

# Revision of the Preventable Chronic Disease Strategy

**Background Paper: Preventable  
Chronic Diseases in  
Aboriginal Populations**

April 2009

## Acknowledgements

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Preventable Chronic diseases Program

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## Executive Summary

The purpose of this paper is to provide background information about chronic diseases in the Aboriginal population in the NT and to stimulate input and comment to assist in the revision of the Preventable Chronic diseases Strategy (PCDS) and implementation plan.

This paper outlines some of the issues in relation to chronic diseases in Aboriginal populations in the NT. It follows on from the previous background paper that compares chronic diseases frameworks and models of care and provides an opportunity to examine specific issues for chronic diseases in Aboriginal populations. It is structured around the three key components of the current NT PCDS of prevention, early detection and management of chronic diseases.

The revision of the PCDS and development of the implementation plan at this point in time is well placed to ensure that the current investment in Primary Health Care (PHC) services for Aboriginal people by the Australian and NT governments in relation to chronic diseases is invested in services that are evidence based and promote community control of health services.

The underlying factors impacting on chronic diseases - Aboriginal community control, the social determinants of health and access to primary health care are included so as to highlight the comprehensive approach required to improve health outcomes.

The gap of 17 years between the life expectancy of Aboriginal people and all other Australians is well known. The gap for women is narrowing, albeit much too slowly, however the gap for men is not decreasing. There have been significant reductions in deaths from infectious diseases, maternal, peri natal and nutritional conditions and injuries. In contrast, deaths from chronic diseases increased although the rate of increase slowed.

Aboriginal people have much higher rates of chronic diseases than other Australians. For Aboriginal people in the NT the most common illnesses are Type 2 diabetes, anxiety and depression, ischaemic heart disease, kidney disease and airways disease.

While the social determinants of health have a significant impact on health the evidence shows that much of the burden of disease caused by chronic diseases can be prevented by focusing on the modifiable risk factors – smoking, poor nutrition, alcohol consumption and physical inactivity.

The prevalence of risk factors in the entire Australian population is of concern however the levels are generally higher in the Aboriginal population. More than half of the Aboriginal population and 43% of pregnant women currently smoke, more than half are overweight or obese and in non remote areas three quarters exercise at low levels. Data from all Australia shows that Aboriginal people are more likely to abstain from alcohol than non Aboriginal people however in the NT nearly one third drink at risky levels for acute harm and nearly one fifth drink at high risk levels for chronic harm.

There is clear evidence that the key to preventing chronic diseases is to address the modifiable risk factors by:

- Reducing smoking
- Improving nutrition
- Reducing rates of harmful and hazardous alcohol consumption
- Increasing physical activity.

The paper outlines some of the interventions that have been effective in reducing these risk factors in Aboriginal populations.

There is considerable space given to primary prevention and in particular smoking. This is intentional given the overwhelming evidence that reduction of the high rates of smoking among

Aboriginal people in the NT, and in fact in any population, has a significant impact on chronic disease. This also reflects the recommendation in the evaluation of the NT PCDS that highlighted the need to strengthen the prevention and health promotion components of the strategy<sup>1</sup>.

There has been considerable debate about the ability of the health system to positively effect the health of Aboriginal people with the argument that focusing on economic and social approaches will be more effective. While not undervaluing the critical importance of economic, social and political factors in determining the health of populations the evidence is clear about the positive effect of primary health care.

# Background to this Paper

## What is the Northern Territory Preventable Chronic Disease Strategy?

The Northern Territory (NT) Preventable Chronic Disease Strategy (PCDS) was developed in 1999 and provides direction for addressing chronic disease throughout the NT.

## Why do we Need a Revised PCDS?

The prevention and management of preventable chronic disease and the risk factors underlying these diseases has been a health priority for the NT Department of Health and Families (DHF) and other service providers since 1999. National and NT reports on chronic disease identify that while there have been significant changes in the prevention and management of chronic disease in this time, we can do better for all Territorians. The revision of the PCDS will ensure that the most recent evidence and experience informs the strategy.

To achieve better outcomes also requires collaboration by a broad range of players from governments, non-government organisations and the private sector and a broad commitment to the strategy across the NT. Collaboration between these players in the revision of the PCDS sets the stage for ongoing collaboration across the NT.

## What is Being Done to Update and Revise the PCDS?

The PCD Clinical Reference Group and the Chronic Disease Network Steering committee have commissioned the revision of the PCDS. Representatives of key stakeholders (GPNNT, AMSANT, Good Health Alliance and DHF) are jointly facilitating this.

The key components of the project are to:

- Update the evidence base utilising recent literature reviews and consultation with local experts
- Revise the current strategy given new evidence, the evaluation report and input from stakeholders
- Develop an implementation plan to provide consistent direction across the NT

## What is the Purpose of this Background Paper?

This paper is intended to provide background information about chronic disease in the Aboriginal population in the NT. Its purpose is to stimulate input and comment to assist in the revision of the PCDS and implementation plan.

## What is Not in this Paper?

This paper does not purport to be a comprehensive review of all the issues in relation to chronic disease in Aboriginal populations. It aims to highlight some of the issues that need to be addressed in the revised PCD Strategy to address the high burden of disease in Aboriginal populations.

The social determinants of health are an integral part of the paper recognising that chronic disease provides one reason for acting on social determinants. The paper does not attempt to shape or drive action completely on the social determinants for which there are many reasons in addition to chronic disease. Many of these are related to equity.

## How Can You Contribute?

Throughout the NT there is a wealth of expertise and experience. Capturing this is critical to the long-term success of the PCDS through ensuring that the revised strategy and implementation plan are soundly based and meet the unique needs of the Territory population.

The paper identifies a range of questions in each section and readers are invited to:

- comment on any areas/questions that are of interest to you
- provide any other relevant information supporting your comments and views
- identify and discuss any perceived omissions or alternative approaches

During the revision process there will be a range of mechanisms to seek input from stakeholders including feedback on background papers and the draft PCDS, stakeholder workshops, key stakeholders interviews and written submissions.

An outline of the proposed timetable for providing input and all documents relating to the revision are available on the Chronic Diseases Network (CDN) website: [http://www.health.nt.gov.au/Preventable\\_Chronic\\_Disease/Chronic\\_Disease\\_Network](http://www.health.nt.gov.au/Preventable_Chronic_Disease/Chronic_Disease_Network)

## Address for Submissions

Electronic submissions should be emailed to: [cynthia.croft@nt.gov.au](mailto:cynthia.croft@nt.gov.au)

Hard copy submissions should be sent to:

Cynthia Croft  
Department of Health and Families  
PO Box 42669  
CASUARINA NT 0811

People with access to the DHF intranet can post comments via the CDN website (above).

Deadline for submissions is Monday 23 March 2009.

## Questions for Your Consideration

Throughout the document are a series of questions that are considered important and that you may choose to frame your response to this paper. See list of questions below. Additional comments are also most welcome.

# Questions for Your Consideration

## **1 Key Principles Underpinning the Approach to Chronic Disease**

- 1.1 Do the principles reflect the underlying approach needed to improve chronic disease care in Aboriginal populations in the NT?
- 1.2 Are there other underlying principles that need to be included in the PCDS?
- 1.3 A broad whole of government approach to the social determinants is needed to address Aboriginal disadvantage. Within the context of the PCD strategy and implementation plan how do you think this should be addressed?

## **2 The Health of Aboriginal People in the NT**

- 2.1 Which of the key pieces of data e.g. prevalence, life expectancy, burden of disease are needed to put the NT PCDS in context?
- 2.2 Burden of disease and DALY's are measures that are not readily understood by many people. Can you suggest an alternative way of expressing these measures.

## **3 Risk Factors**

- 3.1 Should we maintain an equal focus on all four risk factors (smoking, nutrition, alcohol and physical activity) or should the PCDS prioritise efforts related to the greatest health gains e.g. smoking cessation?
- 3.2 What are your reasons for your answer to the previous question?
- 3.3 Are there other risk factors that should be prioritised and why?

## **4 Prevention of Chronic Diseases**

- 4.1 There is limited evidence about the effectiveness of many prevention strategies that are implemented in the NT. How should the PCDS / implementation plan address this issue?
- 4.2 What are the most important prevention strategies and why?

## **5 Early Detection of Chronic Diseases**

- 5.1 How can early detection participation rates be increased?
- 5.2 How can service providers improve the effectiveness and efficiency of follow up of people after an Adult Health check?

## **6 Management of Chronic Diseases**

- 6.1 What are the key factors that should be included in the PCDS to improve management of people with chronic diseases?
- 6.2 Is it useful to categorise populations by the level of support they need and implement systems to specifically manage these groups?
- 6.3 There are very few examples of implementing support for self management in NT Aboriginal populations. What is needed to develop this support?

**7 Other Key Issues that Need to be Considered in Ensuring the PCDS and Implementation Plan Meet the Needs of the NT Aboriginal Population**

- 7.1 What are the priority areas in chronic disease programs for Aboriginal people or should these be the same as for other Territorians?
- 7.2 Is a NT PCDS for the general population adequate to provide direction for Aboriginal populations?
- 7.3 Some jurisdictions have developed a supplementary strategy or implementation plan for Aboriginal populations. Is this appropriate for the NT?
- 7.4 What factors not included in this paper should inform the PCDS?
- 7.5 What other means are there to ensure this population gets the focus that is needed?
- 7.6 Do you have any other suggestions that should be included in the PCDS?
- 7.7 Are you willing to share your experiences/thoughts about chronic diseases with communities or other service providers e.g. through the CD network?

# 1 Introduction

## 1.1 Closing the Gap of Indigenous Disadvantage

Government commitments to closing the gap between Aboriginal and non-Aboriginal Australians provides many opportunities to address chronic diseases in Aboriginal populations based on the underlying factors impacting on chronic disease - Aboriginal community control, social determinants of health and access to primary health care.

The Australian and NT governments have both committed to closing the gap.

The Australian Government has set the following targets:

- to close the life-expectancy gap within a generation;
- to halve the mortality gap in children under age 5 within a decade;
- to halve the gap in literacy and numeracy within a decade;
- to halve the gap in employment outcomes within a decade;
- to at least halve the gap in attainment at Year 12 schooling (or equivalent level) by 2020; and
- to provide all Aboriginal four year olds in remote communities with access to a quality preschool program within five years.

The Council of Australian Governments (COAG) identified the following strategies that need to be in place in order to comprehensively address the current state of disadvantage:

- healthy homes;
- safe communities;
- health;
- early childhood;
- schooling;
- economic participation; and
- governance and leadership.

The Australian Government has also committed to improving the access of Aboriginal people to comprehensive primary health care services through providing coordinated clinical care, population health and health promotion activities to facilitate illness prevention, early intervention and effective disease management. This strategy is firmly based on the principle of working in partnership with the Aboriginal community-controlled health sector. Commitments include significant funding to:

- strengthen the Indigenous health workforce, to encourage more Indigenous people to take up careers as health professionals;
- improve remote area health services in the Northern Territory;
- upgrade and expand health-care facilities;
- establish satellite renal dialysis facilities;
- provide the intensive and sustained counselling and support needed to help victims of sexual abuse and their families;
- address alcohol and substance abuse; and
- tackle high rates of smoking.

Closing the Gap of Indigenous Disadvantage: The NT Government Generational Plan of Action identifies a range of strategies that impact on chronic diseases for indigenous people including:

- new initiatives around early childhood and family services
- preventative health
- primary health care

## 1.2 Key Factors Underpinning the Approach to Chronic Disease

There are three critical factors underpinning the approach to chronic diseases in this document:

- Aboriginal community control
- Social determinants that underlie poor health outcomes
- Access to primary health care.

The principles underlying the framework are to a greater degree consistent with approaches to chronic diseases that have been adopted nationally and internationally. These principles should be taken into account when considering issues in relation to chronic diseases and Aboriginal people.

### 1.2.1 Aboriginal Community Control

The principles outlined in the NT Aboriginal Health Forum (NT AHF) document *Pathways to Community Control; An agenda to further promote Aboriginal community control in the provision of primary health care services*<sup>ii</sup> underpin the approach to chronic diseases in this paper. This framework '..... supports Aboriginal communities in the planning, development and management of primary health and community care services in a manner that is both commensurate with their capabilities and aspirations and consistent with the objective of efficient, effective and equitable health systems functioning'.

Aboriginal self determination and responsibility lie at the heart of Aboriginal community control in the provision of PHC services.

Increasing the level of community participation and control in health services brings benefit to the processes and the health of those who are engaged. The partners in the NT AHF believe that '...community engagement has the potential to improve the quality of the services supplied, but it can also improve the opportunities and capacities of those who rely on services, so lessening their need for them.'

The framework recognises the following

- community participation can take different forms and will not always be static
- the community controlled health service model as providing the greatest level of community participation in health service delivery
- knowledge, skill, competence, motivation and opportunity are required for communities, organisations and individuals to engage effectively in discussions, decision-making, governance and service delivery
- both communities and public sector organisations may have greater potential and capacity to engage effectively than is currently recognised

- a range of barriers operating within communities and organisations (and in the interaction between them) may constrain capability, suggesting that releasing capacity, may be as important as building it

Community control by definition improves cultural security for Aboriginal people. For many decades Aboriginal people have pointed to the problems that are created when health and community services fail to take culture into account. Culture can influence Aboriginal people's decisions about when and why they should seek services, their acceptance or rejection of treatment, the likelihood of adherence to treatment and follow up, the likely success of prevention and health promotion strategies, the client's assessment of the quality of care and their views about the facility and its staff.

