

**AN EVALUATION  
OF THE  
*NT PREVENTABLE CHRONIC DISEASE  
STRATEGY***

**The purpose of evaluation is not to prove, but to improve (ACHS 2002)**

This Evaluation Report of the *Northern Territory Preventative Chronic Disease Strategy (NTPCDS)* was written by, and contributed to, two different groups – *NT Department of Health and Community Services* and *Ruralhealth Education Development (RhED) Consulting Pty Ltd*.

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***Suggested citation:***

RhED Consulting & NTDH&CS, 2007, *Evaluation of the Northern Territory Preventable Chronic Disease Strategy*, RhED Consulting Pty Ltd, Ocean Shores NSW.

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## List of Abbreviations

ABCD	Audit and Best Practice in Chronic Disease
ACCHOs	Aboriginal Community Controlled Health Organisations
ACIC	Assessment of Chronic Illness Care
AGPAL	Australian General Practice Accreditation Ltd.
AHKPI	Aboriginal Health Key Performance Indicators
AHW	Aboriginal Health Worker
AMS	Aboriginal Medical Service
AMSANT	Aboriginal Medical Service Alliance of the Northern Territory
BB	Best Buys
CAAC	Central Australian Aboriginal Congress
CADPHC	Central Australian Divisions of Primary Health Care
CARPA	Central Australian Remote Practitioners Association
CCT	Coordinated Care Trials
CCTIS	Coordinated Care Trial Information System
CDC	Centre for Disease Control
CIP	Continuous Improvement Program
CoAG	Council of Australian Governments
DH&CS	Department of Health and Community Services
EPC	Enhanced Primary Care
ESRD	End Stage Renal Disease
GHANT	Good Health Alliance NT
GSAT	Guidelines Standards & Audit Team
HFL	Healthy For Life
HLNT	Healthy Living Northern Territory
KDRP	Kidney Disease Research Program
KRAs	Key Result Areas
KWHB	Katherine West Health Board
NTAHKPI	Northern Territory Aboriginal Health Key Performance Indicators
NGOs	Non-Government Organisations
NPCC	National Primary Care Collaboratives
NTAHF	Northern Territory Aboriginal Health Forum
NTDH&CS	Northern Territory Department of Health and Community Services
OATSIH	Office of Aboriginal and Torres Strait Islander Health

PBS	Pharmaceutical Benefits Scheme
PCD	Preventative Chronic Disease
PCIS	Primary Care Information System
PDSA	Plan, Do, Study, Act cycle
PHCAP	Primary Health Care Access Program
PHERP	Public Health Education Research Program
PHOFA	Public Health Outcome Funding Agreements
PIP	Practice Incentive Program
PIRS	Patient Information Recall Systems
RRT	Renal Replacement Therapy
SDRF	Service Development and Reporting Framework
TEDGP	Top End Divisions of General Practice
THS	Territory Health Services



## ACKNOWLEDGEMENTS

We would like to acknowledge and thank those who greatly assisted us in undertaking this evaluation: Dr Christine Connors, Director of the *NT Preventative Disease Program* for her patient guidance and advice; Dr Jenni Judd for her advice, support and the sourcing of documents; those who also assisted with the second round of the collection of data: Dr Barbara Paterson, Mr Peter Panquee, Ms Jenny Haines, Dr Yuejen Zhao, Dr John Condon, Ms Jane Lloyd, Ms Anne Kemp, and the Practice Incentives Branch, Dept. of Health and Ageing. We particularly thank the 58 people who participated in the focus group interviews and provided advice across the NT – *see Appendix 2 for a list of names.*

We thank the following groups for their cooperation in undertaking this evaluation.

- ❑ Aboriginal Medical Services Alliance of the NT (AMSANT)
- ❑ Central Australian Aboriginal Congress
- ❑ Central Australia Specialist Outreach (CASO)
- ❑ Central Australian Division of Primary Health Care
- ❑ Danila Dilba
- ❑ Darwin Renal Services
- ❑ Good Health Alliance NT
- ❑ General Practice Primary Health Care NT
- ❑ Healthy Living NT
- ❑ Katherine West Health Board
- ❑ Remote Health Services – Top End and Central Australian
- ❑ Sunrise Health Service
- ❑ Preventable Chronic Disease Program – Top End and Central Australian
- ❑ Maternal and Child Health program
- ❑ Nutrition and Physical Activity program
- ❑ Top End Divisions of General Practice
- ❑ Urban Community Health
- ❑ Wurliwurlijang.

# EXECUTIVE SUMMARY & RECOMMENDATIONS

*The Northern Territory Preventable Chronic Disease Strategy* (NTPCDS) was launched in 1999 <sup>(1 p 2)</sup>. It was a strategic attempt to bring about change in the prevention, early detection, and management of chronic diseases in the NT, and at all levels of the health care system. The strategy has a 3-year goal, a 10-year goal, and a number of objectives it aims to achieve in key result areas. The planned 2002 evaluation did not occur. However the *NT Department of Health and Community Services* (NTDH&CS) produced a document review and a draft evaluation report of Urban Community Care Centres in 2005-06, followed by a gap analysis. In March 2007, *RhED Consulting Pty Ltd* was commissioned by the NTDH&CS to complete the evaluation of the NTPCDS. The methodology included undertaking focus group interviews, sourcing information and data identified in the gap analysis, collating and analysing materials and finalising a report with recommendations. This report is based upon the combined findings of these two groups.

## ***Assessment against the goals of the NTPCDS***

The 3-year goal was to reduce the impact of the five preventable chronic diseases – deaths, hospitalisations and financial costs. The hospitalisation rates of Indigenous Territorians have doubled since 1999 due to end stage renal disease, with the associated financial burden making up over 38 per cent of the total 2005 hospitalisation budget. Hospitalisations for respiratory disease reportedly reduced between 2004-05 <sup>(2)</sup>. The rate of hospitalisations for diabetes, hypertension and ischaemic heart disease could not be assessed due to a lack of published data since 2001.

## ***Assessment against objectives of the NTPCDS***

Assessment of progress towards the *clinical systems* objectives of the NTPCDS revealed that significant progress has been made with the development and use of *best practice guidelines* to inform the practice. The majority of service providers in the Northern Territory extensively use the *Central Australian Remote Practitioner Alliance (CARPA) Standard Treatment Manual* guidelines as the basis for care. However those in the NTDH&CS community health centres and general practices in urban areas did not. Population lists are reported to be in place in all health service locations across the Northern Territory to facilitate a population health approach. The NTDH&CS have chronic disease registers for communities serviced by medical officers. The majority of *Aboriginal Community Controlled Health Organisations* (ACCHOs) use computerised patient information systems that support a population health approach, including the production of population lists, chronic disease registers and recall systems.

However the extraordinary number of recall systems in use across the NT is a major barrier to the implementation of effective systematic chronic disease prevention and management activities. The recall systems are largely paper based in the remote clinics and these are reportedly cumbersome and therefore not used consistently by all staff. As of June 2007, there was no regular or consistent reporting of chronic disease activities and outcomes, however this is expected to change as the Aboriginal Health Key Performance Indicator reporting commences in July 2007.

Assessment against the workforce objectives revealed that most services utilise a process for staff orientation to ensure their workforce is prepared to deliver effective chronic disease prevention and management. A specific training module and programs were identified to support training. While this is occurring the acute paradigm prevails in remote areas and there remains little time for preventative or health promotion work. Major barriers to participating in these programs were due to the mode of delivery and the lack of backfill to release staff to attend training. Systems to monitor attendance numbers, improve communication with the non-government sector, and benchmarks in this area require improvement across all health sectors. Workforce development requires significant dedicated investment; and investigation into the potential for interprofessional resourcing and activities is required.

There was some evidence of a whole of government approach to improve educational outcomes and employment opportunities for the Indigenous population. The achievements of NT Indigenous and non-Indigenous students in achieving the 3<sup>rd</sup> Grade National Literacy Benchmark, worsened with remoteness and Indigenouness between 2001-2005 <sup>(3)</sup>. Unemployment levels have improved during this time, however it is unclear if this is due to real jobs or the Community Development Employment Program (CDEP). The collection of Indigenous workforce data in the NT public sector workforce commenced in 2002 as part of an overall strategy. They report a doubling of the number of Indigenous employees in the NTDH&CS since that time, with only one at an executive level. However these data are reportedly incomplete <sup>(4)</sup>. There is no reported increase in the number of Indigenous employees working in chronic disease. Concerningly, there has been a reported significant decrease in the number of Aboriginal Health Worker positions and numerous positions are vacant. The commencement in July 2007 of the *Aboriginal Health Worker Apprenticeship Program* and the *Central Australian Divisions of Primary Health Care* mental health program is encouraging and both are expected to expand, recruiting 24 apprentices and 15

workers respectively. ACCHOs reported an increase in Indigenous staffing as a result of the *Healthy for Life Program* sponsored by the Australian Government.

There is evidence of a depletion in the infrastructure, dedicated staff, and funding in the important area of health promotion and prevention, as well as a reduction in the number of prevention and health promotion programs since the development of the PCDS. This is reportedly due to a restructuring of the NTDH&CS in 2003. The only programs identified with recurrent funding were in the ACCHO sector, which are funded by philanthropic organisations. The non-government sector indicated they were not delivering any prevention and health promotion programs. Increasing the focus on prevention and health promotion programs is a key issue for the future and will require genuine investment and specialised staff with diverse skills.

There is evidence of a definite shift in the general awareness across the Northern Territory of the need for dedicated and focused chronic disease programs. The NTPCD Program provides leadership for chronic disease program development, and stakeholders reported strong support and critical input from the PCDS Director in this endeavour. Where additional resources have been provided dedicated staff and strategies have been implemented to address chronic disease issues. Since 1999 there has been an increase of 22 dedicated chronic disease staff, largely funded largely though the Australian Government, and an additional 13 positions have been identified to commence in 2007, of which 4 are renal specific. \$100 funds from the Medicare pool provided the NT Government savings in remote health, which were reinvested in chronic disease and quality use of medicines. Where chronic disease programs with consistent dedicated staff are notably absent is in all remote clinics. The majority of new staff who have been employed are nurses, which is part of the solution, but what is required is an interprofessional cross cultural skills mix that includes educators, clinicians, health promotion staffing and Indigenous staff. The key barriers identified in achieving this is financial resources, community infrastructure and the declining Aboriginal Health Worker workforce numbers, which requires urgent review. General practice programs are functioning across the Territory predominantly focusing on diabetes and cardiovascular disease.

The NTDH&CS reportedly funds a wide variety of non-government organisations to deliver specific preventative programs. Unfortunately, funding is often project-specific and time-limited, resulting in limited long-term benefits from some programs. ACCHOs are largely funded from the Australian Government and those participating in the *Healthy for Life* program reported that there were dedicated chronic disease activities occurring, supported by a systems approach to care. There has been some growth in community control of health services through funds pooling with

the establishment of the *Sunrise Health Service* in Katherine and the establishment of governing boards in the Primary Health Care Access Program (PHCAP) regions. Issues of Indigenous governance are paramount to addressing the underlying causes of chronic disease, and to tackle the social determinants of health. Hence it is vital to ensure that strategies developed are relevant and workable in the environment that will be applied.

### ***Assessment against NTPCDS key result areas***

There are six key result areas in the NTPCDS where there is strong evidence to support intervention. Between 1999-2002 in the Northern Territory there was a reduction in low birthweight in Indigenous and non-indigenous babies and an increase in the mean birthweight of both groups <sup>(3)</sup>. Breast feeding rates at discharge from hospital were unchanged from 1993-2003 <sup>(3)</sup>, however breast feeding rates at 3 months and 6 months post birth fell between 1993-2003. This fall was largely due to a decrease in breast feeding rates in the urban non-Indigenous population. By six months of age, the proportion of NT rural Indigenous infants who were still breastfed was above the national average <sup>(3)</sup>. The childhood immunisation coverage for the NT has improved significantly between 1999-2005, and data suggests that NT children have immunisation coverage that is as good as, or better, than the rest of Australia <sup>(3)</sup>. Timeliness of vaccine delivery is reportedly still not optimal.

Rates of malnutrition are measured by rates of stunting, wasting and anaemia, which between 2001-05, have not changed. Overall Indigenous children in remote communities experience high levels of underweight – 15 per cent, stunting – 11 per cent, and wasting – 9 per cent <sup>(3)</sup>. Anaemia rates of children under 5 years remain extremely high in remote areas ranging from 23 per cent in the Darwin rural district to 44 per cent in the Barkley district. The proportion of NT urban children who are overweight lowered slightly at 12 per cent compared with South Australian children at 14.4 per cent. The number of NT urban Indigenous children who are obese is double the non-indigenous urban rate. The availability and cost of healthy food in remote areas continues to be poor and extremely expensive despite several inquiries during this time. The issue of poverty is critical to the success of improving all of these key indicators yet NT Indigenous households continue to receive only 59 per cent of non-indigenous households <sup>(5)</sup>. Results of the 2007 Indigenous Community Housing Survey reveal poor environmental health conditions especially in discrete remote communities, where there continues to be a lack of basic housing maintenance, overcrowding, unsafe water supply, lack of rubbish disposal, and the highest national sewerage overflow rate <sup>(6)</sup>.

