response to emergent issues.

Meeting Structure

Secretariat:

The CYNN meetings will be organised and arranged by the Team Leader - Nutrition, Apunipima) or delegate.

Responsibilities include:

- Calling for agenda items prior to the teleconference
- Collecting apologies/proxy, agenda items and Cape Nutrition cluster reports

- Finalising and distributing the agenda prior to meetings
- Briefing the chairperson of the meeting about agenda items

Chair:

- The Chairperson will be rotated amongst core members.
- The chairperson will be responsible for booking the teleconference/meeting venues and chairing the meetings.
- Forward minutes to the Cape York Primary Health Care Partnership Council.

Minute Taking:

- Minute-taking will rotate between members but align to Chairperson's organisation.
- The minute-taker will finalise and distribute minutes of the meeting to members within three weeks of the meeting, unless otherwise negotiated with meeting participants.
- Cc of minutes to be distributed to associate members and relevant interested stakeholders

Quorum:

- Minimum of five (5) participants (ensuring representation from each of the core organisations)

Terms of Reference Review

Terms of reference will be reviewed and updated at the beginning of each calendar year.

TOR approved at the February 2013 meeting