If a chronic diseases strategy is to impact on health outcomes it is essential that the strategy and implementation plan address cultural security in ways that ensure services are both effective for Aboriginal people and that protects and respects their cultural rights and values. Providing culturally secure services requires primary, secondary and tertiary health service providers to:

- *Identify* those elements of Aboriginal culture that affect the delivery of health services
- *Review* service delivery practices to ensure that they do not unnecessarily offend Aboriginal people's culture and values
- *Act* to modify service delivery practices where necessary
- *Monitor* service activity to ensure that services continue to meet culturally safe standards.

### 1.2.2 Social Determinants Underlying Poor Health Outcomes

A variety of factors influence people's health including the broad features of society and socio-economic characteristics<sup>iii</sup>. The key factors underlying poor health outcomes are poverty, poor education, poor housing, remoteness and access to services. The health of individuals and populations is influenced and determined by these factors acting in various combinations. Social determinants help explain and predict trends in health, and provide insight as to why some groups have better or worse health than others. They are the core of disease prevention and health promotion.

The relationship between determinants is complex. Society and environmental factors can determine the nature of other factors e.g. people's socioeconomic characteristics such as their level of education and employment. These also influence people's health behaviours, their psychological state, and factors relating to safety. These in turn can influence biomedical factors, such as body weight and glucose metabolism. A person's psychological state and behaviour clearly affect each other and both can in turn lead to biomedical changes or disease. There is evidence suggesting that depression, social isolation and a lack of quality social support can directly lead to problems such as heart disease, independent of any intermediary behavioural effects such as smoking or poor diet.

The following figures outline some of the social determinants impacting on Aboriginal people in the NT<sup>iv</sup>. In 2006 it was estimated there were 66,582

Aboriginal people in the NT, nearly one third of all people in the NT. Important factors include:

- 54% under 25 years of age
- 81% living in remote areas
- 59% spoke an Australian Indigenous language at home
- 37% completed year 8 or below at school
- 10% completed year 12 at school
- 44% employed in the labour force
- 32% of those employed were labourers, 18% community and personal service workers and 11% professionals
- 35% of those employed worked in public administration and safety, 18% in health care and social assistance and 8% in education and training

### 1.2.3 Access to Primary Health Care

Universal access to an appropriate and adequately funded range of primary health care (PHC) services is essential to better health outcomes and Aboriginal health services have been able to demonstrate this.

Expenditure on Aboriginal PHC increased in real terms between 1998-99 and 2004-05 however this increase was offset by increased health costs, increasing population and continuing increases in chronic diseases. Therefore the full benefits of PHC have not been seen and the evidence points to 'further and sustained investment in PHC along with action on the social determinants' is crucial to improving Aboriginal health status<sup>v</sup>.

In the NT context the framework endorsed by the NT AHF '*Indigenous Access to Core PHC Services in the NT*<sup>vi</sup>' demonstrates that increasing Indigenous access to core PHC services leads to improved Indigenous health outcomes. The paper identifies the level of investment required and outlines a staged approach to increasing investment in Indigenous PHC services so that all Indigenous people can access the full range of community based core PHC services.

The current Australian and NT Government PHC Reform initiatives recognise, among other matters, that PHC has been and is inadequately funded to meet the needs of Aboriginal people in urban and remote areas. These initiatives are providing significant funding increases for both Aboriginal Community Controlled Health Organisations (ACCHO) and NT government health services. This investment should ensure that all Aboriginal people have access to a basic suite of comprehensive PHC services including chronic diseases services regardless of funding streams or administrative responsibility. This provides opportunity for improving a broad range of strategies related to the prevention and management of chronic diseases.

There has been considerable debate about the ability of the health system to positively affect the health of Aboriginal peoples with the argument that focusing on economic and social approaches will be more effective. While not undervaluing the critical importance of economic, social and political factors in determining the health of populations the evidence is clear about the positive effect of PHC<sup>vii</sup>.

Evidence from the United States and New Zealand suggest that PHC has contributed to increased life expectancy<sup>viii</sup>. There is also evidence from

Australia that declines in infant mortality rates, changes in mortality for Aboriginal women; and in disease mortality patterns (including in the shift from infectious diseases to chronic diseases) are consistent with better access to PHC. In the NT, Katherine West Health Board (KWHB) made significant gains in health outcomes that were most impressive given that they were unable to afford the full range of community based core PHC services.

The approach that makes most sense under such circumstances is not one that focuses *either* on the social determinants of health *or* on health services, but one that does *both*. Such an approach is advocated by numerous population health experts, most recently in Australia in the extensive examination of the burden of disease carried by Aboriginal and Torres Strait Islander people, which states that:

... these requirements (to address the social and economic disadvantages that contribute to the poor health status of Indigenous Australians) should not lead to inaction by health policy makers arguing that the social and economic problems should be tackled first. It is within the reach of appropriately resourced health services to reduce a sizeable proportion of the Indigenous health gap.<sup>ixi</sup>

## 1 Questions

- 1.1 Do the principles reflect the underlying approach needed to improve chronic diseases care in Aboriginal populations in the NT?
- 1.2 Are there other underlying principles that need to be included in the PCDS?
- 1.3 A broad whole of government approach to the social determinants is needed to address Aboriginal disadvantage. Within the context of the PCD strategy and implementation plan how do you think this should be addressed?

## 2 The Health of Aboriginal People in the NT

### 2.1 Life Expectancy

Calculating life expectancy is difficult with differing results depending on time periods and data sources. NT data is reliable and comparing population trends over long periods gives more accurate information.

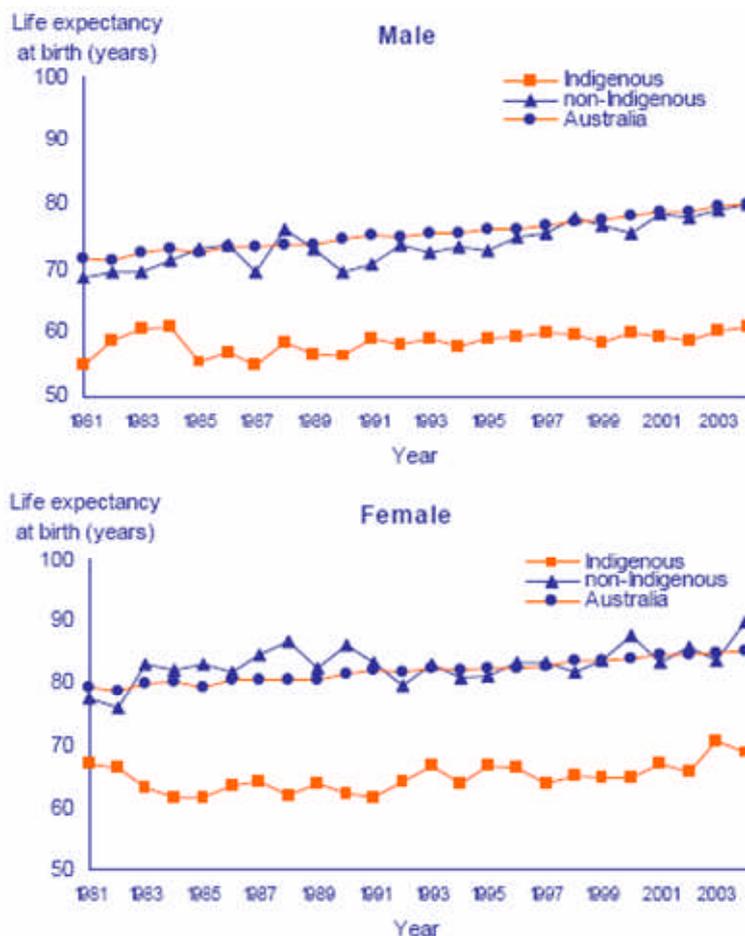
There is a gap of 17 years between the life expectancy of Aboriginal people and all other Australians<sup>x</sup>. Between 1976 and 2004 life expectancy:

- increased from 54 to 68 years for Aboriginal women, a difference of 14 years.
- increased from 52 to 60 years for Aboriginal men, a difference of 8 years.

The gap between Aboriginal and non Aboriginal people in this period of time decreased from 20.8 to 15.2 years for women and increased from 15.5 to 17.7 years for men

More recent analysis of life expectancy confirmed this improvement for Aboriginal women with little change for Aboriginal men<sup>xi</sup>.

**Table 1: Life Expectancy at Birth NT Aboriginal Men and Women**



Source: Department of Health and Families. Mortality in the Northern Territory 1981-2004. Health Gains Planning Fact Sheet 4. Darwin 2007

## 2.2 Factors Contributing to Improved Life Expectancy

There have been significant reductions in deaths from infectious diseases, maternal, peri natal and nutritional conditions and injuries<sup>xii xiii</sup>. In contrast, deaths from chronic diseases increased although the rate of increase slowed.

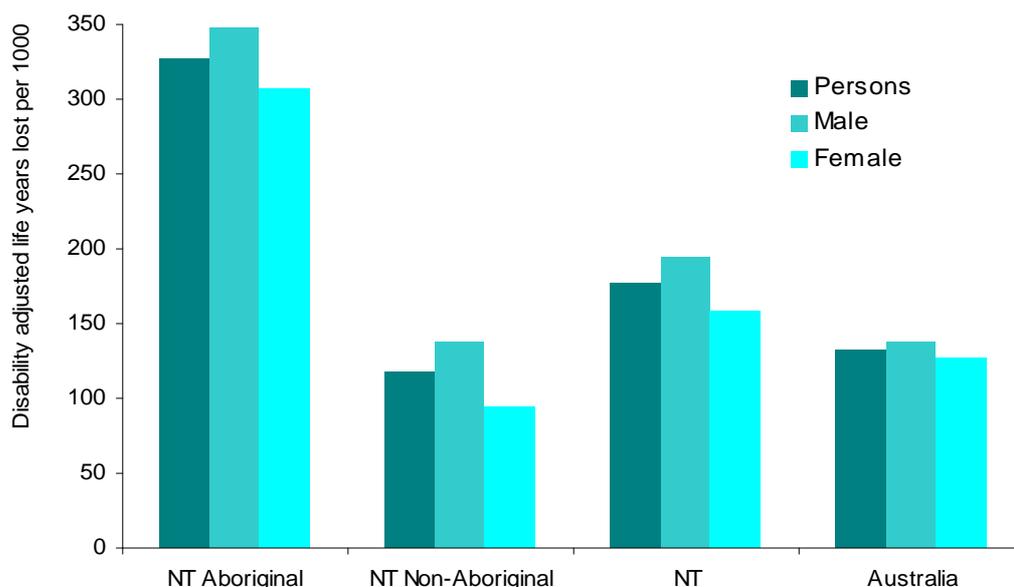
‘ the evidence points to a cautious optimism that health status is gradually improving, albeit nowhere near fast enough’ and that this improvement should motivate people that sustained and increased effort is worthwhile and will succeed<sup>xiv</sup>. It is important that public health initiatives remain focused on preventing and managing chronic diseases to achieve further reductions in avoidable deaths. However, improvements in life expectancy will also be accompanied by an increase in chronic diseases as people survive and live with chronic diseases for longer periods.

## 2.3 The Burden of Chronic diseases

Burden of Disease (BOD) measures more than just deaths but also the impact of illness giving a more comprehensive view of how diseases affect individuals and families and how this impacts on the health system. BOD uses disability adjusted life years (DALYs) to measure health outcomes by conditions, causes and risk factors.

The NT Aboriginal population carries a much heavier BOD than the NT non-Aboriginal population or the national average in terms of the crude DALYs rate. Males have higher DALY rates than females across all population groups<sup>xv</sup>. After age standardisation the NT Aboriginal disease burden was 3.57 times the national average.

**Table 2 Disability Adjusted Life Year Lost Per 1000 Population, NT 1999-2003 v Australia 2003**



Note: NT=Northern Territory

Source: Zhao Y, You J and Guthridge S 2008. Burden of Disease and Injury in the Northern Territory, 1999-2003 (Draft) Unpublished

## 2.4 Leading Categories of BOD

The top three causes of BOD in 1994 – 1998 were ischaemic heart disease, Type 2 diabetes and road traffic accidents. In 1999 – 2003 these changed to Type 2 diabetes, anxiety and depression, and ischaemic heart disease. For Aboriginal men the leading cause was cardiovascular disease and for women Type 2 diabetes.

Comparing 1994 -1998 with 1999-2003, Type 2 diabetes, anxiety and depression, some kidney diseases and COPD are the chronic diseases increasing in Aboriginal people.

The highest BOD was in the age groups from 25-54 with peaks at 15-24 for mental health conditions, 35-44 for cardio vascular disease closely followed by diabetes. These three conditions account for 40% of the total BOD for Aboriginal populations.