There is good evidence of the implementation of early detection and screening processes in projects such as the coordinated care trials and the ABCD program, and pleasing results in the use of systems to improve chronic care <sup>(7)</sup>. The changes in Medicare in 2004, through the introduction of an Enhanced Primary Care item for Aboriginal adult health checks, were reported significantly under-utilised, however this is envisaged to change as programs further develop. Adult immunisation rates have increased for influenza vaccine and pneumococcal since 2000. Two specific programs report on different best practice management approaches to reduce blood pressure, to prevent renal disease and the complications of diabetes – *The Menzies Renal Treatment Program* and the *Tiwi Coordinated Care Trials*. Results suggest that the PCDS is not preventing renal failure as effectively as an MRTP-type program would, as renal failure rates continue to rise. However, there are unresolved questions about whether an MRTP program would be sustainable across the Territory in the long term. There was an increase in podiatry outreach services in remote communities due to PHCAP funds between 2003-05.

There have been a number of limitations to this evaluation process. The main limitation was the absence of an implementation plan for the NTPCDS, upon which this evaluation could be based. This meant that it was difficult to identify the intent of the implementation process and if outcomes were due to the PCDS or other national initiatives. Also a *Statistical Report for the NTPCDS* was produced in 2000 that provides an excellent baseline upon which to measure the impact of the NTPCDS <sup>(8)</sup>. There has however not been another report and very limited recent data exists in some of the reporting clinical areas. Since 1999 there were three NTDH&CS restructures and within the time constraints and the internal and external evaluation process it was not possible to gain a sense of the impact of corporate policy directions.

While this evaluation has identified advancements and a general movement in the right direction of the NTPCDS, there is also significant room for improvement. This is particularly so in the areas of prevention and health promotion activities, Indigenous employment within the PCDS staff, and the simplification, standardisation and coordination of information systems that can communicate across regions. Additionally, the organisational structures that facilitate easy communication between those providing chronic disease programs and education require improvement.

The following recommendations are made to assist the NTDH&CS to improve their efforts in the prevention, early detection and management of chronic disease in what is no doubt one of the most challenging environments to do so in Australia. We wish them every success.

# RECOMMENDATIONS

## *General recommendations*

### **Representative Committee**

1. The NTDH&CS establish a representative committee of the providers of health care services across the whole of the Northern Territory to review the PCDS using the recommendations of the evaluation report as the basis for discussion and planning.

### **Implementation Strategy**

2. The representative committee oversee the development an implementation strategy. This will include:
  - ❑ Revising the objectives of the PCDS to include clearly defined benchmarks and performance indicators against each objective and a timeline and process for their implementation.
  - ❑ Developing a model for chronic disease prevention and care in urban areas to link service providers.
  - ❑ Establishing a system for collecting information against each benchmark and a process to do so, as a priority.
  - ❑ Linking NT *Aboriginal Health Key Performance Indicator* measures to the Key Result Areas of the NTPCDS to provide a framework for ongoing evaluation.
  - ❑ Linking position vacancies and turnover rates to health outcomes data
  - ❑ Including preventable cancers, rheumatic heart disease, mental illness and depression in this revision of the NTPCDS.
  - ❑ Including ischaemic heart disease and hypertension under cardiovascular disease as one reporting area.
  - ❑ This revision is supported with an investment from NTDH&CS as a priority, and includes a realistic evaluation budget to review progress.

### **Statistical report**

3. The reproduction of the 2000 Statistical Report is undertaken on a regular five yearly basis, to assist in the monitoring of progress in the achievement of the PCDS.
4. A dedicated and recurrent budget allocation is identified and committed to do so.

## ***Specific recommendations***

### **Best practice guidelines**

5. Discussions occur with the TEDGP, the CADPHC, the Good Health Alliance NT, AMSANT and urban Community Health Services to develop a policy regarding which best practice guidelines will be used as the basis for care planning in urban areas.

### **Clinical Information systems**

6. Discussions occur with AMSANT, the *Divisions of General Practice, the Good Health Alliance NT and other relevant non government organisations* to identify an information solution to support chronic disease care delivered by the renal services, urban service providers, and for health services that will not be suitable to implement PCIS.
7. NTDH&CS work with Divisions of General Practice, AMSANT and ACCHOs to agree on a process that links community health service providers into a coordinated and integrated care plan and recall system with general practitioners and community controlled health services in urban areas.
8. Resources are provided to services to enable a greater level of participation by the short term and permanent workforce in orientation and refresher training in PCIS systems and paper based recall systems, to facilitate better use by health teams in communities.
9. Strategies are developed to implement quality improvement systems, including regular clinical auditing cycles, to monitor the effectiveness of population health systems in all sites.

*Note:* These last 2 recommendations will form a robust basis for service level outcome evaluation as well as processes evaluation when the NTPCDS is reviewed again in future.

### **Staff Orientation and Training**

10. The NTDH&CS, the Divisions of General Practice, Rural Clinical Schools, the NGOs and ACCHOs develop a strategic and coordinated interprofessional approach to the orientation and training of all clinical and educational staff working in the Northern Territory in the area of chronic disease.

*This process should include at least:*

- ❑ Identifying and conducting together the components of orientation that are common to all disciplines.



- ❑ Exploration of joint funding arrangements to support joint conduct of orientation and professional development in chronic disease prevention, early detection and management.
- 11. Conduct quarterly orientation programs based on *Pathways to Professional Practice* model and advertise these in advance to all ACCHOs and NGOs.
- 12. Investigate the feasibility of conducting these programs Territory wide in an effort to ensure better quality, higher participant numbers and fiscal implications.
- 13. Significant investment be made by NTDH&CS to ensure access to regular training, relief and support for all staff, especially those in remote areas. It is estimated that approximately 10 per cent of the total remote workforce budget should be invested in this important area.
- 14. Include serious mental illness and depression in the professional development program and develop a module in this area.
- 15. Investigate the feasibility of different modes of training delivery for these programs.

#### **Whole of Government Approach + Indigenous employment**

- 16. Establish clear targets for Indigenous employment and monitor and measure them regularly. These should be publicly reported on an annual basis to ensure continued investment and focus on Aboriginal employment. This may be occurring in the current review.
- 17. The role of Aboriginal Health Workers in the management of acute care and chronic disease is reviewed, to ensure clinical expectations reflect training and preparation for those important roles.
- 18. The overseeing committee strongly support the preventative role of AHWs and educate managers about the importance of this role.
- 19. Support systems for Indigenous workers in NTDH&CS working with the PCDS be established and adequately funded for success.

#### **Prevention and health promotion programs**

- 20. The NTDH&CS refocus and prioritise prevention and health promotion programs to make a real impact on reducing the burden of chronic disease.
- 21. Genuine investment is made into prevention and health promotion programs, as a priority. This includes support for specialised staff to lead, advise, and educate others about sustainable and identifiable programs that encourage healthy living and prevention of chronic disease.

22. Indigenous specific positions are identified and funded for prevention and health promotion programs, supported by a training and travel budget.
23. The composition of PCD Program team is reviewed to ensure each regional team includes a member with health promotion qualifications and experience, and an Indigenous member.
24. The role of AHW participation in chronic disease programs across all Government and non-government sectors be reviewed, prioritised and invested in.
25. A benchmark for AHW participation in chronic disease programs is established, *for example:* 30 per cent to reflect the population. This is reviewed annually and triennially to ensure the benchmark is being met.
26. A resource strategy is developed to fund an increased remote area workforce.
27. Barriers to program activity are identified and addressed in a comprehensive way.

# CHAPTER 1. INTRODUCTION

## 1.1 Background

In the late 1990s, it became apparent that the economic and social costs of chronic diseases in the Northern Territory were escalating, and that the current health system had limited capacity to deal with these increasing costs. Between 1992-93 and 1997-98 renal dialysis service in the NT doubled, with an associated financial burden<sup>(9)</sup>. In 1997 it was estimated that chronic disease accounted for about 25 per cent of the hospital budget, about 40 per cent in 1999 and, if uncontrolled, was predicted to consume 56 per cent of the budget by 2004 <sup>(10)</sup>. Between 2000/01 and 2002/03, excluding renal dialysis, about 7 per cent of hospital resources were used for hospitalisations directly caused by acute manifestations of chronic diseases. Renal dialysis accounts for about 45 per cent of hospital resources when included, due to chronic disease related hospitalisations <sup>(11)</sup>.

*The Northern Territory Preventable Chronic Disease Strategy* (NTPCDS) was launched in August 1999 by the NT Minister for *Health, Family and Children's Services* <sup>(1 p 2)</sup>. It is a strategic attempt to bring about change in the prevention, early detection and management of chronic diseases at all levels of the health care system in the NT. The strategy has a three-year goal, a ten-year goal, and a number of objectives it aims to achieve in key result areas.

An evaluation of the NTPCDS was intended in 2002 to assess progress against achieving the 3-year goals, but this did not occur. In 2005-06 the community physician, supported by a project officer, undertook an evaluation process that consisted of a document review and the development of a draft report. In 2006, a gaps analysis was undertaken to identify those areas that needed more information.

In March 2007 *RhED Consulting Pty Ltd* was commissioned by the *NT Department of Health and Community Services* (NTDH&CS) to complete the evaluation of the *NTPCDS*.

### ***Terms of reference***

The terms of reference to complete the evaluation of the NTPCDS required the RhED consulting team to:

1. Conduct focus group interviews with stakeholders identified by the Steering Committee to obtain information from a wider range of service providers across the Northern Territory
2. Source information and data identified from a gaps analysis undertaken by the Steering Committee
3. Editing the draft report to prepare a final evaluation report
4. Providing a final draft report on *NT Preventable Chronic Disease Strategy Evaluation* to the NTPCDS Steering Committee with recommendations for the future.

## **1.2 Overview – NT Preventable Chronic Disease Strategy**

The NTPCDS was developed from discussions held amongst senior NTDH&CS clinicians late in 1997, with the aim to devise a strategic response to the increasing numbers of Indigenous people presenting with end-stage renal failure and other chronic conditions <sup>(12)</sup>.

### **Goal**

The NTPCDS had a three-year goal (to 2002) and a ten-year goal (to 2009). The three-year goal was:

To reduce the projected impact - hospitalisations, deaths and financial costs - of the five common chronic diseases in the Northern Territory<sup>(13)</sup>

The ten-year goal was:

To reduce the projected incidence and prevalence of the five common chronic diseases in the NT and their immediate underlying causes:

- poor nutrition
- inadequate environmental health
- obesity
- physical inactivity
- alcohol misuse
- tobacco smoking
- childhood malnutrition and low birth weight in the Northern Territory <sup>(13)</sup>.

The NTPCDS framework was intended to define an implementation agenda for the NTPCDS, and for framing implementation plans, but a comprehensive implementation plan for the strategy itself was not developed.

### Choosing the 5 chronic conditions

The pragmatic decision to focus on a limited number of chronic conditions was made when developing the NTPCDS. It was based on those conditions that 'shared common origins'. This view was strongly influenced by the so-called Barker hypothesis, or the early origins of chronic disease:

- *in utero* through low birthweight
- *in infancy* through poor nutrition and repeated childhood infections, and
- subsequently aggravated by poor environmental conditions and lifestyle risk factors <sup>(13)</sup>.

The five conditions selected were those that were largely preventable and were seen to affect the whole Northern Territory population. The 5 common chronic conditions targeted were:

1. Type 2 diabetes
2. Hypertension
3. Renal disease
4. Ischaemic heart disease and
5. Chronic obstructive airways disease.

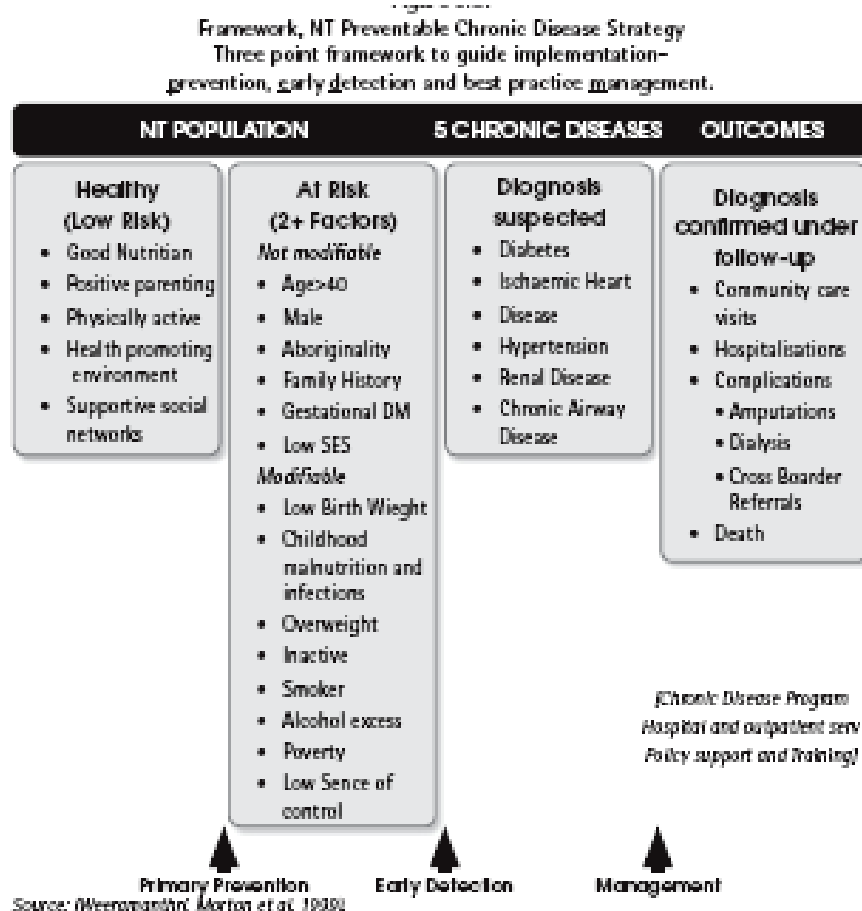
### Building the framework

The NTPCDS framework identified the three key areas for action:

- Primary prevention – targeting the low risk population
- Early detection – targeting those at risk in the population
- Management – targeting those with an established chronic condition

The NTPCDS adopts a life course approach encompassing antenatal, childhood and adult influences on the development of chronic diseases. The range of social and medical issues in the framework is correspondingly broad. *Figure 1.1* shows the NTPCDS Framework that guides implementation of prevention, early detection and management strategies <sup>(13)</sup>.

**Figure 1.1** 3-point framework to guide implementation: prevention, early detection and best-practice management



#### Key Result Areas (KRA) and Best Buys (BB)

The NTPCDS hoped to improve the health of Territorians by influencing some intermediate outcomes. Interventions therefore incorporated into the NTPCDS were selected on the basis of evidence collected through a national and international literature review. The resulting evidence base helped define:

- 6 *Key Result Areas* (KRAs) – areas of intervention where there was strong evidence to support intervention. The first four relate to prevention, the fifth to early detection and intervention, and the sixth to management of chronic disease.
- 12 *Best Buys* (BB) – discrete programs, or sets of interventions, where sufficient evidence existed to indicate that health gains would be achieved <sup>(14)</sup>.

**Table 1.1**      *Key Result Areas + Best Buys – NT Preventable Chronic Disease Strategy: the Evidence Base*

Key Result Area	Interventions – Best Buys
1. Maternal health	Improving infant birthweight (KRA)
2. Promotion of child growth	Breastfeeding (BB) Childhood immunization (BB) Preventing childhood malnutrition (BB/KRA) Decreasing childhood infections through better environmental health conditions (KRA)
3. Underlying determinants of health	Maternal and childhood education (KRA) Alleviate poverty (KRA) Promote 'sense of control' and mental well-being (KRA)
4. Lifestyle modification	Smoking cessation and prevention programs (BB) Brief intervention for hazardous alcohol use (BB) Nutrition, weight loss and physical activity programs in high risk populations (BB/KRA)
5. Early detection and early treatment	Screening (BB/KRA) Adult immunisation (BB) Aggressive blood pressure lowering to prevent progression of renal disease (BB)
6. Best practice management	Prevention of complications of diabetes (BB/KRA) Aggressive management of heart attacks and known cardiovascular disease (BB) Rehabilitation and outreach programs (cardiac, respiratory, renal) (BB)

## Objectives to meet long term PCDS goals

A series of objectives were identified that would facilitate and enable change in the Northern Territory Health system to achieve the outcomes for each Key Result Area. They were:

1. *Raised awareness about chronic disease* – All Territorians will be aware of the impact of chronic diseases in their community and the steps they can take as individuals and as families to prevent the illnesses and their complications
2. *Staff orientation* – All health staff will have been oriented to chronic diseases and their underlying causes, and will receive ongoing, on-site support and training to improve their chronic disease management skills. (workforce)

3. *Chronic disease programs* – There will be chronic disease programs operating in all health centres and general practices, aiming at early detection and best practice management, and staff will be designated to run these programs. (programs)
4. *Best practice guidelines* – All clients will be offered care based on locally produced and up-to-date best practice guidelines. (clinical)
5. *Population lists and recall systems* – There will be updated population lists in all community health centres and a recall system, either paper-based or computerised, in all community health centres and general practices. (systems)
6. *Health promotion programs* – Programs aimed at encouraging healthy living will be operating in urban, rural and remote communities. They may be run from health centres, schools, women's centres, community councils or elsewhere, but will be supported by health centre staff taking a primary health care approach and using a health promotion model. (prevention)
7. *Community Control* – There will be a greater degree of community control over health services, through a variety of mechanisms.
8. *NGO prevention funding* – Non-government organisations in the wider society will be funded to deliver specific preventive programs. (prevention funding)
9. *ACCHO preventative funding* – Aboriginal community controlled health services will be funded to deliver key preventive programs, and early detection and best practice clinical management services, to defined segments of the population in specific locations. (funding)
10. *Intersectoral action* – There will be intersectoral action promoting good nutrition, adequate environmental health standards, greater physical activity, safe alcohol consumption and non-smoking. (prevention)
11. *Whole of government approach* – Whole of government approach will lead to better educational outcomes and improved employment opportunities for the Indigenous population <sup>(13)</sup>. (workforce)

### **1.3 Summary of factors impacting on the NTPCDS development and implementation**

At the time the NTPCDS was launched in 1999 the Minister flagged that the strategy would need to be dynamic and modifiable <sup>(10)</sup>. He outlined a number of national and Northern Territory initiatives that offered opportunities to integrate the lessons learnt from activities that occurred



prior to the launch of NTPCDS, such as the Coordinated Care Trials, into programs planned for the future.

To provide a context for the NTPCDS evaluation, a summary of events that facilitated or informed the development of the NTPCDS in 1999, plus the key actions that have occurred since that time that have contributed to achieving its objectives, have been summarised into *Table 1.2*. The table includes major clinical studies, policy changes, programs funded, health reports, program initiatives and workforce information and their outcomes.

**Table 1.2** *Summary of events leading to PCDS development and achievement of goals.*

\* P – Policy • R – Review/Clinical Study • W – Workforce • F – Funded Programs • S - Reports

Year	*	Action	Outcome
1995	F	<i>CoAG – Council of Australian Governments</i> introduces a 3-year reform plan in response to chronic disease.	It introduces <ul style="list-style-type: none"> <li>▪ Outcome / output funding</li> <li>▪ Broad banding of programs</li> <li>▪ Allocates capital to care streams – including CC trial with incentives.</li> </ul>
1995	P	<i>NT Food and Nutrition Policy and Strategic Plan 1995-2000</i> were developed.	The Territory Food project developed resources to promote healthy eating. It also supports community nutritionists and community nutrition workers in selected communities.
1996/97	F	<i>CoAG</i> Funding allocated.	Funding allocated to: <ul style="list-style-type: none"> <li>▪ Improve access to health care in rural/remote areas,</li> <li>▪ Address the perceived rural health workforce crisis</li> <li>▪ Establish nationally consistent payment and information systems <sup>(15)</sup>.</li> </ul>
1997	R	NT Chief Health Officer convenes a working party <sup>(12)</sup> to develop an integrated response to the extremely high incidence of chronic renal failure and chronic disease.	The development of the NT Preventable Chronic Disease strategy is commissioned.
1997	P	The Commonwealth-funded <i>NT Aboriginal and Torres Strait Islander Coordinated Care Trials</i> (Indigenous CCT) two new health services covering Tiwi Islands and Katherine West areas. Additional funds provided a platform for developing and testing models of coordinated care.	During these trials, the under-utilised PBS and MBS funds for these areas were “cashed out” on a per capita arrangement <sup>(16)</sup> and pooled with funds from NT and other sources to be directed towards health-care in these regions <sup>(17)</sup> .

Year	*	Action	Outcome
1997	R	<i>The Chronic Disease Network</i> commenced with initial funding for 3-years <sup>(18)</sup> .	Network includes non-government and government bodies that come together to share information about chronic diseases initiatives.
1997	F	The <i>Coordinated Care Trials</i> commenced in the Tiwi Islands and Katherine West <sup>(17)</sup> .	Under the arrangements of the Trials both NT and Australian Governments contributed funds to a 'pool' that was put under the control of an elected Board of Aboriginal community representatives from throughout the region.
1997	W	Development of the Coordinated Care Trials Information System (CCTIS) commences.	CCTIS were developed and used to support CCT in the Tiwi Islands and Katherine West.
1998	F	<i>Public Health Outcome Funding Agreements</i> (PHOFA) funds were secured to progress chronic disease management outside the Coordinated Care Trial areas as well.	The specific projects funded were: <ul style="list-style-type: none"> <li>▪ An administration manual for remote area staff</li> <li>▪ A paper-based recall system and instruction manual</li> <li>▪ Community Health Practice Standards that complemented the (CARPA) manual and</li> <li>▪ Other Standard Treatment Protocols, and development of a Remote Area Guide and Reference<sup>(19)</sup>.</li> </ul>
1998	W	<i>Community Physician position</i> was established.	Purpose of the position is to focus on chronic disease and to develop a Preventable Chronic Disease Strategy.
1999	S	<i>Guidelines, Standards and Audit Team (GSAT)</i> develops standardized guidelines for management of commonly occurring chronic diseases within the trial areas.	Guidelines incorporated into CCTIS to produce computer-generated care plans <sup>(16)</sup> .
1999	F	<i>EPC</i> items included in <i>Medicare</i> rebate schedule.	Provides a funding strategy for chronic disease activity in general practice settings and remote clinics.
1999	R	<i>Review of the NT hospital data for years 1979-1997</i> was undertaken. The top 7 causes of death for Aboriginal people were identified <sup>(20)</sup> . Circulatory disease was the major cause of death and the other chronic diseases – respiratory, endocrine, genitourinary diseases – ranked in the top 7 causes of death, particularly for Aboriginal People.	Estimated percentage of hospital budget consumed in treating Chronic disease <sup>(1)</sup> <ul style="list-style-type: none"> <li>- 25 per cent in 1997</li> <li>- 40 per cent, and 56 per cent predicted for 2004</li> </ul> If uncontrolled, it was predicted to consume 56 per cent of the budget by 2004 <sup>(1)</sup> .

Year	*	Action	Outcome
1999	S	<b>NT Preventable Chronic Disease Strategy</b> was launched by Minister	It provides a strong evidence base to support its goals, objectives and key result areas
1999	F	Australian Government <i>Primary Health Care Access Program</i> (PHCAP) announced with the aim of reforming PHC services, increasing access to services for Aboriginal people and making services more responsive to Aboriginal health needs <sup>(21)</sup> .	Bartlett health planning studies undertaken in Central Australia and the Top End. 21 zones were defined and priority zones were nominated to improve access to services. Priority zones were: Barkly and Central Australia – Anmatjere, Eastern Arrente-Alyawarra, Luritja-Pintubi, Northern Barkly and Warlpiri, and two health zones in the Top End – South East Top End and Darwin, as well as the former Aboriginal Coordinated Care Trial sites at Katherine West and in the Tiwi Islands.
1999	P	Corporate Plan – <i>Strategy 21 1999-2003</i> was developed.	<i>Strategy 21</i> aims to strengthen community capacity, increase Aboriginal involvement in the health workforce, enhance inter-sectorial collaboration and shift service delivery to others where appropriate.  It leads an organizational restructure. NTPCDS moved from Public Health to Primary Health Care to facilitate stronger engagement with primary care providers.
2000	F	Australian Government funds the <i>Kidney Disease Research Program</i> (KDRP) to implement a chronic disease early detection and management program in selected Indigenous communities.	Activity commences in 2001 in the 3 NT participating sites – Borroloola, Wadeye and Daly River. KDRP information system put in place along side other systems in Borroloola and Wadeye and replaces recall system in Daly River.  Program ceases in 2004 and is evaluated. Evaluation findings inform OATSIH Continuous Improvement Program (CIP).
2001	R	<i>Preventable Chronic Disease Strategy Statistical Report 2000</i> is produced <sup>(8)</sup> .	The report provides baseline data for purchasers and funders to make appropriate policy and purchasing decisions. <i>The Health Information Framework</i> ensures that data is analysed in a consistent manner to allow trend comparison over the coming years and assess whether the PCDS aims and objectives are being met <sup>(8)</sup> .
2001	P	<i>Northern Territory Food and Nutrition Policy Action Plan (2001-2006)</i> developed.	This policy supports best buys from the PCDS.
2001	R	Paper ' <i>Orienting health services and public health programs towards greater chronic disease control: a proposal for a network of zonal and regional public health services</i> ' prepared by AMSANT, is tabled for discussion at NTAHF.	Agreement is achieved on the roles of Public Health Nurses across the NT.

Year	*	Action	Outcome
2001	F	Recruitment of Public Health Nurses to support implementation of PCDS began in August 2001.	Their roles were specifically to focus on chronic disease.
2002	W	Development of Primary care Information System (PCIS).	Piloted in Bagot in 2002. Implemented into Bagot, Binjari, Jabiru, Nguiu, Milikapiti, Pirlangimpi, Pine Creek and Elliot community health centres.
2003	S	CARPA standard treatment guidelines.	4 <sup>th</sup> Edition produced and a 2 <sup>nd</sup> volume of evidence produced in 2004.
2003	F	Australian Government <i>Continuous Improvement Program</i> commences.	AMSs – CAAC and Danila Dilba – received funding for 2 years from OATSIH, with an extension of an additional 2 years, to implement quality improvement strategies to improve the systems for chronic disease care.
2003	P	Bansemmer undertakes a Review of NTDH&CS <sup>(22)</sup> .	New structure for NTDH&CS is implemented to improve accountability and effective service delivery. It recommends Services should be further developed to address current shortfalls in managing adult chronic diseases and to cope with increasing demand for services <sup>(22)</sup> .
2003	R	Audit and best practice for Chronic Disease (ABCD) program commenced.	Implement audit and Plan Do Study Act (PDSA) cycles to improve CD systems in a small number of remote clinics.
2004	P	<i>Building Healthier Communities: A Framework for Health and Community Services 2004–2009</i> , was launched in February. It provides the Government's vision for 'Ensuring that all Territorians enjoy long and healthy lives and have a health and community services system that is responsive, accountable and effective' <sup>(23)</sup> . It responds to the issues identified in the 2003 Bansemmer review.	The NTDH&CS priorities for the next five years focuses upon: <ul style="list-style-type: none"> <li>• Giving kids a good start in life</li> <li>• Strengthening families and communities</li> <li>• Getting serious about Aboriginal health</li> <li>• Creating better pathways to health services</li> <li>• Filling service gaps</li> <li>• Tackling substance abuse</li> </ul> It also identifies four key areas for strengthening and reforming our health and community services system <sup>(23)</sup> .
2004	F	<i>National Primary Care Collaborative</i> project commenced <sup>(24)</sup> . It aims to improve clinical health outcomes, reduce lifestyle risk factors, maintain health for chronic and complex conditions and improve access to Australian general practice.	Many Community Controlled Health Services and General Practitioners in the NT are participating in this program that builds capacity to implement CD systems, evidence based care and PDSA cycles.
2004	P	<i>NT Aboriginal Health Key Performance Indicators</i> endorsed.	86 remote health centres identified for involvement in reporting system.