**Table 3 Top ten causes in burden of disease and injury, Northern Territory Aboriginal people**

	1994-1998	1999-2003
Type 2 diabetes	2	1
Anxiety & depression	10	2
Ischaemic heart disease	1	3
Nephritis and nephrosis	14	4
COPD	7	5
Road traffic accidents	3	6
Suicide & self-inflicted	19	7
Homicide & violence	9	8
Vision loss	21	9
Scabies related skin infection	.	10

Source: Zhao Y, You J and Guthridge S 2008. Burden of Disease and Injury in the Northern Territory, 1999-2003 (Draft) Unpublished

## 2.5 Chronic Disease Prevalence in Remote NT Communities

In 2005 DHF estimated chronic disease prevalence in remote NT populations using data from primary care chronic disease registers and hospital inpatient data.<sup>xvi</sup> This indicated that there is considerable under diagnosis of chronic diseases in remote Aboriginal communities. The finding strongly supports anecdotal evidence from primary care providers throughout the NT. The study found:

- a higher prevalence of chronic diseases in women except for ischaemic heart disease

- prevalence rates increased progressively with age
- prevalence rates for people 50 years and over were
  - >50% hypertension and renal disease
  - 40% diabetes
  - 30% COPD
  - 20% IHD
- of all the people with diabetes 60% are women and 40% are men
- regional variations in prevalence of chronic diseases with Aboriginal people from Central Australia more likely to have renal disease, diabetes and hypertension and the Top End more likely to have COPD and ischaemic heart disease
- 40% of people had at least two conditions before age 50 and 60% after age 50
- 30% had at least 3 conditions after age 50
- more common interactions were between hypertension, diabetes, ischaemic heart disease and renal disease
- co-morbidities and complications of chronic diseases were common and strongly associated with increasing age

The study of chronic diseases in remote communities<sup>xvii</sup> found highest prevalence of cardiovascular disease and diabetes in Aboriginal women and for men cardiovascular disease, cancers and digestive diseases. Focusing on these areas is likely to have the most impact.

## 2 Questions

- 2.1 Which of the key pieces of data e.g. prevalence, life expectancy, burden of disease are needed to put the NT PCDS in context?
- 2.2 Burden of disease and DALY's are measures that are not readily understood by many people. Can you suggest an alternative way of expressing these measures.

### 3 Risk Factors for Chronic Diseases

Risk factors are characteristics that are associated with an increased risk of developing a particular disease or condition. Many chronic diseases are preventable since many of the risk factors which influence them can be avoided or modified. Since most of the modifiable risk factors are associated with several different diseases, prevention and management of these risk factors can have substantial benefits.

#### 3.1 Modifiable and Non Modifiable Risk Factors

Risk factors may be present for many years before disease becomes apparent. Therefore it is important to look for these risk factors and give people the opportunity to change them where possible before disease is developed or once disease has developed to modify behaviour and prevent or delay the progression of complications.

**Table 4 Risk Factors and Determinants for Chronic Diseases**

Modifiable risk factors		Broad influences (may or may not be modifiable)	Non modifiable risk factors
Behavioural	Biomedical		
Tobacco smoking Excess alcohol use Physical inactivity Poor diet Other	Excess weight High blood pressure High blood cholesterol Other	Socio environmental factors Psycho social factors Early life factors Political factors	Age Gender Indigenous status Ethnic background Family history Genetic make up

Source: AIHW Chronic Diseases and Associated Risk Factors in Australia 2006

Behavioural and biomedical risk factors are often able to be modified at the individual level by changes in behaviour or through medical intervention. For these risk factors and the broader influences on health, interventions at the community and population level are often needed to produce change. The non modifiable risk factors can be used to identify groups at increased risk. This information can then be used to ensure that strategies are targeted and appropriate to the population group who are at increased risk.

#### 3.2 Modifiable Risk Factors With The Greatest Health Gains

While the social determinants of health have a significant impact on health the evidence shows that much of the burden of disease caused by chronic diseases can potentially be prevented by focusing on the modifiable risk factors:

- **Reducing smoking**
- **Improving nutrition**
- **Reducing rates of harmful and hazardous alcohol consumption**
- **Increasing physical activity**

These risk factors are commonly referred to as the **SNAP** risk factors i.e. **S**moking, **N**utrition, **A**lcohol and **P**hysical activity. These risk factors will be addressed specifically in the following sections. By focusing on these factors the biomedical risk factors of excess weight, high blood pressure, high blood cholesterol can be reduced. These biomedical factors can be modified through management including addressing the modifiable risk factors and through clinical management eg drugs to reduce high blood pressure.

Aboriginal people residing in remote areas experienced a higher amount of the health gap due to all risk factors<sup>xviii</sup>.

### 3.3 Major Risk Factors In The NT

The largest contribution to the BOD in the NT was low socio economic status that accounted for 26.8% of the burden of disease<sup>xix</sup>. This data is for all Territorians however in the absence of Aboriginal specific data it provides some indication for Aboriginal populations for whom it is likely to be an underestimate.

**Table 5 Major Health Risk Factors and Contribution to The Total Burden of Disease In NT**

Risk Factor	Attributable Proportion
Low socio-economic status	26.8%
High body mass	11.1%
Physical inactivity	11.0%
Tobacco	8.1%
Alcohol	4.5%
High blood cholesterol	4.2%
High blood pressure	3.9%
Low fruit and vegetable intake	3.3%

Source: Zhao Y, You J and Guthridge S 2008. Burden of Disease and Injury in the Northern Territory, 1999-2003 (Draft) Unpublished

#### 3.3.1 Smoking

In Australia death, disease and disability caused by smoking continues to climb with the consequent cost of these deaths to governments, communities and individuals particularly the loss suffered by those who have lost family members as a result of smoking. These costs are even greater in Aboriginal populations where smoking rates are consistently higher than for other Australians.

Given the overwhelming evidence of the impact of smoking on chronic diseases, the high rates of smoking in Aboriginal people and the evidence that smoking cessation has the highest impact on chronic diseases, consideration needs to be given to making smoking cessation the highest priority in the prevention spectrum. In light of this and the limited progress that has been made to date a significant proportion of this paper addresses smoking.

In the Australian population for people aged 18 and over smoking rates have gradually declined from 34% of people (males 40% and females 29%) aged 18 years and over in 1980 to 19% (males 21% and females 18%) in 2007. The decline in smoking rates has been slower for women than men with the increasing smoking rates of young women contributing to this situation<sup>xx</sup>.

These changes in the decline of smoking rates correlate with the level of tobacco control activities occurring at the time. The drop in male smoking rates seen in the early 1980s coincided with well-funded media-led Quit campaigns, debate in the media and campaigning by national special interest groups. Rates remained steady in the 1990's when there was less expenditure on public expenditure campaigns and less legislative activity concerning tobacco advertising and smoking restrictions. The reduction in rates seen by the end of the 1990s corresponds with the combined effects of

- increased tobacco taxes
- additional smoke free legislation
- the National Tobacco Campaign, a mass-media led program aimed at encouraging cessation

This pattern of decline has not been seen in Aboriginal populations in Australia.

In the general NT population there was a general fall in smoking rates in the NT urban population, (1977 to 1994) which was consistent with the national decline. Males fell from 57.1% to 40.4 % and females from 42.7 % to 30.7 %. (mostly non-Aboriginal people). There was little change between 1998 and 2004<sup>xxi</sup>

### **Aboriginal Australians**

51% of Aboriginal adults in Australia smoke. This is more than twice the number of non Aboriginal Australians. Smoking:

- is the largest risk factor contributing to death rates, more than alcohol and all other illicit drugs combined
- related illness accounts for 20% of all adult Aboriginal deaths
- accounts for 17% of the health gap between Aboriginal and non Aboriginal Australians
- rates have remained stable since 1994 when the first national study of smoking by Aboriginal people was undertaken.
- in all age groups among both men and women rates are higher than the overall Australian population.
- rates are highest among males and females aged between 25 and 44.
- rates in males are slightly higher than females (51% compared to 49%)<sup>xxii</sup>
- people living in major cities are less likely to smoke than those living in
- very remote areas (49% compared with 52%),

**Table 6 Percentage of Current Daily Smoking Among Aboriginal Peoples and Torres Strait Islanders by Sex and Age Group, 2004–05**

	Age group					Total
	18–24	25–34	35–44	45–54	55 +	
Males	50	56	57	50	35	51
Females	51	54	54	51	26	49
All people	50	55	55	50	30	50

Source: Scollo M M and Winstanley M H [editors]. Tobacco in Australia: Facts and Issues. Third Edition. Melbourne: Cancer Council Victoria; 2008.

Smoking rates varied by state. In 2004-05, 54% of NT Aboriginal people smoked. Rates in other states/territories were 41% in ACT, 54% in WA, 50% in Victoria, Queensland and Tasmania, 51% in NSW and 53% in South Australia<sup>xxiii</sup>.

International research has shown that some other Indigenous groups use tobacco at significantly higher levels.

- New Zealand: 45% of the Maori population are smokers, compared to 21% of the non-Maori, non-Pacific Islander population
- United States of America: 32% of American Indians and Alaska Natives are current smokers, compared with 21% of the overall adult population
- 51% of Canada's off-reserve Aboriginal people are smokers, almost double the prevalence of the non-Aboriginal population

Although it is likely that these higher prevalence figures are to some extent due to socioeconomic disadvantage the Indigenous experience of marginalisation, family dislocation, racism, disconnection from land, loss of traditional diet and lifestyle, and the subsequent shift to Western habits and practices are also central to patterns of drug use and ill health.

An important finding from some small surveys and anecdotal evidence suggest that Aboriginal health workers have a substantially higher prevalence of smoking than the general Australian population (38%-63% smoke). This may be an underestimate of actual smoking rates among health workers as some may have chosen not to be included in surveys. Research has found that many Aboriginal health workers who smoke, smoke heavily, and that tobacco use provides a means of coping with the stressful nature of their workloads. These studies indicate a need for appropriate support and education for health workers as well as the communities in which they work.

**Aboriginal Territorians**

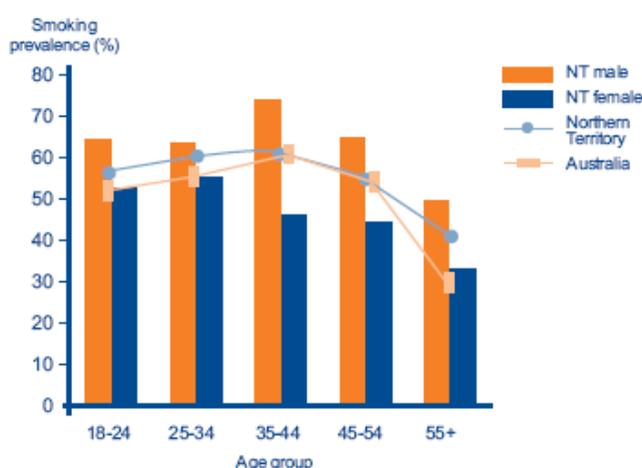
Smoking rates have increased from 1994 to 2004/05<sup>xxiv</sup>.

- more than half (55.9 per cent) were current smokers
- two thirds of males were current smokers (64.9 per cent) and almost half the females (47.8 per cent)

- proportion of smokers varied with age group. The highest proportion of male smokers were those aged from 35 to 44 years (74.6 per cent), while for females the peak age group for smoking was the 25 to 34 years age group (55 per cent)
- rates varied with remoteness and was different for males and females. Smoking was more common in Aboriginal males living in remote (69.2 per cent) than non-remote areas (42.2 per cent). For women the pattern was the opposite with much higher smoking rates in non-remote (69.4 per cent) than remote areas (43.8 per cent).

Particularly significant is the increase in smoking rates for females from 35 per cent to 47.8 per cent.

**Table 7 Age-Specific Smoking Prevalence Among Indigenous Adults by Sex, NT and Australia, 2004/05**



Source: NATSIHS 2004/05 (ABS Cat.No.4715.0.55.005)

### Pregnant Women and Smoking

Maternal smoking is associated with increased risk of abortion, low birth weight of the infant and increased risk of asthma and respiratory diseases in childhood. It is likely that the figures below underestimate the rate as each year there were approximately 20 per cent of women without a recorded smoking status.<sup>xxv</sup>

**Table 8: Smoking Status of Pregnant Women, NT, 2000/2003**

Indigenous status	2000 <sup>a</sup>	2001 <sup>a</sup>	2002 <sup>a</sup>	2003 <sup>b</sup>
Indigenous	34.6	38.9	35.4	43.1
non-Indigenous	18.8	19.4	20.3	20.3

a. Smoking status was recorded in first trimester of pregnancy.

b. Smoking status was recorded at the first antenatal visit.

### 3.3.2 Nutrition

Poor nutrition contributes to low birth weight, failure to thrive and increased likelihood of infections in early childhood, and to obesity, Type 2 diabetes, cardiovascular disease, hypertension and kidney disease in adulthood.

### **Overweight and Obesity**

In Australia, and indeed worldwide, the prevalence of overweight/obesity has been increasing markedly over the last twenty years. As a single risk factor, high body mass was the second leading cause of the BOD, accounting for 11% of the total BOD and contributing 16% of the life expectancy gap<sup>xxvi</sup>.

In 2004-05 the National Aboriginal and Torres Strait Islander Health Survey<sup>xxvii</sup> found that among Aboriginal people 38% were a healthy weight, 28% were overweight and 29% were obese. The rates of overweight/obesity were similar for both males (58%) and females (55%). 37% of people aged 15–24 years were overweight/obese increasing with age to 74% of people aged 55 years and over. Since 1995 rates in non-remote areas increased from 48% to 56%

### **Healthy Weight in Childhood**

Underweight and overweight are both issues for all Australian children with similar proportions of overweight in Aboriginal and non Aboriginal children. Underweight is more prevalent in remote communities and recent studies have shown that some Aboriginal children particularly in urban areas are overweight.