Year	*	Action	Outcome
2005	P	Aboriginal Health and Family: A 5-year Framework for Action – Dept of Health and Community Services NT.	It promotes a life course approach to health and systems integration consistent with the NTPCDS and seeks to address the services, systems and policy to improve Aboriginal health consistent with the PCDS objectives.
2005	R	Byron, Zhao and Guthridge release their report <sup>(11)</sup> . <i>Note:</i> Measures cannot be compared directly to the predictions made at the commencement of the PCDS due to a lack of documentation of precise methods of analysis in the original documents.	Excluding renal dialysis, the report estimates about 7 per cent of hospital resources were used for hospitalisations directly caused by acute manifestations of chronic diseases, and including renal dialysis about 45 per cent of hospital resources were due to chronic disease related hospitalisations <sup>(11)</sup> .
2005	F	<i>NT Aboriginal Health Key Performance Indicator</i> Project funded.	Phase 1 of project commences to develop Performance Indicators, definitions and validation of the indicators.
2005	P	<i>Northern Territory Renal Services Strategy</i> is released.	Consistent with NTPCDS and it identifies issues of coordination, prevention of kidney disease and increasing Aboriginal and Torres Strait Islander participation as the top 3 priorities.
2006	F	Funding commenced for PHCAP services in Central Australia.	Public Health Nurses and other staff employed in 5 regional services to support comprehensive primary Health Care service delivery.
2006-07	S	CARPA evaluation is undertaken	Current. A new edition is under development.
2006		Australian Government releases the <i>National Preventative Chronic Disease Strategy</i> <sup>(25)</sup> .	The NTPCDS is used in the development of the model.
2006	F	Renal services enhancement funding is provided to the NTDH&CS.	It is to employ 2 renal nurses in the area of prevention.
2006	F	Australian Government <i>Healthy for Life</i> program commences <sup>(26)</sup> .	10 services in the NT are funded for Stage 1 of the project – some will progress to Stage 2.
2007	R	The <i>Northern Territory Aboriginal Health Key Performance Indicator Information System</i> (NTAHKPI) website is established <sup>(27)</sup> .	NTAHKPI will facilitate data collection. Data collection system planning to commence from July 2007.
2007		The ABCD Project releases the final project report.	It reports improvements in key aspects of systems to support chronic illness care in almost all 12 participating sites <sup>(7)</sup> .

From this summary of events it is clear that in the lead up to the development of the NTPCDS and since that time, the *Australian Government* has also had an agenda to improve the capacity of *Aboriginal Community Controlled Health Services* and General Practice services to adopt a systems approach to the planning and delivery of chronic disease prevention and management services. The resources provided from the *Australian Government* have made a significant contribution to improvements seen in chronic disease prevention and management services throughout the Northern Territory.

## CHAPTER 2. EVALUATION METHODOLOGY

The methodology used to undertake this evaluation was based on an evaluation framework and a six-step process, which was undertaken by two different groups under the guidance of the PCDS Steering Committee. The NTDH&CS Community Physician, assisted by the PCD Project Officer, undertook the first two steps – document review and development of a draft report. Following a gaps analysis, undertaken by members of the steering committee, the *RhED Consulting* team undertook the final three steps.

The six-steps were:

1. A document review and analysis
2. The development of draft report
3. A gap analysis of the draft report
4. Interviews with key stakeholders
5. Collation and analysis of materials
6. Development of a final report.

### 2.1 The evaluation framework

In 2004-05, a *Public Health Education and Research Program (PHERP) Innovations Grant* was used to develop a framework for the evaluation of both the NTPCDS and the *North Queensland Indigenous Chronic Disease Strategy*<sup>(28)</sup>. The framework included strategies for both a *process evaluation* of implementation processes, and an *outcome evaluation*, each to be carried out at two levels – health system and community level, plus the broader public policy environment within which the health systems operate.

The NTPCDS evaluation was intended to serve two purposes:

- to test the evaluation framework developed for a chronic disease strategy (described below), and
- to gather data relating to implementation and outcomes of the strategy in the Northern Territory.

Therefore the primary objective of the evaluation framework was to identify, describe and understand the relationships between the implementation processes, the contextual factors and the program outcomes; and then to report on these in a manner that facilitates:

- *ongoing improvements* in relevant components of the strategy

- empirically based assessment of the *effectiveness* and *sustainability* of the strategy, and
- reasoned assessment of the extent and circumstances under which some or all components of the Strategy could be effectively *implemented elsewhere* <sup>(29)</sup>.

The information gained could then be used by:

- those implementing and managing the strategy
- policy-makers engaged in improving Indigenous health and/or in developing policies, and
- programs for the prevention, early detection and management of chronic diseases.

The evaluation framework is laid out in *Table 2.1* below. The evaluation draft report addressed those parts of the framework that are highlighted in the table.

**Table 2.1** Overview of evaluation framework

Evaluation type/ level of analysis	Public policy environment	Health system level	PHC/community level
Process evaluation of implementation processes	Monitoring of policy changes with the potential to affect the implementation and/or outcomes of strategies.	<ul style="list-style-type: none"> <li>• Analysis of documentary sources;</li> <li>• In-depth interviews.</li> </ul>	<ul style="list-style-type: none"> <li>• Analysis of documentary sources;</li> <li>• In-depth interviews;</li> <li>• Systems mapping using modified ACIC tool.</li> </ul>
Outcome evaluation	*Need to include broader policy environment	<ul style="list-style-type: none"> <li>• Analysis of documentary sources;</li> <li>• Interviews;</li> <li>• Quantitative outcome (performance) indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Clinical chart audits;</li> <li>• Quantitative outcome (performance) indicators;</li> <li>• Process mapping of client care processes;</li> <li>• Interviews;</li> <li>• Ethnographic research to elicit clients' perceptions of changes in health services.</li> </ul>
Economic evaluation		<ul style="list-style-type: none"> <li>• Development of IT services/resources;</li> <li>• Screening activities;</li> <li>• Workforce development</li> </ul>	

The *RhED Consulting* team reviewed the material collected by the NTDH&CS. They included this material in the draft report and collated it with the results from the stakeholder interviews, which were undertaken to inform the health systems level discussions for the evaluation of the implementation process.



## 2.2 Evaluation Stages

The NTPCDS evaluation has occurred in a number of stages. They included a document review and analysis, the development of a draft report, a gap analysis, interviews with stakeholders, collation and analysis of materials, and the restructure and redevelopment of the draft report.

### Step 1. Document review and analysis

A non-systematic document review was undertaken in 2005-06. It examined all of the documents that could be found in the NTDH&CS that related to chronic disease and any other literature that had been produced for, or had been fed into, the development or implementation of the NTPCDS.

In 2007 additional documents were collected from government and non-government sector organisations as part of the interviewing process undertaken by RhED Consulting and additional information and data was sourced. These documents were reviewed and collated under 6 core-reporting areas that together reflect the objectives of the NTPCDS and the *Evaluation Framework for the NTPCDS* and the *Integrated Chronic Disease Care Framework* developed by Wagner <sup>(30)</sup>. These core-reporting areas also guided the redrafting of this evaluation report.

The six core reporting areas identified are:

1. Clinical systems
2. Workforce
3. Programs
4. Prevention
5. Funding
6. Clinical outcomes.

### Step 2. Development of the draft report

The Community Physician and the PCD Project Officer drafted an evaluation report in November 2006. They used the objectives of the NTPCDS as major reporting sections. It was recognised that there were a number of information gaps in the report, particularly from the non-government sector, due to limited data that had been collected from this sector. At this time both officers moved onto other roles and the incomplete report was left with the PCDS Steering Committee to finish.

### **Step 3. Gap analysis**

A gap analysis was undertaken by members of the Steering Committee in late 2006 to identify those areas that required more information and the relevant people who could provide more information.

An invited tendering process was then initiated to complete the evaluation. The draft report and gaps analysis was then provided to the successful tenderer, *RhED Consulting Pty Ltd*, for their completion. *Refer Chapter 1 for the terms of reference.* The gap analysis provided a checking process for completion of the report.

### **Step 4. Interviews with key stakeholders**

An interviewing questionnaire was developed which covered the six-core reporting areas – Clinical, Workforce, Programs, Prevention, Funding, and Systems. *Refer Appendix 1 – Interview Questionnaire.*

A total of 15 focus group interviews with 58 participants were undertaken in Darwin, Katherine and Alice Springs during May 2007 to gain more insight into the activities of the government and, in particular, the non-government sector, regarding the implementation of the NTPCDS. The interviews with groups were tape recorded, with consent, and hand written notes taken. Several respondents also completed the questionnaire to enable them to provide more information about their specific service.

The groups to be interviewed were identified by the *NTDH&CS Steering Committee*. They included those in government and non-government sectors who were:

- Delivering primary health care services in remote areas
- Delivering primary health care services in urban areas
- Delivering primary medical / clinical / specialised care services
- Implementing prevention and health promotion programs
- Providing Indigenous community controlled services in urban and remote settings, and
- General Practice/Primary Health Care support agencies.

*Refer to Appendix 2 – List of participants interviewed by the RhED Consulting team.*

The advantage of this approach was it enabled the participants to discuss their progress with chronic disease activities generally, even if they did not directly relate them to the PCDS. The interviewer was also very familiar with primary health care services in the Northern Territory and

chronic disease activities funded throughout Australia. Consequently, the interviewer could elicit comment about activities implemented, such as *Healthy for Life* and the *National Primary Care Collaboratives*, if this was not raised by the organisation.

### **Step 5. Collation and analysis of materials**

The results from the document review, the literature and the interviews were collated and triangulated to compare the responses and analyse the data. Common themes were identified using the six core reporting areas, which were then analysed and integrated into the final report. A mixture of qualitative and quantitative analysis methods was used.

### **Step 6. Restructure and redevelopment of the draft report**

The report was reviewed and restructured based on the following general principles:

- Keeping it as simple as possible, so that was easily accessible by stakeholders
- Putting all historical information together into a table so that it is easy to read and add to
- Identifying common core reporting areas that reflect the evaluation framework and the objectives of the NTPCDS. Then using these to structure the tools and the results section of the report
- Restructuring the report into a standard evaluation format so that it is easy to find information and add to it in the future – e.g. adding a methodology section
- Only having information that is of use to the evaluation in the report, and moving information of interest and historical information into the appendices.

The structure of this report therefore has 6 distinct sections that assist in the organisation of the evaluation report to enable the process and impact of the NTPCDS to be explicit. It includes six core-reporting areas that are based on combining the Evaluation Framework and the objectives of the NTPCDS. They are the same as the six used in the interview questionnaire and the document review. These core-reporting areas report against objectives of the NTPCDS – Chapter 3, and provide a structure for the reporting of outcomes and impact of the NTPCDS. This was done to enable better flow of information, usability and to enable it to be built upon for future evaluations.

## 2.3 Limitations

### ***Lack of an implementation strategy***

A key limitation of this evaluation was the absence of an implementation plan for the NTPCDS, upon which this evaluation could be based. Multiple initiatives have occurred nationally and within the NT during this 7-year timeframe. Therefore it was not possible to determine how implementation was expected to occur, and to assess if this occurred – a fundamental component of any process evaluation. To address this the RhED team decided to discuss all progress achieved, regardless of whether this was influenced by the NTPCDS or not. The reason for this is the NTPCDS is an Northern Territory wide strategy, and as such all progress with the improvement in chronic disease and prevention that was identified in the evaluation process has been reported.

### ***Evaluating progress against baseline data***

A *Statistical Report for the NTPCDS* was produced in 2000 <sup>(8)</sup>. It formed a baseline upon which to measure the impact of the NTPCDS and provides excellent baseline data within the PCDS reporting framework <sup>(8)</sup>. There has however not been another report, using the same methods, since this date, though several reports on facets of the NTPCDS exist in other areas. This has made it difficult to report against a baseline and interpret the results of other reports. *For example:* the goal of the NTPCDS was to reduce the projected impact of five common chronic diseases – the number of hospitalisations, deaths and financial costs. This was unable to be evaluated, as there has been no new published hospital data since 2000, apart from that found on renal day admissions.

Many sources of data had to be re-identified as several in the existing draft report were well out of date, or provided baseline data only. Some could not be found, were not available, or were not comparable to the baseline data, or the NT data were not for publication ie Medicare. Due to the breadth of this report against objectives and key result areas, this process was complex and extensive. Hence only information that was published was used in the development of the final report; and some areas remain incomplete due to the lack of available published data.

### ***Evaluation process***

The approach used by the NTDH&CS in undertaking this evaluation, using different groups and an internal and external process, created another limitation. Internal staff initiated the evaluation and external consultants completed the project, with limited opportunity for discussion with the

internal project team. It was very difficult at times to identify data sources and validate statements made in the draft evaluation report. Therefore some of the information contained in the draft report that could not be validated, was removed.

### ***Restructures***

Between 1999-2006 there were three restructures within the NTDH&CS. The broader policy environment shifted from Strategy 21 to the current *Building Healthier Communities Framework*, which included a change from horizontal to vertical programs. This has made it difficult to assess where programs and resources have been shifted, or if they have been reallocated or have ceased. Therefore, within the time constraints of the evaluation process, it was not possible to gain a sense of the impact of corporate policy directions, except to comment upon how this has affected communication between service providers and the integration of services within the NTDH&CS and other service providers across the Northern Territory.

### ***Translation between policy and practice***

Determining the translation between policy, the PCDS and practice, and what service providers attributed to the PCDS or another program offered challenges. *For example:* it was difficult for some groups, internal and external to NTDH&CS, to identify how the PCDS influenced their work, yet their work was clearly contributing to the outcomes expected from the PCDS.

## CHAPTER 3.

# PROGRESS AGAINST NTPCDS OBJECTIVES

This section provides a narrative report of the *process* evaluation. It includes: the baseline situation (if known), in 1999 and highlights key activities that have taken place since that time. An assessment of the degree to which each objective has been met is made based on the information discussed. The objectives have been grouped under the six core reporting areas:

1. Clinical
2. Workforce
3. Prevention
4. Programs
5. Funding.
6. Systems

### 3.1 CLINICAL

The objectives discussed in this section include those that aim to improve the clinical systems that support chronic disease prevention and management. This includes evidence based guidelines and effective patient information and recall systems. Clinical outcomes are reported in Chapter 4.

#### 3.1.1 Best practice clinical guidelines

**Objective 1.** *All clients will be offered care based on locally produced and up-to-date best practice guidelines.*

#### The Evidence

The use of a systematic approach to chronic disease prevention, early detection and management will result in improved health outcomes for individuals and the community <sup>(31)</sup>. Well organised systems of care, and not simply good individual health care workers, are important in achieving better health outcomes <sup>(32)</sup>.

## **Situation at Baseline**

1. The *Guidelines, Standards and Audit Team* (GSAT) developed guidelines for chronic disease as part of the NT Coordinated Care Trials in 1997, to complement and extend the information from the CARPA standard treatment manual <sup>(33)</sup>. They were to be integrated into the computer recall systems for these trials. In 1999 they were approved for use in all Top End Community Health Centres, and support for their implementation was provided by the nurses of the Total Recall Team.

2. The *CARPA Standard Treatment Guidelines* were first developed in 1991. They were the standard for clinical practice Central Australia. The CARPA 3<sup>rd</sup> edition contained some information about chronic disease guidelines, but it was not consistent with the information in the GSAT guidelines.

Both the *GSAT guidelines* and the 3<sup>rd</sup> edition *CARPA Standard Treatment Manual* were reviewed by Hampton and Fallon in 2001<sup>(34)</sup>. They found widespread acceptance of the CARPA Standard Treatment Manual, which are widely used across remote health services and in Aboriginal Controlled Community Health Organisations (ACCHOs). They are also frequently used in many other Australian states <sup>(34, 35)</sup>. Their use was found to be much less in urban general practices in the NT, who largely use the *Royal Australian College of General Practitioner* (RACGP) guidelines. In general practice there were also some guidelines available for diabetes and asthma management but it is not known to what extent these guidelines were utilised. Therefore in 1999 there was a proliferation of guidelines being used across the Northern Territory. There was not a strong culture of the use of evidence-based guidelines in general practice at this time. Communities that participated in the KDRP project were using a slightly different set of guidelines from the GSAT guidelines for management of hypertension, diabetes, and renal disease.

## **What best practice guidelines exists today?**

The 4<sup>th</sup> edition of the CARPA guidelines was published in 2003. It incorporated material from the GSAT guidelines and was approved for use in health centres across the entire NT. It was being evaluated at the time of this report and the 5<sup>th</sup> edition was being developed. During stakeholder interviews all participants advised they were using best practice chronic disease guidelines to inform their practice. All the ACCHOs, the NTDH&CS staff from the Remote Health Services, and PCD teams stated they used the *CARPA Standard Treatment Guidelines*, the *Women's Business Manual* and the *Aboriginal Health Worker Medicines* to guide and inform their practice. Some

ACCHOs and the NTDH&CS staff also identified *The Bush Book* as their commonly used best practice guideline for prevention activities.

The standards most commonly used in General Practice are the RACGP guidelines promoted through the *National Primary Care Collaborative*. The members of the *Good Health Alliance NT* advised they referred to the national guidelines produced by their organisations in education and health promotion activities. Urban community health providers did not use the CARPA clinical guidelines as they have their own best practice manual, based on a combination of guidelines appropriate for use in the context and scope of practice for community health staff.

## **Discussion**

In summary, the *CARPA Standard Treatment Manual* is the most commonly used source of guidelines, but a range of other information sources are used to obtain best practice guidelines. These include: the *Diabetes Australia Guidelines*, *Asthma Foundation Asthma Management Guidelines*, *Australian Cancer Society guidelines*, *CRANA procedure manual*, *Community Health Best Practice manual* and the CDC downloads. The clinical guidelines being used in general practice and non-government organisations are different from those used in the ACCHOs and NT Remote Health Services. There are no clear directions as to which guidelines NTDH&CS staff working in Community Health in urban areas should follow when working without a general practitioner or non-government agencies to deliver best practice care. This is essential to facilitate integration and collaboration between services.

## **Assessment against objective**

Significant progress has been made against this objective with the majority of service providers in the Northern Territory using the CARPA guidelines as the basis for care offered to Aboriginal clients managed through community controlled services or the NTDH&CS. All service providers indicated they used some guidelines to set the standards for clinical practice.



### 3.1.2 Patient information and recall systems (PIRS)

**Objective 2:** *There will be updated population lists in all community health centres; and a recall system, either paper-based or computerised, in all community health centres and general practices.*

#### **The Evidence:**

There is strong evidence that health care systems for chronic conditions are most effective when the 'health of a defined population' is prioritised, rather than a single unit of patient seeking care<sup>(32, 36)</sup>. Using a systematic population approach – through the use of population lists, and information and recall systems – will have a greater effect on the patient's health outcomes than individual care<sup>(32, 37)</sup>. It will also be more financially efficient in the long run.

#### **The situation at baseline**

In the late 1990's a number of patient information systems were being used throughout the Northern Territory to organise chronic disease care in *Aboriginal Community Controlled Health Organisations (ACCHOs)* and remote primary health care services. These systems included:

- The computerised *Chronic Disease Recall* (CDR) used in NTDH&CS Remote Health Services
- *Indigenous Coordinated Care Trials Information System* (CCTIS) at KWHB and Tiwi islands,
- *Medical Director* in General Practice
- The paper-based *Total Recall* system in Top End and CARDEX in Central Australia, and
- A number of other methods designed and utilised locally on an ad-hoc basis.

At this time computerised patient information systems were not commonly used in Aboriginal primary health care services. In 2000 OATSIH provided funding for ACCHOs to purchase a computerised Patient Information Recall System (PIRS). The systems available for purchase were *Communicare* or *Ferret*.

#### **What patient information and recall systems exist?**

##### **a. Patient information systems**

The majority of ACCHOs funded by the *Australian Government* in the NT use one of two PIRS systems – *Communicare* or *Ferret*. *Medical Director* has become the information system of choice in general practice and a few ACCHOs also use this system. All of these computerised patient

information systems have the capacity to produce a population list, chronic disease registers and recall systems to support a population health approach to chronic disease prevention and management.

The Northern Territory Government sponsored the development of the *Coordinated Care Trial Information System* (CCTIS) used in the Coordinated Care Trial sites in 1996 and went on to develop the *Primary Care Information System* (PCIS) for wider use throughout the Northern Territory starting in 2003. Three NTDH&CS clinics in the Top End have access to the PCIS computerised patient information system. Planning is underway to extend these to 8 sites in 2007 (Bagot, Binjari, Jabiru, Nguiu, Milikapiti, Pirlangimpi, Pine Creek and Elliot Community Health Centres).

Despite the limitations of not having a computerised information system in all primary health care facilities efforts have been made to establish population lists in each community to ensure that all members of the community have a valid Medicare card. The CDR II database system used by District Medical Officers (DMOs) to record chronic disease clients means there is a register of people with chronic disease for every community that is serviced by a DMO. Therefore for most communities it is possible to produce a population and chronic disease register for targeted interventions.

#### ***b. Recall systems***

A range of recall systems are being used to plan and manage the delivery of screening and chronic disease care items. Appendix 3 provides a detailed history of the development of each of the recall systems and the type of information collected. *Table 3.1* shows the range of systems and their use by services across the Northern Territory.

**Table 3.1** *Examples of services using different recall systems in the NT*

<b>System</b>	<b>Communities</b>
Cardex (manual)	Central Australian clinics
Total Recall card system (manual)	All Top End DH&CS health centres to varying degrees
CCTIS	Milikapiti (now PCIS), Tiwi
PCIS	Bagot, Binjari, Jabiru, Nguiu, Milikapiti, Pirlangimpi, Pine Creek and Elliot Community Health Centres
Communicare	Katherine West Health Board, CAAC, Danila Dilba, Sunrise, Urapuntja, Amoongoona, Anginyinyi

Ferret	Miwatj, Numbulwar, Marngarr, Laynapauy Homelands, Gapuwiyak, Wurliwurlijang
CDR-II	All District Medical Officers in Darwin Rural, East Arnhem, and Central Australia
Medical Director	Batchelor, Ampilatwatja, Wurliwurlijang
Other Proprietary Systems (eg Excel, Filemaker Pro)	Batchelor, Adelaide River, Titjikala, Top End Renal Team

In June 2004, *Healthy Living NT* received funding from the NTDH&CS to provide education and training to selected non-government health clinics throughout the Northern Territory. This program ran until December 2004. Across the 11 clinics visited by the Healthy Living NT education program, three different recall systems were found to be in use:

- 3 clinics had *Ferret*
- 2 clinics had *Primary Care Information System* (PCIS), and
- 5 clinics had a paper based or manual recall system <sup>(38)</sup>.

They reported a degree of confusion about the roles and capabilities of these recall systems. *For example:* one clinic said *Ferret* was easy to use and had a recall function; another two clinics using the same system reported that *Ferret* could not generate a recall list and that it was time consuming. Three of the clinics using a paper-based system were relying on the doctor to provide a *Chronic Disease Register* to identify those due for recall. Both clinics using the PCIS felt it was good; one of those clinics did not have it operational due to staff turnover and lack of time <sup>(39)</sup>.

In the study undertaken by Schatz in 2005, 30-40 per cent of clinics reported their recall systems as problematic <sup>(40)</sup>. He found that in Central Australia there were mixed views regarding the user friendliness of systems and most found them time consuming and complex. In the Top End more people found the systems user-friendly and easy to understand, and half said that they were overly time consuming.

During stakeholder interviews the ACCHOs indicated that their recall systems were functioning effectively and being used to plan service delivery. All sites interviewed reported that training in the use of recall systems is included in orientation with most sites identifying a person responsible for ensuring that training is provided. The *Healthy for Life* program has helped identify any issues with computerised patient information and recall systems that may be hindering access to care. They have developed strategies to solve these problems.

In the Top End, the NTDH&CS Remote Health staff reported that the recall systems were present, and with regular support from the Public Health Nurse, they worked well. Training in the use of recall systems is incorporated into orientation and the Chronic Disease Pathways module. The PCD team take responsibility for systems training of new staff. However the NTDH&CS Darwin Urban Community Health services, and the Chronic Kidney Disease nurses in the Top End, do not use chronic disease recall systems.

The stakeholder interviews in Central Australia reported that recall systems were operating effectively in the late 1990's, however in recent years they had not been as well maintained. The information provided during the stakeholder interviews was consistent with the findings of the Schatz study <sup>(40)</sup>. The reasons given for this include the withdrawal of practice nurse positions that supported quality improvement activities in the health centres and the lack of an electronic information system to assist with managing clients. In addition to these systems issues, it was reported that some health staff working in remote areas hold the view that chronic disease care is not their core business and as such chronic disease recall is not part of the work practice in all facilities.

The Preventable Chronic Disease team is actively trying to re-establish recall systems and view it as part of their role to train new staff. A number of mechanisms to ensure a systematic approach to training in the use of recall systems were identified by the Remote Health Services, including orientation programs, AHW training programs and training provided by the Public Health Nurses from the PCD team.

### ***Activity and Outcome reporting***

The Community Controlled Health Services provide 6 monthly reports about service in their Service Activity Reports, and about organizational activities through the Service Development and Reporting Framework (SDRF) six-monthly progress reports. A summary of this information is also included in Annual Reports. Through the *Healthy for Life* program *Communicare* and *Ferret* are being upgraded to improve their reporting functions around the *Healthy for Life* performance indicators. With the exception of Central Australian Aboriginal Congress (CAAC), which has a well-developed reporting system, most services indicated they were in the process of developing their chronic disease reporting systems, which they expected to be operating in the next 6 months. During the stakeholder interviews NTDH&CS did not identify any regular reporting for chronic disease prevention and care activities. Reporting of EPC items that reflect outcomes from service delivery is occurring and uptake rates for NTDH&CS services are being monitored. However

Medicare information is not for publication for the NT and no new data could be identified since 2004. Therefore could not be reported in this evaluation, although it is expected to have increased.