### **Eating Fruit and Vegetables**

Fruit and vegetable consumption is strongly linked to the prevention of chronic diseases

and to better health. In 2003, insufficient fruit and vegetable consumption contributed to 3% of the total burden of disease and 6% of deaths for Aboriginal Australians.<sup>xxviii</sup> An inadequate intake of fruit and vegetables continues to be reported for Aboriginal Australians. No usual daily fruit intake was reported by 12% of people in non-remote areas and 20% in remote areas and for vegetables 2% in non-remote areas and 15% in remote areas.

### **Recent Findings in NT Remote Communities**

A study conducted in 2007 provides a description of dietary intake in six Aboriginal communities in remote Australia.<sup>xxix</sup> Included in this study were a Top End and a Central Australian community. Findings included:

- in the Top End community the store provided less than half (40%) to the total energy requirement and in Central Australia 73% of the required energy
- bread and table sugar alone contributed more than one-quarter to energy availability (25% Top End, 29% Centre). Flour, milk and soft drink were also important sources of energy in the two community stores
- table sugar, soft drinks and cordial contributed the most to total sugar (66% Top End, 56% Centre)
- fats and oils contributed the most to total fat (25% Top End, 31% Centre). Margarine, milk, processed meats and pies/sausage rolls were the items contributing most to fat and saturated fat
- salt intake was found to be taken in excess of the recommended levels with bread and processed meats contributing most
- fresh fruit contributed the most to sales of fruit in both stores
- fresh vegetables contributed the most to vegetable sales in the Top End and canned and frozen vegetables in the Centre

### Factors Impacting On Food Supply

The above study found the four most significant factors impacting on food supply were

- socio economic status (poverty, high cost of food, unemployment and welfare payments leading to irregular access to food)
- food supply (quality of goods in the community store, transporting food over long distances, cooking and storage facilities, store staffing and management)
- environmental (safe food storage, lack of cooking facilities)
- social factors (substance use and abuse, low literacy and mathematics skills, family obligations)

The impact of socio economic factors on food and nutrition in remote communities cannot be underestimated. The 2008 annual NT Market Basket Survey (MBS) showed that people living in remote NT communities need to spend an average of 35% of their family income on a standard basket of foods compared to 28% for those living in Darwin<sup>xxx</sup>. Additionally there is also competition for the food dollar, for example for the purchase of high cost items such as cigarettes, tobacco and alcohol.

High quality nutrition protects against chronic diseases but energy-dense, nutrient poor foods cost much less than nutrient rich foods. Peoples dietary choices made within budgetary constraints are driven by maximising energy value for money resulting in energy-dense, nutrient poor choices.

A recent study undertaken in a top end community<sup>xxxi</sup> showed that the energy-cost differential between energy-dense, nutrient poor foods and energy-dilute, nutrient rich foods influences the capacity of people living in remote communities to access a healthy diet. It highlights the importance of facilitating modifications to food supply that enable people to access nutritious food at minimum cost. It also highlights that by placing nutritional improvement in an economic rather than an individual behavioural framework is likely to be effective in improving nutrition for people in remote communities.

### 3.3.3 Alcohol

In 2004-05, after adjusting for age differences, the rates of chronic risky/high risk drinking were similar for both Aboriginal and non-Aboriginal Australians. Excessive alcohol consumption is a major risk factor for illness and death in all populations. People who regularly drink at harmful levels place themselves at substantially increased risk of chronic ill-health and premature death, while an episode of heavy drinking (binge drinking) places the drinker and others at increased risk of injury and morbidity.

The use and abuse of alcohol in Aboriginal communities is strongly associated with the colonial history of Australia and with social and economic disadvantage therefore tackling this disadvantage is critical to addressing alcohol abuse. In 2003, alcohol was associated with 7% of all deaths and 6% of the total burden of disease for Aboriginal Australians<sup>xxxii</sup>.

In 2004-05, Aboriginal people aged 18 years and over

- were more likely than non-Aboriginal people to abstain from drinking
- people in remote areas were nearly three times as likely as those in non-remote areas to report never having consumed alcohol (18% compared with 6%)
- of those who did consume alcohol in the week prior to the survey, one in six Aboriginal adults (16%) reported long-term (or chronic) risky/high risk alcohol consumption, up from 13% in 2001
- in non-remote areas, the proportion of Aboriginal adults who drank at chronic risky/high risk levels increased from 12% in 2001 to 17% in 2004-05
- Aboriginal men were more likely than Aboriginal women to drink at long-term risky/high risk levels (19% compared with 14%). This was evident in all broad age groups under 55 years

**Table 9: Chronic Alcohol Consumption, Aged 18 Years and Over 2004-05**

Chronic alcohol risk level %	Indigenous		Total	Age standardised rate ratio(a)
	Males	Females		
	%	%		
Low risk	38.2	26.7	32.1	0.6
Risky/high risk	19.5	13.8	16.5	1.1
Total drinkers in the last week(b)	58.1	40.6	48.8	0.7
Did not consume alcohol in the last week(c)	41.2	58.2	50.2	1.5
Total(d)	100.0	100.0	100.0	..

.. not applicable

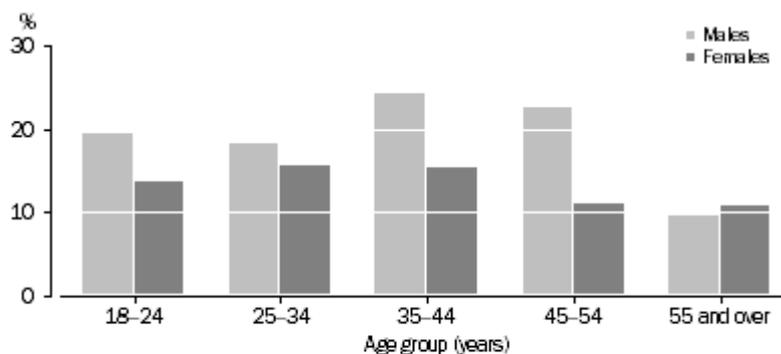
- (a) Rate ratios are calculated by dividing the Indigenous age standardised proportion for a particular characteristic by the non-Indigenous age standardised proportion for the same characteristic.
- (b) Includes persons for whom risk level was unknown.
- (c) Includes persons who had never consumed alcohol.
- (d) Includes persons for whom time since last consumed alcohol was not known

Source: Australian Bureau of Statistics. National Aboriginal and Torres Strait Islander Health Survey 2004-05.

### Long Term Risky/High Risk Drinking

Those who drank at long term risky/high risk levels were more likely to have higher rates of tobacco smoking (69% compared with 48% of low risk drinkers), high/very high levels of psychological distress (32% compared with 24%) and high blood pressure (23% compared with 16% (35 years and over)).

**Table 10: Long Term Risky/High Risk Alcohol Consumption (A), Indigenous Persons Aged 18 Years and Over - 2004-05**



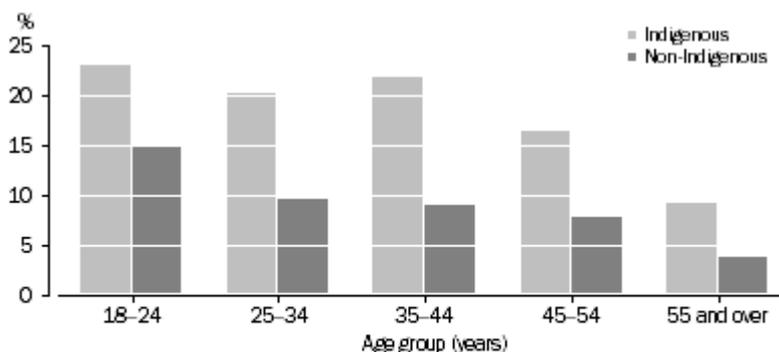
(a) Persons who consumed alcohol in the last week. Risk levels are based on NHMRC guidelines for risk of harm in the long-term. See Glossary for more information.

Source: ABS 2004-05 NATSWHS

### Binge Drinking

In 2004-05, rates of binge drinking were higher for Aboriginal than non-Aboriginal people in every age group. After adjusting for age differences between the two populations, Aboriginal Australians were twice as likely as non-Aboriginal Australians to drink at short-term risky/high risk levels at least once a week.

**Table 11: Acute/Risky Alcohol Consumption (A), 18 Years and Over - 2004**



(a) Based on NHMRC guidelines for risk of harm in the short-term. See Glossary for more information.

Source: ABS 2004-05 NATSWHS, 2004-05 NHS

In 2004-05, for people aged 18 years and over:

- more than half (55%) reported drinking at short-term risky/high risk levels on at least one occasion in the last 12 months
- one in five (19%) reported drinking at these levels at least once a week
- rates of weekly binge drinking were lower among older age groups, ranging from 23% of those aged 18-24 years to 9% of those aged 55 years and over
- in all age groups, regular binge drinking was more common among Aboriginal males than Aboriginal females
- overall, 24% of males drank at short-term risky/high risk levels on a weekly basis compared with 15% of females
- regular binge drinking was associated with poorer health and wellbeing among Aboriginal young people

### Aboriginal Territorians

Aboriginal people in the Northern Territory<sup>xxxiii</sup> have the highest per capita consumption of alcohol in Australia at 13.82 litres of pure alcohol per person each year. This is 1.5 times the Australian average of 9.53 litres.

- 30% of the population drink at least once each month at risky levels for acute harm (21 per cent nationally)
- 18% drink at high-risk levels for chronic harm (10 per cent nationally)
- alcohol-related deaths are three times the national average
- alcohol-related hospitalisations are five times the national average
- 42 per cent of alcohol-related admissions to hospital were for alcohol-related assault
- alcohol is involved in 65 per cent of road fatalities
- alcohol is involved in 67 per cent of police incidents across the Territory and 84 per cent of incidents outside Darwin

### 3.3.4 Physical Inactivity

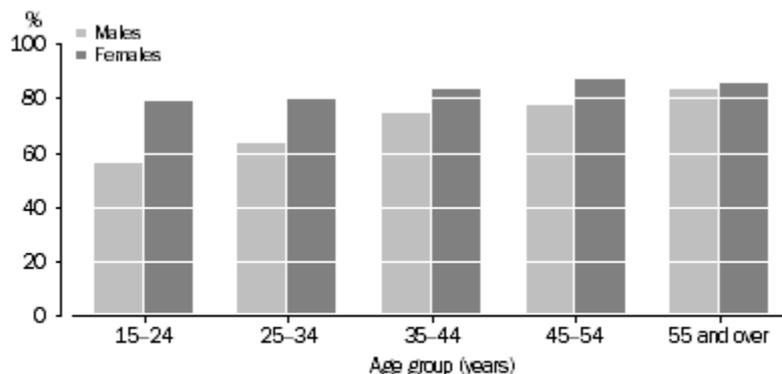
Low levels of physical activity are a major risk factor for ill-health and mortality. People who do not engage in sufficient physical activity have a greater risk of cardiovascular disease, colon and breast cancers, Type 2 diabetes and osteoporosis. Being physically active, on the other hand, improves musculoskeletal health and reduces the chances of being overweight, having high blood pressure and/or high blood cholesterol. There is considerable research to support the claim that physical activity reduces certain types of anxiety and depression and increases self-esteem and self-efficacy<sup>xxxiv</sup>

#### Aboriginal Australians

Physical inactivity was the third leading cause of the burden of illness and disease in 2003, accounting for 8% of the total BOD and 12% of all deaths<sup>xxxv</sup>. In 2004-05:

- three-quarters (75%) of Aboriginal people aged 15 years and over who were living in non-remote areas reported being sedentary or exercising at low levels in the two weeks prior to interview (68% in 2001)
- one-quarter (24%) reported exercising at moderate/high levels (32% in 2001)
- rates of physical inactivity increased with age, with two-thirds (67%) of people aged 15-24 years being sedentary/exercising at low levels compared with 85% of those aged 55 years and over
- rates of sedentary/low levels of exercise were higher among Aboriginal females than Aboriginal males (82% compared with 67%)

**Table 12: Sedentary/Low Levels of Exercise 15 Years and Over (a), 2004-05**



(a) In non-remote areas.

Source: ABS 2004-05 NATSIHS

### Health Impact of Physical Inactivity

For those who were sedentary or who engaged in low levels of exercise aged 15 years and over

- one-quarter (25%) reported fair/poor health, compared with 15% of those who engaged in moderate or high levels of exercise
- more likely to be overweight/obese (58% compared with 51%) and to smoke on a daily basis (51% compared with 42%)

And for those aged 35 years and over

- were more likely than people who exercised at moderate/high levels to have three or more long-term health conditions (66% compared with 55%)
- higher rates of cardiovascular disease (33% compared with 23%) and asthma (18% compared with 13%)

Across all age groups

- the proportion of females who were sedentary/exercised at low levels was higher than males in both the Aboriginal and non-Aboriginal populations
- after adjusting for differences in the age structure between the two populations, Aboriginal Australians were more likely than non-Aboriginal Australians to be sedentary or to exercise at low levels

## 3.4 Mental Health and Risk Factors

There is evidence that mental health is a co-morbidity for chronic diseases in a high proportion of any population and often associated with other drug and alcohol problems.

Aboriginal people in the Northern Territory experience a disproportionate morbidity and mortality burden from mental health and alcohol and other drug (AOD) problems. This includes a dramatic increase in suicide rates since the 1980s, growing rates of Aboriginal mental health admissions, high death rates from alcohol-related causes and increasing rates of alcohol-related problems, including injuries and criminal offences. There is also evidence of increasing harm from illicit drugs and gambling. There are common determinants of AOD and mental health issues, including the ongoing legacy of colonisation, dispossession, racism, poor educational opportunities, loss of autonomy and control, welfare dependency, high unemployment and lack of access to services. <sup>xxxvi</sup>

### **3 Questions**

- 3.1 Should we maintain an equal focus on all four risk factors (smoking, nutrition, alcohol and physical activity) or should the PCDS prioritise efforts related to the greatest health gains e.g. smoking cessation?
- 3.2 What are your reasons for your answer to the previous question?
- 3.3 Are there other risk factors that should be prioritised and why?

## 4 Prevention of Chronic Diseases

### Interventions to Reduce Risk Factors

There have been an increasing number of interventions related to chronic diseases in Aboriginal communities in the past 10 years. Some of these have been published in the literature, some are in the grey literature and others provided by experienced practitioners in Aboriginal PHC services. The level of evaluation and evidence to support these interventions varies greatly and is largely a result of the limited investment in primary health care and the continuing negative pressure of the social determinants of health.

Some interventions are primarily the responsibility of primary health care services whilst others include a much broader range of organisations. There is strong evidence that community based and driven interventions are most effective. There are some examples of this in this paper.

### 4.1 Strategies to Reduce Smoking

There is a strong body of evidence from overseas and nationally that provides clear guidance on effective ways to reduce smoking. While some of this evidence has not been tested in Aboriginal populations there is a growing body of evidence in this area.

The National Tobacco Strategy<sup>xxxvii</sup> identifies the following objectives

- To prevent uptake of smoking
- To encourage and assist as many smokers to quit as soon as possible
- To eliminate harmful exposure to tobacco smoke among non smokers
- Where feasible to reduce harm associated with the continuing use of, and dependence on, tobacco and nicotine.

The National Preventative Health Taskforce<sup>xxxviii</sup> proposed a range of measures to address smoking for all Australians:

- Revenue measures that would reduce the affordability of tobacco products
- Legislative measures to address current deficiencies in tobacco regulation
- Expenditure measures including social marketing campaigns
- Other initiatives to reduce social disparities in smoking
- Health system interventions
- Reinvigoration of the Australian Tobacco Strategy

The taskforce proposed in addition to the above the following measures specifically for Aboriginal people:

- Advocacy training and mentoring for people working in Aboriginal tobacco control
- Aboriginal tobacco control workers in each state and territory affiliate of NACCHO
- Incentives to encourage non government agencies to employ Aboriginal workers to improve Aboriginal specific programs
- Training that is realistic and empowering for health workers
- A trial of multi component community based programs to deliver locally managed interventions.

The NT Tobacco Summit being facilitated by the National Heart Foundation NT Branch in March 2009 will seek agreement by participants on recommendations

for how to develop, implement and report on priority activities for tobacco control in the Northern Territory. One of the key components of this summit is to identify Aboriginal specific priorities for the NT. The outcomes of the summit will be to recommend activities for inclusion in the Northern Territory Tobacco Action Plan and will inform the implementation plan for the PCDS in the NT.

#### 4.1.1 Interventions to Reduce Smoking in Aboriginal Populations

A review of the literature on Aboriginal people and tobacco control undertaken by Ivers et al in 2001 provides a comprehensive description of the issue at that time and remains a key document in informing tobacco control initiatives.<sup>xxxix</sup> This document provides much of the information below.

##### Primary Care Interventions

- Brief interventions for smoking cessation

In the Aboriginal population these have been shown to be successful although at a lower level than other populations.<sup>xi</sup>

- Encouraging and supporting health staff to quit
- Staff who quit are more able to provide effective advice smoking to the community. This is especially so for Aboriginal health staff.<sup>xii</sup>
- Quality improvement systems

Systems that encourage and monitor the provision of smoking cessation advice by health professionals increases the recorded delivery of brief interventions.<sup>xiii</sup>

- Nicotine replacement therapy (NRT)

The use of NRT plus other strategies e.g. brief interventions has been shown in other populations to increase quit rates. There has been limited evaluation of this strategy in Aboriginal populations although there are indications that it may be effective. The recent listing of NRT on the Pharmaceutical Benefits Scheme (PBS) removes the barrier of access to the drug and provides an opportunity for evaluating the effectiveness.

- Smoking during pregnancy

This is the single most important area to improve low birth weight and infant mortality. In other populations smoking cessation programs during pregnancy reduce smoking rates, low birth weights and preterm birth. This has not yet been shown in Aboriginal populations.

##### Community Interventions

- Quitlines

Quitlines have been shown to increase quitting among those who ring and are cost effective in other populations. No evidence was found about the use by Aboriginal people. Anecdotal evidence is that Aboriginal people in remote communities do not use quit lines.

- Media campaigns

Mass media campaigns in other populations have been shown to be a key part of reducing smoking rates. While Aboriginal people show high

rates of recall of messages from mainstream media campaigns the smoking rates have not reduced in the same way. The success of media campaigns in Aboriginal populations is variable with little evidence to support the impact. Some studies have found that when combined with other strategies they have more chance of success. There has been limited use of Aboriginal specific mass media campaigns.

The local development of media including radio, television and print media has been suggested as an effective strategy although no evidence to support or refute this suggestion was found.

- Sponsorship of cultural, sporting and community events  
Evidence that this is effective in other populations is not strong however smoke free events reduce exposure to tobacco smoke and may be useful.
- Multi component interventions  
A multi component trial in the NT used a number of strategies including sports sponsorship, a health promotion campaign, training of health professionals to give cessation advice, school education and a policy on smoke free environments. This trial showed that knowledge about the health effects of smoking improved and there were greater intentions to quit. There was no significant change in smoking rates.
- Youth tobacco uptake prevention  
There is limited evidence that uptake prevention strategies in other populations is effective in reducing smoking rates. There are few studies in Aboriginal populations and most have not been evaluated beyond increasing knowledge of health effects. A study undertaken with Koori people in Victoria suggests that messages focusing on health and fitness, cost and responsibility to others that are linked to general health messages and support from people within the community are important as are the role of elders and other community members who have quit.

#### **Legislative / Regulatory Interventions**

- Bans on smoking and the sale of tobacco to minors  
This legislation applies to all populations. In other populations these bans have had major effects on smoking rates. However this has not been shown to impact on smoking rates in Aboriginal populations. The reasons for this may include the lower employment rates (smoke free workplaces), poorer public infrastructure in Aboriginal communities and the often preferred use of outdoor spaces for meetings. In remote communities there is more limited knowledge of the legislation and even less enforcement by authorities.
- Pricing of tobacco  
There is international evidence that increased pricing reduces smoking rates with greater impact in socio economically disadvantaged populations and greater impact on youth smoking.

### **4.1.2 Recent NT Evidence**

### Maningrida 'Smokebusters' Campaign

The Maningrida 'Smokebusters' campaign<sup>xliii</sup> was based on the principles of community control and ownership of the program and evidence based guidelines. Tobacco control was identified as a major priority to improve the health of people in Maningrida following a community outreach program of Adult Health Checks. Despite the successes of the program the infrastructure and funding were not sustained in the long term and it ended earlier than planned. Tobacco consumption declined by 8% (approximately 1,000 cigarettes a day) over the six-month lifetime of the program. The program included:

- establishment of an Aboriginal steering group of non-smoking community elders;
- appointment of a community-based public health officer and a non-smoking community-based tobacco support worker who were trained to deliver support to people who wish to stop smoking.
- adapting mainstream messages and services to local community needs with education of children a key component
- talks and presentations involving the school, crèche, school teachers, adolescent girls, football teams, households and visiting remote homelands to provide support for clients.
- collaborative partnerships with community agencies selling tobacco products and with education and health service providers;
- reorientation of tobacco cessation services to improve access
- support for clients through tailored counselling and nicotine replacement therapy.
- project partnerships were formed with community agencies including the Health Board, Council, Progress Association, Bawinanga Aboriginal Corporation, Health and Education. These partnerships were developed to:
  - Achieve legislative compliance with signage and marketing at tobacco sale locations
  - Promote smoke-free public areas and workplaces
  - Provide opportunistic brief interventions during routine health care
  - Provide a dedicated smoking cessation service accepting self-referral or health centre referrals
  - Provide health education on the harms of tobacco smoking
  - partnerships with external agencies were formed to:
    - Access tobacco cessation health promotion resources (DHF)
    - Evaluate the program through monitoring tobacco consumption and qualitative interviews with 21 adult Maningrida residents (MSHR)

### Outcomes

Between July 2007 and January 2008, the 'Smokebusters' program

- Achieved legislative compliance at all community tobacco outlets.
- Raised community awareness of the dangers of tobacco, second hand smoke, strategies to stop smoking, and non-smokers rights – particularly the benefits of not smoking near children.
- Increased knowledge in children of their right to a smoke-free environment.
- Increased community-based capacity for tobacco control through the appointment of the PHO and training of a community-based tobacco support worker.

- Decreased tobacco consumption, sustained over the lifetime of the project

### **Lessons Learned**

- Smokebusters was based on thorough consultation and community participation to ensure that the program was relevant to identified needs. The program was based on good evidence of priority health issues for the community and best-practice strategies
- community ownership of the program through the Aboriginal steering group was important to make mainstream tobacco cessation messages relevant
- for the community.
- the appointment of the community-based PHO was important to locally coordinate a multifaceted tobacco control intervention targeting tobacco outlets, legislation
- compliance, community education, clinical services and client support. This clearly illustrates the effectiveness of community-based and community-controlled programs compared to services centralised in regional centres.
- the objective evaluation of the program through the monitoring of wholesale tobacco sales was an innovation that gave important feedback to program
- partners and was minimally intrusive to community agencies and community members.
- management of the relationships with funding agencies is very important to secure the sustainability of community-based programs.

The authors concluded that despite all of the obstacles, tobacco control programs can be successful in remote Aboriginal communities and provides evidence about the type of strategic investment that is required to decrease tobacco consumption in remote Aboriginal communities.

### **Factors Influencing Smoking in a Top End Community**

Work undertaken recently in the NT examines factors influencing smoking behaviours in a remote community.<sup>xliv</sup> This study found that there was a complex interaction between historical, social, cultural, psychological and physiological factors which influenced smoking behaviours. The study highlighted the importance of family and kin relations in determining smoking behaviours with most participants in the study being influenced by family to initiate and continue to smoke. The health and well being of family members was said to be a key driver of quit attempts. This study supports the development of family centred tobacco control interventions alongside wider policy initiatives to counter the normalisation of smoking and assisting individuals to quit.

The same study examined perceptions of remote community members and health staff on the acceptability and effectiveness of tobacco control interventions. They found that strategies such as the promotion of smoke free areas, social marketing campaigns and improving access to brief intervention and pharmacotherapies should be continued and include evaluation of the impact on smoking rates. Quit courses and Aboriginal tobacco control workers in primary health setting were strategies in the study project however staff reported that the applicability and effectiveness of these strategies in remote communities was unclear. The study authors recommend further research to assess these and other less clear strategies<sup>xlv</sup>.

## 4.2 Strategies to Encourage Healthy Eating

Over the last century and particularly the last 20 to 30 years, there have been major changes to the living and cultural practices of Aboriginal people. Many people now live in a semi-urban environment which gives less chance for the level of activity which was part of traditional living. Lack of physical activity and dietary changes, accompanied by social disruption and increased levels of stress have contributed to the increase in overweight and obesity.

### 4.2.1 Primary Health Care Interventions Maternal and Child Health

Primary health care interventions have been strongly focused on the health and nutrition of pregnant women, mothers and children as this is critical to improving birth weight and consequent health in adulthood. Antenatal care and improved maternal nutrition impact significantly on low birth weight and this has been a focus in many communities and has included:

- Strong Women, Strong Baby, Strong Culture
- Growth Action and Assessment
- Appropriate and effective antenatal care
- Nutritional advice to pregnant women
- Comprehensive maternal and child health programs including
  - monitoring infant growth
  - encouragement of breast feeding only for the first six months
  - support and advice to parents about child nutrition
  - treatment of anaemia
  - advice about introducing solid foods using dietary guidelines for infant feeding

### 4.2.2 Brief Interventions

Brief interventions on diet and nutrition have been found in other populations to be effective in other populations however there is no clear evidence about the effectiveness in Aboriginal populations.

### 4.2.3 Community Interventions

A range of community interventions have been implemented. The evidence supporting some strategies is not clear. Interventions have included:

- Healthy lifestyle programs including traditional living (See section 4.5)
- Provision of healthy breakfasts and school meals
- Nutrition education in schools and families
- Improved community stores
  - Public health nutritionists working with store management and staff to provide access to healthy food
  - Local non government agencies supporting stores to improve access e.g. Arnhemland Progress Association
  - Remote Indigenous Stores and Takeaways (RIST) initiative funded to improve access to a healthy food supply in remote communities. The project aimed to establish and improve standards for 'healthy'

remote stores e.g. 'Guidelines for stocking healthy food in remote community stores' lists a minimum range of healthy foods that should be available in any store.