In 2005 an agreement was signed to commit all Aboriginal primary health care service providers in the Northern Territory to report against one set of Aboriginal Health Key Performance Indicators (AHKPI). Regular monitoring of outcomes is an essential quality improvement activity and a website has been set up to facilitate data entry and analysis. In 2007 the first reporting against these indicators will occur.

### ***Quality Improvement activities related to chronic disease***

Across the Northern Territory 12 community services are participating in the Audit and Best Practice in Chronic Disease (ABCD). Services participating in ABCD undertake a clinical audit and a systems assessment survey to establish a baseline position, to inform development of an action plan to start addressing the systems issues identified for chronic disease prevention and management. This Plan, Do, Study, Act (PDSA) cycle is completed over 3 annual cycles to establish the practice of audit and review. The 2007 ABCD Report found that there had been improvements in all key aspects of systems to support chronic illness care for almost all participating centres <sup>(7)</sup>. ACCHS participating in ABCD that were interviewed stated that they reported their annual ABCD audit results to their Boards.

A significant proportion of general practitioners in the Northern Territory and many of the ACCHO health teams have participated in the *National Primary Care Collaborative (NPCC)*. This initiative has assisted with establishing PDSA cycles to improve access to services and chronic disease management. Services participating in the NPCC report that they provide monthly reports against NPCC indicators.

### **Discussion**

The extraordinary number of recall systems across the NT is a major barrier to the implementation of effective chronic disease prevention and management. Staff who work across a number of clinics, or who move from one clinic to another, are unable to access patient records or prescribe without extensive orientation to the new systems. The systems do not talk to each other, and require faxing of patient records between clinics when people move.

The Territory Government is committed to introducing PCIS into all NTDH&CS remote clinics which will be approximately 54 sites over the next 2-3 year subject to funding and human

resources to support the implementation process. Planning is underway to implement the system into Wadeye, Peppimenarti and Palumpa in the Top End and Ti Tree, Ti Tree 6 mile, Ti Tree Station, Stirling, Ali Curung and Yuendumu in Central Australia. This implementation plan for Central Australia will mean there is not a consistent information management solution for all health services in a health zone. For example in the Walpiri Health Zone – Yuendumu, Willowra and Nyirripi, there are plans to link up Yuendumu to PCIS, but not the other 2 sites. A similar situation will exist in the Anmatjere zone. The key barrier identified by Health Services Information to implement the system in all communities is the poor communication infrastructure in remote areas with only satellite communication available in many places. Therefore consideration will also need to be given to finding a computerised patient information system for sites where there are no medium to longer term plans to implement PCIS.

The urban community health services do not have a patient information system or recall system for managing chronic disease care. This is largely because they do not provide medical services, however, many of the services required by people with chronic disease are delivered by Community Health Services.

The Renal Services Unit in Darwin is using a patient information system provided by a pharmaceutical company, which is not tailored specifically for their needs. Without an information system that supports recall systems and communication between service providers there is no basis to manage patient and share information in urban areas.

During stakeholder interviews staff from NTDH&CS consistently reported that acute care demands continue to dominate the business of the clinic. For this reason in some communities, the Public Health Nurse is the only person actively following up chronic disease patient recalls. Effective orientation and training for short-term employees remains an ongoing challenge particularly in sites with high turnover.

Apart from the NTDH&CS clinics participating in the ABCD project, very few NTDH&CS services could demonstrate any ongoing quality improvement activities to help strengthen chronic disease systems. In the new WYN Health zone, the role of the public health nurse is to establish population health systems, including the chronic disease recall systems, and to train staff in their use. This position will undertake quality improvement activities to establish PDSA cycles of audit and feedback about chronic disease care. This was one of many roles identified for the Public Health Project Officer that was proposed for each health zone in a paper tabled by AMSANT at the NT Health Forum in 2001 (and very similar to the role of the Professional Practice Nurse that

was in place in Central Australia in the late 1990's). It was expected that all the chronic disease public health nurses would take on a similar role regardless of whether a regional board employed them under PHCAP arrangements, or they were employed by NTDH&CS. Due to the acute care demands in the NTDH&CS clinics, the NT Public Health nurses take on an operational role in service delivery rather than focusing on systems support roles as proposed in 2001.

Aboriginal Community Controlled Health Services with computerised patient information systems will have the capacity to report against most of the NT AHKPIs, but manual systems will need to be established in the NTDH&CS clinics and non government services that do not have a computerised patient information system. Many of these indicators are good outcomes measures for the key result areas of the NTPCDS and they should be linked as the outcomes indicators for the strategy.

### **Assessment against objective**

Population lists are reported to be in place in all health service locations across the Northern Territory with the majority of ACCHOs using computerised patient information systems that support a population health approach including the production of population lists, chronic disease registers and recall systems. The NTDH&CS have chronic disease registers for communities serviced by DMOs and reported having predominantly paper based recall systems. The recall systems are largely paper based in NTDH&CS remote clinics that are cumbersome and therefore not used consistently by all staff. As at June 30, 2007 there was no regular reporting of chronic disease activities and outcomes, but that will change as the Aboriginal Health Key Performance Indicator reporting commences.

## **3.2 WORKFORCE**

*Definition:* The workforce is defined as all health disciplines that provide clinical and educational services to the NT population – physicians, general practitioners, nurses in all locations, Aboriginal Health Workers, allied health professionals and other allied workers such as nutritionists, podiatrists etc. Ninety-five percent of the remote workforce is made up of remote area nurses and Aboriginal health workers, supported by visiting specialists, medical and allied health services <sup>(41, 42)</sup>.

There are two NTPCDS objectives that have been allocated to this workforce section. They relate to staff orientation and a whole of government approach to workforce development.

### 3.2.1 Staff orientation and training

**Objective 3:** *Staff orientation – All health staff will have been oriented to chronic diseases and their underlying causes, and will receive ongoing, on-site support and training to improve their chronic disease management skills.*

#### The Evidence

There are five basic competencies that all members of the health workforce require in caring for people with chronic health problems <sup>(43)</sup>:

1. An ability to use a patient centred approach – where care is organised around the patient,
2. Communication skills that enable them to collaborate and network with others,
3. An ability to ensure safety and quality of patient care is continuously improved,
4. Skills in monitoring patients across time through using and sharing information technology, and
5. An ability to use a population health approach and public health perspective <sup>(43)</sup>.

Workforce education and training are therefore essential strategies to facilitate improved chronic disease management <sup>(43)</sup>.

The need for change in usual workforce practices has been well documented and an optimal skill-mix includes clinicians and educators with both clinical and self-management support skills, who can work as 'population managers' <sup>(44)</sup>. Wagner describes the need for a shift in thinking required to move from acute care to chronic disease management that involves:

*...planned, regular interactions with their caregivers, with a focus on function and prevention of exacerbations and complications... Interaction...(that) includes systematic assessments, attention to treatment guidelines, and behaviourally sophisticated support for the patient's role as self manager <sup>(44)</sup>.*

Workforce development when combined with a number of other strategies is a very useful capacity building tool. It contributes to a workforce that is more prepared for better management and early intervention strategies within chronic disease care, which will improve health outcomes.



### **What orientation and ongoing training programs exist?**

The need for staff orientation and education programs to implement chronic disease programs has been a high priority featured in business plans for NTDH&CS Darwin Rural Management, Primary Health Care Rural, and Primary Health Care Remote Central Australian programs since 1999 to progress the implementation of the NTPCDS. A number of new external initiatives have also been implemented since then that have assisted with the orientation, training and support of the NT health workforce in delivering chronic disease prevention and management across the NT. They include:

- *The Pathways to Professional Practice Program*
- NTDH&CS Orientation and in-service programs
- *Public Health Education and Research Program (PHERP) Innovations program*
- *Master of Remote Health Practice Program, Flinders University*
- *Divisions of GP continuing professional development programs*
- *National Primary Health Care Collaboratives*
- *The Healthy for Life program*
- *ABCD program*
- *CARPA Conferences and meetings*
- *NT Chronic Disease Network annual conference*
- Aboriginal Health Worker apprenticeships.
- Chronic Disease Network

#### **3.2.1.1 Orientation**

##### ***Pathways to Professional Practice Program***

The 'Pathways' program started operating in Central Australia in 1997. It aimed to attract, stabilise, skill, and retain the remote nursing workforce in particular. It also provided a systematic way to provide orientation and ongoing training about chronic disease care and population health systems. The program was evaluated in 2003, and it was then implemented across the NT. In 2005, the Pathways Program replaced the limited NTDH&CS orientation program in the Top End to provide more comprehensive orientation and training. In 2007, 28 staff from the Top End participated in the orientation program.

NTDH&CS also have an ongoing in-service training program to build capacity around health promotion, nutrition and the other underlying social determinants of health that impact upon chronic disease. The Renal Services have adopted a similar approach to the Pathways model. It includes group recruitment and intake for orientation and training to create the workforce

required to manage renal services. The renal training program is supported by an on site educator to assess competencies.

### ***Aboriginal Community Controlled Health Organisations***

Aboriginal Community Controlled Health Organisations reported that they provide 1:1 orientation in chronic disease systems for new staff. Some ACCHO's access the NTDH&CS in-service program, however the majority of their training occurs onsite. For services participating in *The Healthy for Life* program, phase 1 activities provided an opportunity for training related to the paradigm shift needed for chronic disease management and the systems approach to care.

### ***Non-Government Organisations***

The non-government organisations, which are part of the *Good Health Alliance NT*, provide orientation for their new staff on a 1:1 basis when they are recruited. For staff employed in these organisations, it is a pre-employment requirement that they understand the particular chronic disease that the organisation is working to address. The *Good Health Alliance NT* reported that they have participated in the delivery of training through the Pathways Program, but had not accessed it for their staff. Through this evaluation consultation process these services were advised that they are able to access NTDH&CS programs.

## ***3.2.1.2 Professional Development***

### ***Chronic Disease Module***

A chronic disease module was first delivered in the Top End in 1999, and it was updated in 2005. Approximately 56 people completed the chronic disease module in the Top End and 9 in Central Australia from 2004 to 2006. Where the training module is offered, it is open to all service providers in the NT. Participants have included staff from: NTDH&CS, ACCHOs in the Top End and the Top End Division of General Practice. Each time the course is delivered it is evaluated to identify areas for improvement. Feedback indicates that the module provides a lot of information during the weeks duration and more innovative delivery should be explored. ACCHOs in the Top End identified the chronic disease module as particularly relevant to their needs and where possible they have linked staff into this training. These comments were supported by the attendance data for Top End training programs.

### ***Divisions of General Practice***

The *Top End Division of General Practice* and the *Central Australian Division of Primary Health Care* manage ongoing continuing professional development (CPD) programs. Many of the

programs focus on chronic disease prevention and management, including care planning and the use of *Lifescrpts* for brief interventions. The CPD program is promoted to private and non-government allied health service providers to promote a multidisciplinary approach. In recent times a priority for training has been to increase the capacity of general practitioners to manage clients with mental illness in the general practice setting.

A significant number of GPs and ACCHO primary health care teams have been participating in the National Primary Care Collaborative (NPCC). This provides an opportunity for up-skilling about the evidence base for chronic disease best practice and a systems based approach.

### ***Non-Government sector***

In June 2004, *Healthy Living NT* received funding from the NTDH&CS to provide education and training to selected non-government health clinics throughout the Northern Territory. This program ran until December 2004<sup>(39)</sup>. *Healthy Living NT* arranged for cardiac and diabetes educators to visit 11 non-government health services across the NT. A total of 40 health professional staff and 48 clients received diabetes and cardiac education in education sessions ranging from 1-3 hours duration. Both clients and staff regarded these education sessions positively. The *Healthy Living NT* team noted that even though their visits were planned in consultation with the clinics weeks to months prior to the visit, only one clinic allocated time by closing the clinic so that education could take place. The remaining clinics maintained normal clinic activities and attended education sessions opportunistically.

Their report noted that half the clinics had visiting specialists including physicians, ophthalmologists, dieticians and dentists. Clinic staff reported that these visiting specialists did not provide education to clinic staff nor complete care plans<sup>(38)</sup>. The then Community Physician reports that visiting specialists do attempt education, but are generally refused the offer, on the grounds that staff are too busy, or find that organisation of the clinic precludes the provision of education<sup>(45)</sup>.

### ***Conferences***

Many services encourage staff to attend chronic disease professional development opportunities provided by CARPA, as well as the *NT Chronic Disease Network* meetings and their annual conference, to enhance staff capacity for chronic disease prevention and management. These forums have been used by NTDH&CS staff to provide education to service providers. *For example:* a renal specialist used the CARPA conference to provide information on the management of renal clients to facilitate early referral to specialist renal services.