- Funding from the Australian Government to support communities to establish viable health focused stores in remote communities through the Outback Stores initiative

The evidence to support some strategies is not clear however the example of the Outback Stores initiative clearly shows that intake of fruit and vegetables has increased significantly. There have been other benefits to communities including the improvement of the economic health of communities at the micro level (creating jobs for indigenous people and functional, well managed stores returning a profit to the community) and at the macro level (functional communities, opportunities for local suppliers).<sup>xlvi</sup>

#### 4.2.4 Mai Wiru Regional Stores Policy

This policy for the Anangu Pitjantjatjara Lands aims to improve the health and wellbeing of all Aboriginal people living on the APY Lands by ensuring continuous access to safe, nutritious and affordable food as well as essential health items through community stores. It recognises the need for a coordinated intersectoral approach to improve and monitor the supply, quality and safety of food and identified essential health items; the need for a subsidy of specific items in all stores; provides a set of rules to govern all aspects of the operations of stores; and provides a basis for implementation through the formal adoption of the policy by all community council and regional organisations throughout the APY Lands.

A community development process was used to develop the policy with wide-ranging community input and representation that was achieved through a participatory planning process involving representatives of every community.

##### Results

- fresh fruit and vegetables and perishable items delivered weekly
- a flat freight charge to all stores
- store accounts are central and transparent
- Commercial Trading Agreements between preferred suppliers
- store managers actively support the policy

##### Outcomes

The short term impact of the policy includes:

- the introduction of the monthly store specials on certain items
- increased fruit and vegetable sales
- increased nutrition awareness for store managers and community members
- nutritional improvement of selected store lines such as the introduction of a fortified white bread and a meat pie with the Heart Foundations Tick

This policy will deliver long term change through:

- further standardisation of management procedures
- development of a store operation manual

- training and employment opportunities for Anangu to work in their community stores with the aim of Anangu in store management positions
- development of a By Law in which the State Government made regulation for and in respect to Mai Wiru

### 4.3 Strategies to Address Alcohol Use and Misuse

The NT Alcohol framework outlines a range of strategies to address varying levels of risk and differing contexts of alcohol misuse.

Alcohol problems affect the community as a whole, however much Aboriginal drinking results in particularly high levels of alcohol-related harm. A key requirement in developing and implementing effective strategies is to centrally involve Aboriginal people in alcohol-related decisions, targeted education and changes to treatment services.

Strategies on which health service providers can have a direct impact include:

- Screening and assessment
- Brief interventions
- Treatment and other interventions for people with alcohol problems

While many of the following strategies are not the sole responsibility of the health system, primary health care services can play a key role as a focus for community action. An example of this is Aboriginal community controlled health services in Alice Springs and Tennant Creek that have worked with other organisations on broader alcohol strategies particularly around issues of supply reduction<sup>xlvii</sup>.

- controls on the availability of alcohol
- education and information
- compliance and enforcement
- drink driving
- restricted areas and community social clubs
- take-away sales

These strategies are to a great extent consistent with the measures that have been developed by AMSANT utilising the experience of Aboriginal community-controlled health services in the Northern Territory and evidence-based research on alcohol misuse from Australia and overseas<sup>xlviii</sup>:

#### **Alcohol Supply Reduction**

- Reduce the number and types of liquor outlets
- Reduce trading hours
- Ban or tightly restrict takeaway sales
- Restrict cheap alcohol products and adopt a minimum price benchmark

#### **Demand Reduction: Encourage Responsible Drinking**

Evidence shows that banning alcohol, while dramatically reducing alcohol-caused harms, does not eliminate alcohol abuse and related harm altogether. It is very important that over time Aboriginal people learn to drink responsibly and that measures be introduced which promote the responsible use of alcohol:

- Align Centrelink payments to restricted alcohol days

Introduce permit systems to encourage responsible drinking. An example of an effective permit system is the system introduced on Groote Eylandt in 2005 that

has led to significant reduction in crime and anti-social behaviour and improvement in health outcomes.

- NT-wide ban on alcohol advertising and promotions

**Demand Reduction: Provide Adequate Treatment & Rehabilitation Services**

There are insufficient alcohol treatment and rehabilitation services and to cope with current levels of demand in the NT.

- Need for increased treatment services. Provide for increased alcohol treatment and rehabilitation services, including detoxification and residential treatment facilities, based on evidence-based need and comprehensive regional coverage
- Integrating Alcohol & Other Drug and Mental Health services in Primary Health Care

There is a need for improved integration and coordination of Alcohol and Other Drug services and Community Mental Health services with the Primary Health Care sector. The Primary Health Care sector should be funded to provide community-based treatment and rehabilitation, including screening, brief interventions, assessment, care planning, support for home based and supported withdrawal programs, provision of pharmacotherapies and community-based structured counseling.

- Return of alcohol sales revenue into alcohol programs

**Harm Minimisation: Community-Based Services and Facilities**

Given the reality that many Aboriginal people will continue to drink it is also important to attempt to reduce the harms that occur when drinking occurs.

- Enhanced night patrols and policing in remote communities
- Aboriginal Social Clubs. A successful example is the Kalkaringi Social Club. This model is based on extensive community consultation and agreement on governance and policing of rules, and no provision for takeaway alcohol

**Develop Effective Alcohol Management Strategies**

There is the need for an increased priority on the development of local and regional Alcohol Management Plans and Liquor Supply Plans.

**Establish Strong Alcohol Licensing, Control and Standards**

- Reform of the Licensing Commission and *NT Liquor Act*
- Establish evidence-based Territory-wide standards
- Better data collection and evidence reporting

**4.4 Strategies to Increase Physical Activity**

Reversing the conditions that contribute to sedentary lifestyles is challenging. Change needs to happen not only at the individual level, but also at the community level. It requires a united and coordinated approach from a range of sectors, such as health, education, sport and recreation, transport, planning and local government. Challenges include the lack of infrastructure and assets, geographic isolation and climatic extremes, over and above well established health and socioeconomic issues.

Being physically active for good health may not be perceived as a priority, in a climate of competing lifestyle behaviour change demands, all under the banner of improved health, as highlighted through research conducted in remote NT communities<sup>xlix</sup>. There is limited evidence of what works best in physical activity

promotion in Aboriginal communities, especially in remote communities. Organised sport is popular in remote communities, but active and regular participation, which has the potential to translate into health outcomes, may be restricted to a few.

The most often cited example of the successful promotion of physical activity in a remote Aboriginal community remains the 'Looma Healthy Lifestyle' program (see section 4.5).

A summary of health initiatives to promote physical activity in Aboriginal communities in Queensland<sup>1</sup> recommended the following:

- the use of multi-faceted approaches to investment, rather than single risk factor intervention
- the development of supportive environments, which can be achieved by targeting some of the barriers identified by the community (e.g. safety, accessibility, social environment)
- targeted and localised communication campaigns to address gaps in knowledge

In the NT there have been a range of strategies to increase physical activity however there has been limited evaluation about the impact and the sustainability of these. The NT and Australian governments provide funding under the banner of 'Sport and recreation' for sport and recreation officers, facilities and programs other strategies include:

- the 'measure up' initiative
- the development of supportive environments
- 'Healthy weight' programs
- community healthy lifestyle activities

## 4.5 Multi Component Healthy Lifestyle Programs

This approach has been put forward as the best approach to addressing the four key SNAP risk factors and has been the focus for prevention strategies in many communities. These programs are community based and focus on smoking, nutrition and physical activity and often include the promotion of traditional activities e.g. hunting, dancing. In the words of Aboriginal and Torres Strait Islander Social Justice Commissioner Tom Calma: 'Culture is the key to caring for country, and caring for country is the key to the maintenance and strengthening of our culture and wellbeing'. This approach has been shown to have a positive impact on health in a range of settings. Evidence from two NT studies is below.

### 4.5.1 Healthy Country, Healthy People

The 'Healthy country, healthy people'li study was conducted in a central Arnhem Land community and examined 'caring for country' practices in a remote Aboriginal community. The study demonstrated significant and substantial health benefits associated with greater participation in caring for country, along with a healthier environment. Significant and substantial associations were demonstrated between greater caring for country participation and decreased body mass, lower risk of diabetes and lower cardiovascular risk. Careful consultation and collaboration with Aboriginal communities is required to identify locally relevant strategies with which to reduce the burden of chronic diseases. Aboriginal people possess great strength and resilience from which to lever health gains.

### **Key Lessons Learned**

- Aboriginal people emphasise that maintaining close connections with ancestral country is a prerequisite for good health.
- Participation in caring for country activities is associated with superior health outcomes.
- Investment in caring for country may present an opportunity for improvements in human health and the health of the environment.

### **Health Practices**

- health services need to shift their focus from acute, episodic, curative care focusing on the individual to preventive health care of populations
- patients with chronic diseases need to be empowered to manage their own illnesses with the resources available to them within their communities
- identification of aspirations to return to country, barriers and enablers may assist to achieve the desired lifestyle
- primary health care services should also be continued or expanded to remote homeland communities, as one of the motivations to leave a homeland is the health requirements of elderly land owners.

### **Health Promotion**

- engagement with Aboriginal asserted health promotion concepts can identify ways to re-orient and meaningfully express mainstream health promotion messages, making them more culturally appropriate
- participation in 'caring for country' activities appears to deliver greater physical activity and better nutrition while also contributing to environmental improvements.
- Caring for country may constitute a substantial reservoir of community strengths from which improved primary and secondary prevention outcomes could be obtained.

### **Social Determinants of Health**

- This research raises a broad range of potential benefits that could arise from increasing support for caring for country activities, including employment, vocational based education, sustainable economic development, re-invigoration of customary governance structures, improved social cohesion, and benefits to individual self esteem and autonomy.

### **Health Research**

- the need for Aboriginal asserted health interventions to be taken seriously and investigated thoroughly.
- collaborative engagement with Aboriginal communities can help identify culturally appropriate and meaningful strategies with which to reduce the gap in life expectancy
- research has a role in identifying interventions that are relevant to several policy areas. In this case this involved the assembly and maintenance of a transdisciplinary team of investigators.

### 4.5.2 The Health of Utopia Residents

Two studies have been published documenting the health of the Utopia community. The first, published ten years ago, compared the health outcomes of people at Utopia with those of people living at a large centralised Aboriginal community in Central Australia. Ten years later the study confirmed the results of the earlier study.

#### Findings

The first study found real differences in health status between adults in the two communities. Utopia residents

- significantly lower mortality largely due to lower rates of alcohol related injury
- significantly lower hospitalisation rates
- less likely to have diabetes (although not significantly so)
- lower average body-mass index

The second study confirmed these results and also found

- all cause and cardiovascular disease mortality rates were lower at Utopia
- significant reductions in some risk factors, especially for cardiovascular disease, such as impaired glucose intolerance, high cholesterol, and smoking (in men)
- a relatively low rate of hospitalisation for cardiovascular disease

#### Lessons Learned

Health benefits were largely the result of

- the more active outstation lifestyle with its higher level of reliance on bush foods
- living away from the ready availability of alcohol
- the cultural aspects of people living in harmony with the land and their own holistic concept of health were also seen to be important contributing factors

The second study also found that even though the social determinants of health were in some cases worse than other Aboriginal peoples Utopia residents

- health was better than average
- had a better diet and greater physical activity
- lived more harmoniously with culture, family and land
- the community-controlled Aboriginal Medical Service, and its provision of outreach (rather than just centre-based) care and chronic diseases management and prevention programs such as well-person's health checks was also an important contributor to better health

### 4.5.3 The Looma Healthy Lifestyle Program

This program was implemented in a small community of the Kimberleys in Western Australia, in 1993<sup>lii</sup>. The initial program focused on the promotion of healthy food and physical activity over a period of two years among high-risk overweight and diabetic people. The program continued beyond the two years and participants were followed up at four years.

### Strategies

- formal and informal education sessions
- regular physical activity groups (hunting trips, participation in sport and regular walking groups)
- dietary changes
- art competitions and sporting festivals
- appointment of a sport and recreation officer

The program developed, over time, and at the direction of the community, from one focussing on body weight and metabolic control in overweight and diabetic people to a more holistic, community-wide approach to management and prevention of chronic diseases.

### Findings

- several family groups began regular walking, independently of the program
- marked and sustained increase in the proportion of older community members [over 35 years] reporting regular physical activity

### Lessons Learned

Community control and ownership of the program, together with the development of supportive environments ensured sustainability of the program and that it became embedded in community life.

These findings are again consistent with NT research that identified that programs that are part of a whole of community approach and that are well resourced, of high quality, are the most likely to succeed<sup>liii</sup>.

## 4 Questions

- 4.1 There is limited evidence about the effectiveness of many prevention strategies that are implemented in the NT. How should the PCDS / implementation plan address this issue?
- 4.2 What are the most important prevention strategies and why?

## 5 Early Detection of Chronic Diseases

A key component of the current NT PCDS is the early detection of people at risk of developing chronic diseases and of identifying those with undiagnosed disease. Preventive health checks, secondary prevention and referral for management of identified chronic diseases form the basis for this component.

### 5.1 The Adult Health Check

The Adult Health Check (also referred to as 'Well Persons Check') is a key component of the NT PCDS for identifying those at risk or with a chronic disease.

Improving preventive health care has been a focus internationally and throughout Australia including guidelines introduced specifically to meet the needs of Aboriginal people. Even in the presence of preventive care guidelines and with a positive attitude to preventive care by service providers studies have shown that care continues to be suboptimal. A recent NT study<sup>iv</sup> utilised the Audit of Best Practice in Chronic Disease (ABCD), Continuous Quality Improvement (CQI) approach to improving preventive care in twelve Aboriginal communities with a two year follow up. The study used the Wagner's Chronic Care Model as a framework for improving chronic care focusing on reorientation of health care systems. While health services systems improved during the study period there was little or no improvement in delivery of preventive care to well adults. There was a small improvement in counselling of life style changes however important measures such as monitoring waist circumference, blood pressure and blood glucose levels and delivery of pneumococcal vaccinations showed no improvement. The authors suggest that the failure to improve delivery of preventive services was due to service providers focusing on strategies related to chronic diseases management rather than prevention services for well adults. They assert that health care providers need innovative ways to improve the delivery of preventive health services to adults however greater understanding is required of how primary care systems can be strengthened to support delivery of preventive services

The introduction of reimbursement of general practitioners for preventive health services under the Medicare Benefits Scheme (MBS) was an attempt to motivate improvements in preventive care services. Under this scheme general practitioners are reimbursed for providing preventive services to all Aboriginal people 15 years of age and older. The uptake of these MBS items has been slow across the NT and does not appear to have made a significant impact on preventive care. The low numbers of medical practitioners in some areas has also contributed to this.

Anecdotal evidence indicates that there has been hesitation among some PHC service providers to increase Adult Health Checks due to fears that the workload created by detecting more people with chronic diseases will create demands for management of the identified disease that cannot be met within the current resources. While the fears of PHC service providers are understandable this approach is problematic for many reasons. This approach

- does not adhere to the basic principle of equity for all Australians
- does not expose the real extent of disease in the community that provides further evidence for increasing resources and hence service delivery capability
- prevents Aboriginal self determination in relation to health through enhancing their understanding of the real disease burden and thus the ability to take effective action

## 5.2 Top End Adult Health Check Project

A research project undertaken providing AHC services to people on outstations. This project identified some critical issues related to early detection of chronic diseases using the Adult Health Check. Importantly health promotion and prevention interventions were a key component of the AHC process. This study identified that the provision of AHC's in the outstation setting is a positive experience for community members and an effective means of detecting disease and providing health promotion and prevention. The aim of increasing services to outstations is not to deliver the maximum number of services, rather to deliver the maximum possible changes to health behaviours, most achievable through family engagement.

### Key Findings

- the decentralised health promoting approach was positively received by community
- a high level of chronic diseases in younger adults was detected
- systematic and widespread programs of decentralised health assessments are effective

### Lessons Learned

- the high levels of chronic diseases in younger adults demonstrates the need for additional resources to reorient PHC energies to deal with this disease burden
- need effective primary prevention and rigorous systems for secondary prevention achieved through early detection and intervention
- the importance of engaging with language based explanations and involving kinship networks is important and can most easily be achieved during a homelands visit or basing a health assessment day within a related cluster of households in the township
- the need to develop a cohesive strategy to address underlying determinants of poor health
- need to develop an appropriately skilled community based workforce, to develop and deliver programs targeting chronic diseases priorities
- health practitioners must continue to advocate for the policy level shifts required to address the social determinants of health that lead to poor health outcomes. Data produced in the process of the adult health check and other health assessments may form the evidence base from which to construct a compelling argument
- patients with chronic diseases have high requirements of the primary health care system and a broad array of specialist and allied health practitioners and services need to be provided in a 'comprehensive' PHC model.
- a significant increase in the health workforce is needed to deal effectively with the emerging health challenges
- further improvements in service provision must be progressed so that staff may work more strategically and effectively including the use of information management technology, skills development in population health - particularly training in brief interventions for lifestyle risks, and setting up mechanisms for clinical governance and practitioner feedback
- Aboriginal health workers were a key factor in the success of the project. They facilitated requests, communicated the aims of the health assessment process, and enabled the process of health education and brief interventions
- the length of association of the non-Aboriginal health practitioner with the community was an important factor

### 5.3 Cardio Vascular Risk Factor Screening

This Heart Health Project in a regional urban setting screened for cardio vascular risk factors<sup>iv</sup>. It was a partnership project between Aboriginal health and social organisations and university departments in which employees of Aboriginal organisations were screened for cardio vascular risk factors.

#### Key Findings

- few new cases of overt cardio vascular disease
- a large proportion of the sample who smoked, had periodontal disease or had 'high normal' levels of risk factors at a relatively young age placing them at risk of developing overt disease.

#### Lessons Learned

A key finding was that much can be achieved through community direction but long term support for partnerships and intervention programs is required:

- clinical follow up was managed effectively with good planning
- effective referral of at-risk people to primary prevention was more difficult
- need to consider the barriers to modifying diet and exercise in designing primary prevention interventions
- promote heart health in a culturally appropriate way

## 5 Questions

- 5.1 How can early detection participation rates be increased?
- 5.2 How can service providers improve the effectiveness and efficiency of follow up of people after an Adult Health check?

## 6 Management of People with Chronic Diseases

Given the burden of chronic diseases within Aboriginal populations managing care for patients with chronic diseases comprises a significant proportion of the workload of a PHC service. PHC service providers report that the chronic diseases workload can at times be overwhelming can be challenging and at best, rewarding, particularly in an environment where there are inadequate resources to meet needs.

This component of the NT PCDS has seen some significant improvements since the development of the initial strategy in 1999. The evaluation of the PCDS identified the following in relation to management of chronic diseases<sup>lvi</sup>:

- dedicated and focused chronic diseases programs in health services
- population lists and chronic diseases registers in all health services
- computerised patient information systems in the majority of Aboriginal Community Controlled Health Organisations (ACCHO)
- improved staff orientation / education
- increase in Aboriginal staffing in ACCHOs
- the development and use of best practice guidelines

### 6.1 Wagner's Chronic Care Model

Wagner's Chronic Care Model<sup>lvii</sup> and its adaptations have been used by many health care services as a basis for organising and subsequently improving care for people with chronic diseases. It focuses on linking informed, active people with chronic conditions with pro-active teams of health professionals. It suggests that there are six elements of key importance to improve chronic care:

- healthcare organisation and health systems that support health care teams
- self-management support
- decision support including design, systems and tools to ensure clinical care is consistent with evidence based guidelines
- delivery system redesign to assist teams to deliver systematic, effective , efficient clinical care and self management support
- clinical information systems that provide information about the population, reminders for review and recall, and monitor performance of care teams
- community resources to support people with chronic diseases

Evidence from the ABCD CQI process shows that this model can be applied in Aboriginal PHC services<sup>lviii</sup> and can provide a framework for improving care even within an under resourced PHC service.<sup>lix</sup>

### 6.2 Kaiser Model of Chronic Care

One approach to organising service delivery in populations is to identify the level and type of support that groups of patients require and adopting a proactive approach to care. The Kaiser Permanente model developed overseas and modified for use in Australia looks at the level of care required based on peoples level of risk and need<sup>lx</sup>. This model identifies three broad groups in a population – people who with support can manage their own care; people at high risk of increasing ill health; and people with highly complex disease. This stratification of people with chronic diseases enables each group to receive the most effective care and enables allocation of resources based on need. Underpinning all levels

of care is a focus on health promotion and prevention. This may be a useful approach in PHC services with limited resources and high BOD.

### 6.2.1 People Who with Support Can Manage their Own Care

Given the right support people in this group can learn to be active participants in their own care, living with and managing their own conditions. This can help them to prevent complications, slow down deterioration and avoid getting further conditions. In the general population this group comprises 70-80% of people with chronic diseases. This proportion is likely to be lower in Aboriginal populations due to higher rates of disease and the impact that the social determinants of health have on peoples ability to self manage. As this is a large proportion of the population with chronic diseases, small investments in appropriate strategies for this group can have a big impact.

A key role for PHC staff in this group of people is to support people to self manage. The experience of Katherine West Health Board (KWHB) PHC services provides strong evidence of how this strategy can have a positive impact for people with chronic conditions. KWHB trialled a model of self care between 2002 and 2004<sup>ixi</sup>. The project aimed to improve self management by individuals and their families and to encourage adaptive changes within existing health services.

Strategies included:

- employing male and female local Aboriginal Community Support workers in each community
- training Support workers, KWHB staff and board members in self management
- community based health promotion activities
- producing local resources e.g. explaining self management principles and practices in local language

The evaluation of the project found that the project had a significant impact on community awareness of chronic diseases and an improvement in clinic processes. It also found that factors promoting sustainability included:

- flexible implementation strategy to take account of the local environment
- high level of community engagement
- appropriate time frames, timing and congruence between national policy and local readiness
- effective communication between, and project champions in, participating organisations
- effective use of monitoring and evaluation data
- adequate and ongoing funding

Similar strategies for Aboriginal people with Type 2 diabetes in two remote regional centres on the Eyre Peninsula in South Australia provides further evidence and strategies for use in supporting people with self management.<sup>ixii</sup> This strategy included development of self management program tools and processes for goal setting, behaviour change and self management. The program showed that participation in a diabetes self management program run by Aboriginal Health Workers assists patients to identify and understand their health problems and develop condition

management goals and patient centred solutions that can lead to improved health and well being for participants.

### 6.2.2 People at High Risk of Developing Complications

This group comprises people at high risk of developing complications and deterioration in their condition. These people need care in which multidisciplinary teams provide high quality evidence based care. This includes proactive management of care following agreed protocols and clinical guidelines for managing diseases. This care is underpinned by good information systems including disease registers and recall systems, care planning and shared electronic health records. The ABCD CQI process has demonstrated that care can be improved by focusing on these and other components of the chronic care model for people with diabetes.<sup>lxiii</sup> Access to multidisciplinary teams particularly allied health services remains a challenge and innovative means of providing allied health services for people in remote areas requires further development.

### 6.2.3 People with Highly Complex Care Needs

These patients have more than one chronic disease with highly complex care needs that are more difficult to manage. Within the NT Aboriginal population there is a higher proportion of people in this group than in other populations. In remote NT communities

- before 50 years of age - 40% of patients have at least two conditions
- after 50 years of age - 60% have at least two conditions
- 30% have at least 3 conditions<sup>lxiv</sup>

These people require general and specialist medical services and a multidisciplinary approach to care. Care co-ordination is required with a key worker actively co-ordinating care for these people. Some models include a case manager as a key component of this care. In the NT the IM OK project that has been implemented in ACCHO's and DHF PHC services demonstrates improved service delivery and management of care for people with advanced kidney disease utilising, among other strategies, care co-ordination<sup>lxv</sup>. It appears that this model may be transferable to patients with other chronic diseases in the highly complex group.

Work undertaken in the IM OK project identified several important barriers to people accessing effective specialist care as:

- a disconnect between PHC providers and specialist clinicians leading to patient confusion. Factors impacting on this include:
  - multiple referral points
  - patients understanding of what specialist has told them inconsistent with what is written to the GP
  - patient stress related to travelling
  - English not the patients first language, different understandings of health
  - hospital discharge summaries not delivered in a timely manner

- timing of specialist appointments
  - appointment times made by specialist teams with no regard for patient availability/preference
- logistics of getting to an appointment
  - capacity of PHC staff to organise travel and accommodation
  - limited and costly options of transport to major centre
  - cost and safety during a stay in the major centre
  - Patient Assistance Travel Scheme limited capacity to provide funding for an accompanying person

### 6.3 Key Strategies in Improving Care for People with Chronic Diseases

There are a range of factors that can support the provision of care for Aboriginal people with chronic diseases. Implementation of evidence based best practice for the general population is in some cases applicable in Aboriginal health services while in other areas this may or may not be applicable. Ongoing research to identify best practice in specific environments is required including the applicability in urban and remote environments.

#### 6.3.1 Continuous Quality Improvement Approach

There are a range of CQI approaches that have been shown to improve chronic diseases care in Aboriginal populations and include:

##### **Australian Primary Care Collaboratives**

The Australian Primary Care Collaboratives (APCC) Program (formerly the National Primary Care Collaboratives) helps general practitioners and primary health care providers work together to

- improve patient clinical outcomes,
- reduce lifestyle risk factors,
- help maintain good health for those with chronic and complex conditions and
- promote a culture of quality improvement in primary health care.

This approach aims to find better ways to provide primary health care services through the application of the Plan, Do, Study, Act (PDSA) quality improvement cycle undertaking small changes that can be implemented in a short time frame and with rapid testing of the changes. Strategies include shared learning, peer support, training, education and support systems. The topics addressed currently are diabetes, the secondary prevention of coronary heart disease, and improved access to primary care.

Evidence shows that this approach to CQI is effective in Aboriginal health services.

KWHB have participated in two waves of the APCC's Program. They achieved impressive results in chronic diseases management when matched against mainstream General Practice data. Achievements included:

- increasing the percentage of diabetes patients with HbA1c less than 7%
- increasing the percentage of diabetes patients with cholesterol less than 4 mmol/l
- improved blood pressure control.