### 3.2.1.3 Training Needs

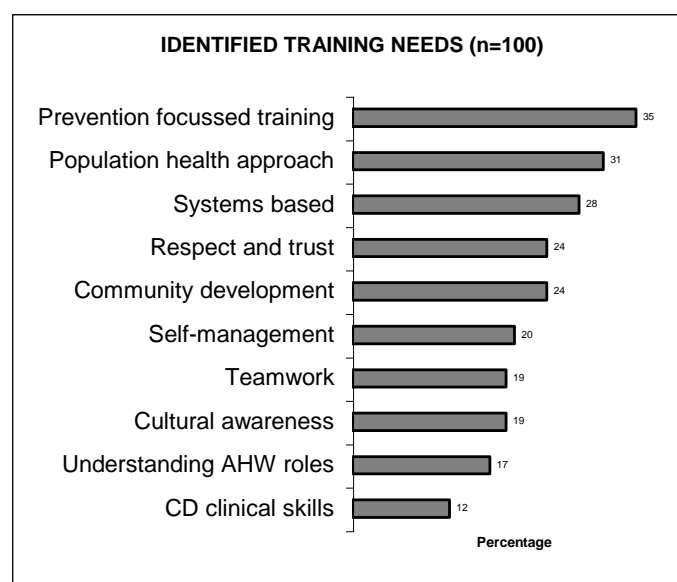
#### ***Public Health Education and Research Project (PHERP) innovations program***

In 2004 Menzies School of Health Research, AMSANT and the NTDH&CS were part of a consortium of seven that received national funding from PHERP to develop a curriculum to address chronic disease training needs and improve the capacity of staff working in Indigenous primary health care settings. Through this project the PHERP curriculum framework was developed. It provides a means to systematically integrate training for chronic disease care and the systems that support care into undergraduate, post graduate, and professional development training programs<sup>(35)</sup>. This is a strategic approach to addressing future workforce needs.

To inform this development a training needs analysis was undertaken in 2004 <sup>(35)</sup>. It identified the top 10 training needs of 100 policy makers, educators and remote practitioners from all disciplines in the NT and North Queensland. The top four focused on:

- the need for prevention focused training, which included opportunistic screening, health education and program development
- how to use a population health approach
- how to use systematic approaches in chronic disease detection and management, and
- the importance of respect and trust when working in a cross cultural environment, particularly with Indigenous health workers <sup>(35)</sup>.

**Figure 3.1** *Top 10 chronic disease training needs identified by NT & NQ workforce*



The information collected as part of the needs analysis informed the redevelopment of the chronic disease module included in the Pathways Program. The curriculum framework produced by the project has been integrated into the content of several universities' undergraduate and postgraduate degree programs and professional colleges, including *Charles Darwin University's* redeveloped Bachelor of Nursing and Bachelor of Pharmacy Programs for 2008. It has also been used in 2007 as the framework for the self management program conducted by Flinders University.

In 2005, a survey of chronic disease education requirements was undertaken by NTDH&CS <sup>(46)</sup>. It found that community services personnel, and those in acute care, are requesting more education in:

- the management of specific chronic diseases (liver disease, renal, diabetes etc),
- self-management, and
- care planning.

It found that currently education in these areas is in the form of unit based in-services, or off site workshops conducted by specialist health professionals, which is largely provided through the Pathways program <sup>(46)</sup>. The survey also found that attendance at the NTDH&CS courses was limited, as clinic staff positions are not relieved to allow staff to attend these workshops.

### **Accredited Programs**

#### ***Master of Remote Health Practice Program***

This program has been delivered from the *Centre for Remote Health* since 1999 and nurses participating in the Pathways Program can receive credit towards it. In 2006 the program was reviewed and updated to incorporate the material from the PHERP curriculum framework and now has specific topics in chronic disease and requirements in clinical areas such as the Adult Health Check in the Nurse Practitioner and Medical streams.

#### ***Master of Public Health Program***

This multi-disciplinary program is offered by Menzies School of Health Research. It includes a chronic disease module.

The other most commonly cited strategy to facilitate workforce capacity was supporting individual with personal study programs.

## Discussion

The need to develop a skilled workforce is a priority contained in the *Building Healthy Communities Policy* <sup>(23)</sup>. Ensuring all staff in community services undertake induction, orientation and training is a key commitment identified. The chronic disease training needs of the remote and rural workforce have been clearly articulated in two particular surveys <sup>(35, 46)</sup>. Though there is a mismatch between evidence for what is required to improve the health of the population and the capacity of the workforce to act on the evidence <sup>(47)</sup>.

Orientation and continuing education have been an important priority of the NTPCDS and the PCDS. Staff who attended these training programs have reported benefits, however they are compromised by continued high turnover rates, the demands of acute care, and a focus that is on the needs of remote area nurses. Feedback on the chronic disease module has revealed that there is a lot of information to cover in the one-week program and that more information is required, particularly in the areas of renal and cardiac management for remote area staff, as well as the need to also include mental illness. The Pathways Program and the renal services program have both reported an increase in staff retention. The renal program has also reduced inpatient admissions.

The NT Pathways Program is a useful strategy to assist staff to understand the causes and management of chronic disease. However attendance is limited to mainly remote areas nurses many of whom are unable to access these programs. Due to insufficient data it was unclear how many people did not access, or were delayed in accessing, the courses. This depended on their time of appointment, length of contract, and the sufficiency of staff remaining at the health centre to provide a service. Some staff in Central Australia felt that the change to a Territory wide program had resulted in local information being removed from the program, which made it less useful. There were also problems with the delivery of some of the modules in Central Australia, leading to the view that some staff were less prepared than they had been in the past.

Clinical staff attending these courses have frequently been found to have limited knowledge about a systems approach, care planning, working effectively in cross cultural teams and using a population health approach <sup>(35, 48)</sup>. This process of training about a systems approach must continue and innovative ways to apply this knowledge should be investigated as the workforce in the Territory has a rapid staff turnover rate. Despite this there is support for workforce development though it is often difficult to allow clinic staff to be released from clinical activities and support them with relief when training activities are planned due to the acute care needs of the populations they are serving.

## Assessment against objective

Most services seemed to provide a process for staff orientation that ensured that their workforce is prepared to use a population health approach and to deliver effective chronic disease prevention and management. While this is occurring the acute paradigm prevails and there is little time for preventative or health promotion work. Major barriers to participating in these programs were identified due to the mode of delivery and the lack of backfill to release staff to attend training. It was difficult to determine how many staff attended orientation and training as there are not the systems in place to easily collect, collate and systematically report this information across all health sectors.

### 3.2.2 Whole of government approach

**Objective 4:** *Whole of Government Approach will lead to better educational outcomes and improved employment opportunities for the Indigenous population.*

The NTDH&CS *Building Healthy Communities* policy articulates the outcomes achieved, and future directions proposed, related to this objective <sup>(23)</sup>. It identified a number of goals to improving educational and employment opportunities for the Indigenous population including the status of, and access to, jobs for Aboriginal people within NTDH&CS<sup>(23)</sup>.

#### The Evidence:

Education provides people with skills to access health information, assists in problem solving and helps give a sense of control over one's life <sup>(49)</sup>. Our level of education is directly related to employment, health status and income, which in turn affect housing, nutrition and health. Lack of control over one's work is associated with cardiovascular disease<sup>(50)</sup>.

#### The Situation at baseline

It was not within the scope of the *RhED Consulting* team to undertake an extensive review of the initiatives undertaken to improve educational opportunities in the NT Indigenous population. Yet there are many levels where action is required to improve Indigenous educational outcomes. They include strategies to improve participation in preschool, primary, secondary and tertiary

education as well as industry based training. Therefore a quick review of markers for the quality of the education system such as the number of children attaining the NT Certificate of Education, literacy levels and retention data, and employment levels is provided below.

### ***Indigenous unemployment rates***

The national unemployment rate of Indigenous Australians is about 18 per cent, three times the national average of six per cent <sup>(51)</sup>. Between 1996 and 2001 the unemployment rate of 15-24 year olds in the NT improved from 23.3 per cent in 1996 to 18.7 per cent in 2001, double the non-Indigenous rate <sup>(3)</sup>. However, of the 81 per cent employed, 49 per cent were employed under the *Community Development Employment Program* (CDEP) <sup>(3)</sup>. Remote areas provide much less access to employment and most Indigenous people work for the CDEP program.

### ***Literacy benchmarks***

There is a clear gradient in achievements of NT Indigenous and non-Indigenous students achieving the 3<sup>rd</sup> Grade National Literacy Benchmark, which worsens with remoteness and Indigenousness between 2001-2005 <sup>(3)</sup>. In 2005 approximately 90 per cent of non-Indigenous students achieved the benchmark compared with 48 per cent in remote locations and only 21 per cent in very remote locations<sup>(3)</sup>.

### ***Educational Attainment***

Establishing a common approach to training with the Department of Employment, Education and Training and Community Development, Sport and Cultural Affairs was identified as a key strategy in *Building Healthy Communities*<sup>(23)</sup>. In 2007 there is evidence of a joint approach in the convening of the CDN Chronic Disease Conference between the Education Dept and the NTDH&CS, with initiatives from the Planning Authority.

#### ***3.2.2.1 What Indigenous Employment opportunities exist?***

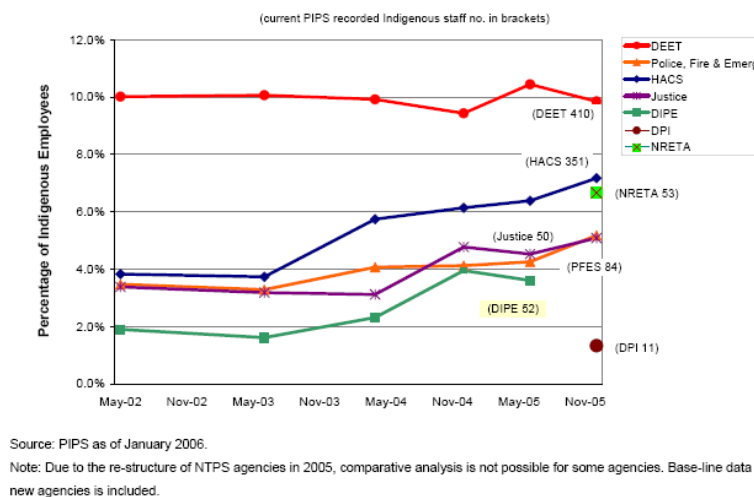
The *Building Healthier Communities Policy* identified a number of goals in relation to a whole of government approach to improving educational and employment opportunities for the Indigenous population. In particular it indicated a desire to improve the status of, and access to jobs for Aboriginal people within NTDH&CS <sup>(23)</sup>. This was to be achieved through an Aboriginal employment and career development package based on the *Indigenous Employment and Career Development Strategy 2002-2006*. It aimed to address the critical under-representation of ATSI people within the NT public sector workforce by providing a range of appropriate restructure,



career development, and retention initiatives. This included the collection of data about employment of Indigenous public sector staff.

In 2002 Indigenous Territorians made up 28 per cent of the total NT population yet only 4.8 per cent of the public sector workforce <sup>(52)</sup>. The 2005 *Office of the Commissioner of Public Employment* (OCPE) reported that from 2002 to 2005, the numbers of Indigenous employees in the public sector increased to 6.9 per cent. Indigenous employees in the Health and Community Services sector are reported to have increased from 161 in 2002 to 351 in 2005 <sup>(4)</sup>. Of whom 130 are listed as Aboriginal Health Workers and 15 as Indigenous Nurses. As this was a new data collection process it is difficult to assess how many of these were 'new' positions rather than an improvement in data, which is reliant on employees to enter.

**Figure 3.2** *Percentage of Indigenous employees for large agencies May 2002-December 2005 <sup>(52)</sup>.*



In 2007, the Indigenous Employment Strategy is under review. Investigation into the number of new Indigenous positions and their breakdown revealed that while the information was collected via the Person Information Payroll System, it may not be accurate <sup>(53)</sup>. This was due to at least 30 per cent of NTDH&CS staff not completing this section of the system.

During interviews with stakeholders, services were asked if new Indigenous positions had been created as a result of chronic disease initiatives. Staff from the NTDH&CS could not identify any new Indigenous positions that had been created in the PCD program. However two new Aboriginal Health Worker positions were created using S100 money. These were, for a level 4 health workers, one in Alice Springs and one in Groote Eylandt. Aboriginal Health Worker

positions in the Preventable Chronic Disease team were existing positions transferred from other programs. Most of the new positions established appear to have been in nursing. In fact in recent years there has been a net decline in the number of Aboriginal health workers employed in the Northern Territory. Recruitment and retention of Aboriginal Health Workers has been an ongoing issue. To address this an apprenticeship model of training has been developed for Aboriginal Health Workers which is due to commence at Batchelor Institute in July 2007 with 24 apprentices employed by the NTDH&CS <sup>(53)</sup>.

Where new funding has been made available to enhance primary health care services such as the 5 regions in Central Australia, staff reported that there was an increase in Aboriginal employment in roles such as drivers, community workers, and clerical staff. However, no new Indigenous employees were reported in decision-making processes, policy development, and service delivery to ATSI people, which was the aim of the *Indigenous Employment and Career Development Strategy* of 2002-2006.

ACCHOs reported that many new Aboriginal positions have been established through the *Healthy for Life* program. The *Division of Primary Health Care in Central Australia* is actively targeting Aboriginal people to recruit up to 15 Aboriginal community mental health worker positions.

## **Discussion**

Aboriginal and Torres Strait Islanders made up 28 per cent of the NT population but only 6.9 per cent of the NT public sector workforce <sup>(4)</sup>. While this is an improvement in general, it is unclear if these data are accurate, as 30 per cent of staff do not complete this section of the HR collection system. It is therefore not possible to establish if there has been an actual increase in numbers of Indigenous employees, especially those working in chronic disease. The stakeholder interviews reveal that there has been no increase in the number of Aboriginal Health Worker positions or those filled for PCD programs and many reported a drop in numbers as well as numerous positions as vacant. The Aboriginal Health Worker apprenticeship program commencing in July 2007 and the CADPHC mental health program, is pleasing and they are expected to expand. These however will rely on strong support, resourcing, and Indigenous leadership.