### **Audit of Best Practice in Chronic Disease**

The Audit of Best Practice in Chronic Disease (ABCD) project<sup>lxvi</sup> is a continuous quality improvement (CQI) approach that provides a mechanism for integrated and ongoing evaluation and improvement of health service organisation and performance. The project focuses on diabetes care and adult health checks. It assesses health systems using the Assessment of Chronic Illness Care (ACIC) tool based on the Chronic Care Model, undertakes clinical audits, provides structured feedback to health centre staff and supports staff to set goals and develop strategies to achieve these goals. This project has provided concrete evidence that this system has led to improvements in:

- all key aspects of systems to support chronic illness care for almost all centres
- percentage of scheduled diabetes services delivered from 30% to 52%
- the proportion of people with diabetes with a record of a BP check within 3 months from 63% at baseline to 76%;
- the proportion of people with diabetes with a record of an HbA1c check within 6 months from 41% to 72%;
- the proportion of people with diabetes whose most recent HbA1c check was <7% from 19% at baseline to 28%;
- the proportion of people with diabetes whose most recent total cholesterol was <4.0mmol/L from 23% at baseline to 30%.

The project identified the following factors as contributing to improvements

- continuous quality improvement approach
- use of data and evidence to improve local responses
- systems within organisation to support best practice
- good data
- objective assessments
- evidence-based best practice guidelines
- multidisciplinary primary health care teams
- clear roles and responsibilities
- community / staff participation and support
- resourcing to allow concentration on non-acute tasks

There were some key indicators of diabetes care that did not show improvement, such as tight blood pressure control. Furthermore, the delivery of preventive services to the general adult population showed almost no change (discussed above).

### **Key Lessons Learned**

The ABCD approach provides a mechanism for integrated and ongoing evaluation and improvement of health service organisation and performance. Lessons include:

- the approach is feasible, acceptable and highly valued in Aboriginal primary care settings

- the successful actions and strategies for system change involved either increased resources or innovative activities that promoted and improved interaction between health care providers and patients
- health centre systems are amenable to improving the delivery of processes of diabetes care (testing, checking and screening) to a level which is comparable with or better than national data
- there were significant system barriers to following up abnormal clinical findings and medication intensification, which limited translation of favourable levels of service delivery into improved patient outcomes

#### **Local Health Service Initiated Quality Improvement Approaches**

There is anecdotal evidence that quality improvement activities initiated by health services using the 'Plan Study Do Act' approach can improve care. These activities are mainly related to problems identified by PHC service staff with strategies to address these developed locally. There is scant documented evidence in this area but further research to identify these activities and to evaluate the effectiveness is warranted.

### **6.3.2 Sustaining Better Diabetes Care**

A one year randomised cluster trial and a three year follow up were undertaken in remote Aboriginal communities in north eastern Australia<sup>lxvii</sup>. The initial trial showed improved diabetes care processes and reduced admissions to hospital when local Aboriginal health workers used registers, recall and reminder systems and basic diabetes care plans supported by a specialist outreach service.

#### **Change Strategies**

- feedback to staff and managers with discussion of barriers to routine structured care and identified opportunities for improvement, barriers included lack of training and no clear lines of responsibility for community level diabetes management and referral
- provision of clinical guidelines
- clear management structure
- workshops and training

#### **Effects of the Change**

- number of people on registers increased
- most care processes (except for HbA1c tests) and clinical interventions improved
- people with good glycaemic control increased from 18 to 25% in line with increased use of insulin from 7 to 16%
- well controlled hypertension increased from 40 to 64%
- hospital admissions for a diabetes related condition fell from 25 to 20%
- small increases in number of people who were self monitoring and taking insulin
- mean weight increased from 87-91kg

#### **Lessons Learned**

- appropriate management structures and clinical support for people with diabetes can lead to improvements in care processes, BP control, preventable complications that result in admission to hospital
- control of weight and glycaemia are more difficult and requires more active community engagement

- much routine diabetes care can be done by non physicians

### 6.3.3 Co-ordinated Care Trials

The NT Indigenous Co-ordinated Care Trials began in 1997 (Tiwi Health Board) and 1998 (Katherine West Health Board). These trials had the objective of determining the extent to which a population based model of PHC (involving initiatives such as Aboriginal community control, funds pooling and care planning) might offer increased health gains for Aboriginal people within defined geographic boundaries who either experienced high levels or were at high risk of developing chronic diseases. Evaluation of the trials showed that this approach is capable of producing measurable health gains within a remote Aboriginal community.

Changes identified in the evaluation of the KWHB trial<sup>lxviii</sup> included:

- employment of additional staff in health centres
- attracting more AHW's into health centres
- improvements in access to PHC services in major communities, outstations and cattle stations
- employment of additional administrative staff in health centres

The evaluators stated that the results of the trial '....can be seen in terms of greater Aboriginal control of health services, increased resources, increasing emphasis on preventative services, and more effective clinical practices'. They also asserted that if the changes were sustained they should lead to improved health outcomes in the future.

The evaluation found that there was increased efficiency in service delivery as evidenced by an increase of 66% in number of services recorded in PHC centres and a decrease in the number of hospital-based services.

### 6.3.4 Self Management

This is a key strategy in improving care for people with chronic diseases and PHC staff play a key role in supporting people to self manage.

The experience of Katherine West Health Board PHC services provides strong evidence of how this strategy can have a positive impact for people with chronic conditions<sup>lxix</sup>. KWHB trialled a model of self care between 2002 and 2004. The project aimed to

- improve self management by individuals and their families
- to encourage adaptive changes within existing health services

Strategies included:

- employing male and female local Aboriginal Community Support workers in each community
- training Support workers, KWHB staff and board members in self management
- community based health promotion activities
- producing local resources e.g. explaining self management principles and practices in local language

The evaluation of the project found that the project had a significant impact on community awareness of chronic diseases and an improvement in clinic processes. It also found that factors promoting sustainability included:

- flexible implementation strategy to take account of the local environment
- high level of community engagement
- appropriate time frames, timing and congruence between national policy and local readiness
- effective communication between and project champions in participating organisations
- effective use of monitoring and evaluation data
- adequate and ongoing funding

Similar strategies and development of self management program tools and processes for goal setting, behaviour change and self management for Aboriginal people with Type 2 diabetes in two remote regional centres on the Eyre Peninsula in South Australia provides further evidence and strategies for use in supporting people with self management.<sup>lxx</sup> This program showed that participation in a diabetes self management program run by Aboriginal Health Workers assists patients to identify and understand their health problems and develop condition management goals and patient centred solutions that can lead to improved health and well being for participants.

### 6.3.5 Strengthening Chronic Diseases Program Activities

Five remote communities in remote north Australia were supported to strengthen chronic diseases program activities.<sup>lxxi</sup> Screening took place in a range of settings in addition to the clinic and follow up was at the clinic.

#### Strategies

- AHW's were trained by visiting nurses on the principles of chronic diseases screening, treatment, management, education, health promotion and data entry
- Individuals with abnormal results were placed on a chronic diseases care plan, referred to the local clinic doctor, commenced on treatment and given instructions for follow up
- Community awareness was achieved using a range of strategies including posters, personalised letters, door knocking, healthy community BBQ

#### Effects of the Strategies

- upskilling of AHW's in clinical practice and computer skills
- adherence to testing and treatment algorithms
- increase in number of appropriate tests
- increase in number of early diagnosis of chronic diseases
- initiation or increase in medications
- improved blood pressure response

#### Lessons/Challenges Learned

- difficulty staffing the program
- acute care needs withdrew AHW's from the program
- abnormal results generated high volume of work

- high rates of AHW absenteeism (personal, family, bereavement, sick etc)
- no AHW replacements
- poor community infrastructure impacted on recruitment

The authors make a strong case for systematic programs and robust and reliable resourcing so that programs can be sustained.

## **6 Questions**

- 6.1 What are the key factors that should be included in the PCDS to improve management of people with chronic diseases?
- 6.2 Is it useful to categorise populations by the level of support they need and implement systems to specifically manage these groups?
- 6.3 There are very few examples of implementing support for self management in NT Aboriginal populations. What is needed to develop this support?

## 7 Opportunities for Improvement in Chronic Diseases for Aboriginal People

The revision of the PCD and development of the implementation plan at this point in time is well placed to ensure that the current investment in PHC services for Aboriginal people by the Australian and NT governments in relation to chronic diseases is invested in services that are evidence based and promote community control of health services.

### 7.1 Primary Health Care Reform

Essential to supporting the Chronic diseases Strategy are Primary Health Care Reform initiatives. These recognise among other matters that Primary Health Care (PHC) has been, and remains, inadequately funded to meet the needs of Aboriginal people in urban and remote areas. In Australia, expenditure on Aboriginal PHC increased in real terms between 1998-99 and 2004-05 however this increase was offset by increased health costs, increasing population and increasing rates of preventable chronic diseases. Therefore the full benefits of PHC have not been seen and the evidence points to 'further and sustained investment in PHC along with action on the social determinants' is crucial to improving Aboriginal health status.<sup>lxxii</sup>

A key component of PHC reform is guaranteeing universal access to PHC. Significant increases in funding for PHC in Aboriginal health services across the NT by the Australian Government provides opportunity for improving a broad range of strategies related to the prevention and management of chronic diseases. Many Aboriginal health services have been able to demonstrate better health outcomes for their communities through better access to primary health care.

In the NT context the document titled 'Indigenous Access to Core PHC Services in the NT'<sup>lxxiii</sup> demonstrates that increasing Indigenous access to core PHC services leads to improved Indigenous health outcomes. The paper identifies the level of investment required and outlines a staged approach to this investment. The paper uses the Katherine West Health Board (KWHB) as a case study in which the results achieved were most impressive given that they were unable to afford the full range of community based core PHC services.

There has been considerable debate about the ability of the health system to positively effect the health of Aboriginal peoples with the argument that focusing on economic and social approaches will be more effective. While not undervaluing the critical importance of economic, social and political factors in determining the health of populations the evidence is clear about the positive effect of primary health care.<sup>lxxiv</sup>

Evidence from the United States and New Zealand suggest that PHC has contributed to increased life expectancy<sup>lxxv</sup>. There is also evidence from Australia that declines in infant mortality rates are consistent with better access to PHC. There have also been changes in mortality for Aboriginal women and in disease mortality patterns (including in the shift from infectious diseases to chronic diseases) related to the actions of PHC services.

The policy approach that makes most sense under such circumstances is not one that focuses *either* on the social determinants of health *or* on health services, but one that does *both*. Such an approach is advocated by numerous population

health experts, most recently in Australia in the extensive examination of the burden of disease carried by Aboriginal and Torres Strait Islander people, which states that:

‘... these requirements [to address the social and economic disadvantages that contribute to the poor health status of Indigenous Australians] should not lead to inaction by health policy makers arguing that the social and economic problems should be tackled first. It is within the reach of appropriately resourced health services to reduce a sizeable proportion of the Indigenous health gap.<sup>lxviii</sup>

## 7.2 Council of Australian Governments Health Reform Agenda

In July 2008 COAG announced a substantial health reform agenda planned for 2009, including improvements to chronic diseases management and preventative health including.

- Preventative Health taskforce
- Prevention Partnership agreements: funding to focus on overweight and obesity, especially targeted at children, and community programs
- Indigenous health partnership agreements: emphasis on reducing smoking prevalence and improving chronic diseases management

The development of a chronic diseases strategy for the NT will need to be influenced by, and respond to, these advancements at a national level.

There are a range of reform processes that relate to chronic diseases currently underway at the National level including:

- National Primary Health Care Strategy
- Council of Australian Governments (COAG) Health and Ageing Working Group
- National Health and Hospitals Reform Commission (NHHRC)
- Review of Maternity Services
- National eHealth Strategy

In addition, a number of reviews and long-term planning processes are being undertaken in specific areas relevant to chronic diseases e.g. review of rural health programs; development of a Fourth National Mental Health Plan and the work of the National Advisory Council on Mental Health; and the National Men’s Health Strategy.

## 7.3 Healthy for Life Program

This aims to improve child and maternal health care and to improve prevention, early detection and management of chronic diseases in Aboriginal and Torres Strait Islander populations and increase the Aboriginal and Torres Strait Islander health workforce. The long term aim is to improve health outcomes for Aboriginal and Torres Strait Islander populations.

## 7.4 NT Initiatives

There are a range of initiatives/strategies that support the PCDS in the NT including:

- Building Healthier Communities A Framework for Health and Community Service<sup>lxvii</sup>
- Closing the Gap of Indigenous Disadvantage: The NT Government Generational Plan of Action
- Aboriginal Health and Family: A Five Year Framework for Action
- NT Alcohol Strategy
- NT Nutrition and Physical Activity Strategy
- Tobacco Strategy and Action Plan

## 7.5 Other Key Issues that Need to be Considered in Ensuring the PCDS and Implementation Plan Meet the Needs of the NT Aboriginal Population

### 7 Questions

- 7.1 What are the priority areas in chronic diseases programs for Aboriginal people or should these be the same as for other Territorians?
- 7.2 Is a NT PCDS for the general population adequate to provide direction for Aboriginal populations?
- 7.3 Some jurisdictions have developed a supplementary strategy or implementation plan for Aboriginal populations. Is this appropriate for the NT?
- 7.4 What factors not included in this paper should inform the PCDS?
- 7.5 What other means are there to ensure this population gets the focus that is needed?
- 7.6 Do you have any other suggestions that should be included in the PCDS?
- 7.7 Are you willing to share your experiences/thoughts about chronic diseases with communities or other service providers e.g. through the CD network?

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