## **Assessment against objective**

Indigenous education, employment and health status are worse than non-Indigenous NT populations and this worsens with geographic remoteness. There is evidence that a whole of government approach is being attempted at some levels, though it is unclear what the outcomes

are. Indigenous employment in NTDH&CS is reported as having increased in lower level roles but this is not evident in the area of chronic disease.

### 3.3 PREVENTION AND HEALTH PROMOTION PROGRAMS

Prevention is one of the three key platforms of the *NT Preventable Chronic Disease Strategy*.

**Objective 5:** *Programs aimed at encouraging healthy living will be operating in urban, rural and remote communities. They may be run from health centres, schools, women's centres, community councils or elsewhere, but will be supported by health centre staff taking a primary health care approach and using a health promotion model.*

#### The Evidence

Targeting a whole population through the design of preventative programs to improve health will have a greater impact than individual care <sup>(54)</sup>.

#### Situation at Baseline

Health promotion has been a key strategy within the NTDH&CS since the late 1980s. The focus from the early 1990s to 2000s was a capacity building approach, with a major emphasis on workforce development. This was done through a range of accredited and non-accredited training programs, support from health promotion specialists, and some additional resources through small incentive grants <sup>(55)</sup>.

In 1999 a review of the health promotion activities in the NT found that the NT Health Promotion Model was soundly based on national and international experience and aimed to apply health promotion strategies and skills across a range of public health and primary health care issues and incorporate them into priority programs<sup>(56)</sup>. The reviewers described the model as capacity building because it involved developing skills and systems within health services to enable them to increase communities' ability to foster good health. Its recommendations included extending the health promotion model with a stronger infrastructure and developing a more comprehensive approach. In particular, there was a need to develop systems to address each of the following aspects of capacity:

- Building the capacity of health personnel – commitment and skills for working in a health promoting way,

- Building the capacity of the health system – organisational commitment, policies, systems and resources to promote health, and
- Building the capacity of communities and community members – their skills, practices and orientation to improving health and solving local problems <sup>(57)</sup>.

*Essential Primary Health Care Standards for Remote Aboriginal Communities in the Northern Territory* – a companion project, aimed at setting primary health care standards for the NT<sup>(58)</sup>. It provided standards for health promotion activity in remote community health settings and outlined the health promotion training and support necessary to achieve these standards. This report included standards for primary clinical care, public health, health promotion, visiting and referral services, and support systems.

Both reports reinforced the importance of training in health promotion for building the capacity of health personnel, the health system, community members and communities to promote and improve health <sup>(55)</sup>.

### **3.3.1 Health promotion program funding**

Prior to the restructure of the NTDH&CS in 2003, a *Health Promotion Program* was situated within the Department in Health Development. This program delivered accredited education and training courses in health promotion specifically for Aboriginal Health Promotion Officers, rural and urban primary health care providers, including allied health workers and Aboriginal Health Workers <sup>(59)</sup>. People who completed these courses were also given support by the program staff to deliver health promotion programs and activities within their own work settings.

In the mid 1990's those who attained Certificate IV in Health Promotion were supported by small incentive grants of initially up to \$5000 to apply the skills learnt for health promotion programs, which over time was reduced to \$2000. The incentive fund process disappeared in 2003. The evaluation of this program found overall that it appeared to be succeeding in its aims. A major concern of the reviewers however, was that the results of such a capacity-building program would tend to be invisible, and that infrastructure and resources to support the programs implementation were 'depleted' <sup>(60)</sup>.

### ***NTDH&CS Programs that encourage Healthy Living.***

Following the 2003 restructure, the Health Promotion Program was disbanded and the resources for health promotion program were redirected to others – Alcohol and Other Drugs, Child and Maternal Health, Nutrition and Physical Activity. The PCD Program received health promotion positions that were funded on transfer to the PCD team. The theory behind this redistribution came from the idea that health promotion was everybody's business, and that funding structures should reflect this. This offered a different capacity building approach.

Within the PCD Program, a Senior Health Promotion Officer and a Senior Aboriginal Health Promotion Officer were reallocated to this program to work directly with the Director, and Aboriginal Health Promotion officers in four regional areas continued. A key role of these positions is to support rural and remote staff who wish to institute health promotion activities within their communities, and to promote community education and awareness.

### **3.3.2 Prevention policy environment**

The *Building Healthier Communities: A Framework for Health and Community Services 2004 – 2009* was launched in February 2004. This framework demonstrates the Government's vision for "Ensuring that all Territorians enjoy long and healthy lives and have a health and community services system that is responsive, accountable and effective". NTDH&CS priorities for the next five years are based on the Building Healthier Communities framework, which focuses on:

- ✓ Giving kids a good start in life
- ✓ Strengthening families and communities
- ✓ Getting serious about Aboriginal health
- ✓ Creating better pathways to health services
- ✓ Filling service gaps
- ✓ Tackling substance abuse

It also identifies four key areas for strengthening and reforming the NT health and community services system:

- Building quality health and community services
- Creating better ways of working together
- Valuing and supporting our workforce
- Creating a health information network

This document is clearly informed by the NTPCDS, but only specifically mentions the PCDS in terms of prevention, detection and the management of kidney disease prior to it progressing to end stage renal disease. It is only one of a large number of policy frameworks that are intended to promote healthy living in Australia and the NT.

*Table 3.4* provides a summary of other general policies that complement the NTPCDS and *Table 3.5* provides a list of Aboriginal and Torres Strait Islander specific policies.

**Table 3.4** *Policies for all Australians*

1996 - present	National Diabetes Services Scheme	Commonwealth
1999-2002/03	National Tobacco Strategy 1999 to 2002-03: A Framework for Action	National
1999-2003	Healthy Horizons 1999-2003. A framework for improving the health of Rural, Regional and Remote Australia	National
2000-2004	National Diabetes Strategy	National
2000-2010	Eat Well Australia: An Agenda for Action for Public Health Nutrition	National
2001	Preventing Chronic Disease: A Strategic Framework	National
2001	Smoking, Nutrition, Alcohol and Physical Activity (SNAP) Framework for GPs	National
2001-2004	National Alcohol Strategy: A Plan for Action 2001 to 2003-04	
2001-2006	Food and Nutrition Policy	NT
2003-2007	Healthy Horizons: Outlook 2003-2007. A framework for improving the health of Rural, Regional and Remote Australia	National
2003-2008	Healthy Weight 2008: Australia's Future	National
2004	National Strategy for Heart, Stroke and Vascular Health in Australia	National
2004	Recommended Framework for Cardiac Rehabilitation - National Heart Foundation of Australia & Australian Cardiac Rehabilitation Foundation	National
2004-2009	Building Healthier Communities Framework – NTDH&CS	NT
2005	National Chronic Disease Strategy	National
2005	National Service Improvement Framework (NSIF) Diabetes	National
2005	National Service Improvement Frameworks (NSIF) Cardiovascular Disease)	National

**Table 3.5** *Aboriginal and Torres Strait Islander specific policies*

1989	National Aboriginal Health Strategy (NAHS)	National
1996	NT Aboriginal Health Policy	NT
1997-2002	NT Aboriginal Public Health Strategy and Implementation Guide	NT
2000-2010	National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan (Indigenous SNAP) 2000-2010	National

2002	Aboriginal and Torres Strait Islander Health Workforce National Strategic Framework	National
2002	The NHMRC Road Map: A Strategic Framework for Improving Aboriginal and Torres Strait Islander Health Through Research	National
2003	National Strategic Framework for Aboriginal and Torres Strait Islander Health: Framework for Action by Governments and Implementation Plans	National
2005-2010	Aboriginal Health and Families: A five year framework for Action, Department of Health and Community Services, NT Government	NT

While many of these policies are associated with funding streams, the funding is often inadequate to implement the proposal and there is often little funding to sustain successful initiatives. *For example:* the *National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan* includes only one limited-tenure national appointment responsible for its implementation.

### ***Review of health promotion activities***

In March 2005, Convery undertook an Audit of the Health Promotion activities for the previous year <sup>(61)</sup>. She particularly examined Alcohol and Other Drugs, Mental Health, Preventable Chronic Disease, and Child and Family Health. The audit identified 33 interventions including 10 in the area of Preventable Chronic Diseases. Only one of these was identified as being NT-wide, and at least four of these ten were located in the Top End only. Convery attempted to categorise these further and found one targeted skin health, and one targeted women's health <sup>(61)</sup>. These are probably peripheral to the main thrust of the PCDS. Two programs targeted chronic disease workers' skills, representing the previous emphasis on capacity building. Four programs targeted chronic disease information and awareness and two targeted various community-identified issues.

Overall, about half of the interventions were delivered by staff from the relevant program areas, 7 of the 33 interventions were led by Aboriginal staff, and only 9 of the 33 had a person with health promotion training in a lead role. This review suggests that overall, only a small number of health promotion activities have occurred in the time frame covered, and that many of these were localised <sup>(61)</sup>. This raises the issue of whether more programs were actually present but were not apparent in this review, and recalls the comments of the 2003 review that health promotion ran the risk of resource depletion and becoming 'invisible'.

Health Promotion positions also exist in other program areas within the Department – Well Women’s Cancer Screening (two positions), Life Promotion positions in the Mental Health Program, AIDS and STD program, one position seconded to Menzies School of Health Research in the ABCD project, and three positions in the Health Promotion Strategy Unit – the Manager, a Senior Policy Position and a Training Coordinator in Central Australia, the Training Coordinator Position in the Top End is currently unfilled.

### ***NTDH&CS goNT***

A major whole of government prevention strategy that was launched in 2006 is the *goNT Program*. goNT is the NT physical activity strategy developed by the NTDH&CS and a range of government and non-government stakeholders. goNT encourages people to ‘find thirty’ - a reminder to try to put together at least 30 minutes of physical activity a day. The goNT week held in April 2007 promoted tips on how to incorporate physical activity into ones daily routine. The Chief Minister’s Active Living Council is driving the strategy.

Stakeholder interviews revealed that there were very few ongoing community-based prevention activities occurring in remote areas. NTDH&CS clinical service providers revealed that prevention and education strategies are routinely included in service delivery in clinics but there was very little opportunity for community based programs. PCD team members could provide examples of prevention strategies e.g. the Men’s health camp in Central Australia, but these activities were ad hoc rather than part of an ongoing prevention strategy. Staff from the urban community health service reported that prevention and health promotion has always been a core function of their services and there has not been any change in the scope of these activities as a result of the NTPCDS.

### ***ACCHOs***

Aboriginal Community Controlled Health Services, funded to enhance chronic disease prevention and management programs through the *Healthy for Life* program, revealed that most of the new initiatives being implemented at this stage were aimed at improving early detection through adult and child screening and improved chronic disease management. Some services identified strategies for prevention and health promotion programs particularly related to risk factors in pregnancy, but these are not well developed at this stage. A number of ACCHOs that have been successful in obtaining funding through philanthropic organisations for nutrition, child health activities, community capacity building, and other prevention activities. These organisations include: the *Ian Thorpe Foundation*, the *Ian Potter Foundation*, the *Honda Foundation* and *Rio Tinto*. The services that are part of the *Good Health Alliance NT* indicated they were not



delivering any prevention and health promotion programs. Their services largely target people who already have a chronic condition. They do however deliver secondary prevention and health promotion programs. Increasing prevention activities was consistently identified as a priority area for improvement during stakeholder interviews.

### **Discussion**

The restructuring of the NTDH&CS in 2003 and the impetus to make chronic disease 'everyone's business' has resulted in a depletion in infrastructure, dedicated staff, and funding in the area of health promotion and prevention. This has resulted in a reduction in the number of prevention and health promotion programs and development of staff skills in this important area. While this philosophy is sound it still requires strong leadership across all levels and the training of specialised staff to build capacity in this important area, which will take real investment to make it happen. The only programs identified were in the ACCHO sector and through philanthropic organisations that are not funded through the NTDH&CS.

### **Assessment against objective**

There has been a reduction in the number of prevention and health promotion programs since the development of the PCDS and fragmentation exists. The only growth identified was in ACCHOs and new programs funded by philanthropic organisations.

## **3.4 Chronic disease programs in health centres and general practices**

Early detection and chronic disease programs are 2 of the 3 key points of the PCDS Framework. To improve chronic disease care a paradigm shift from an episodic acute care approach to a systems based approach in the delivery of chronic disease services is required.

**Objective 6:** *There will be chronic disease programs operating in all health centres and general practices, aiming at early detection and best practice management, and staff will be designated to run these programs.*

### **The Evidence**

Evidence has emerged that those who redesign their care to use a comprehensive and systematic approach, expressly designed to help patients manage chronic disease, will do much better than those who continue to work from the acute paradigm <sup>(37)</sup>.

### **Situation at baseline**

Prior to 1999 there were no dedicated chronic disease programs operating in the Northern Territory Department of Health and Community Services facilities. Trials of renal care had occurred in the Tiwi Islands and plans were underway for the *Kidney Disease Research Program* (KDRP), lead by Dr Wendy Hoy, to trial implementation of sustainable models of chronic disease care in three remote Indigenous communities in the Top End. The *Coordinated Care Trials* in Katherine and Tiwi Islands began to implement a systematic approach to chronic disease care, where patients known to have chronic diseases were entered into the CCTIS system and care plans assigned to them.

### **3.4.1 Development in chronic disease programs since 1999**

There has been change in the approach to chronic disease care by all service providers in the Northern Territory including the NT Department of Health and Community Services, Aboriginal Community Controlled Organisations and Doctors in private practice.

#### ***NT Department of Health and Community Services (DHCS)***

The NT Department of Health and Community Services has undertaken a number of restructures in both title and organisation during the course of the NTPCDS. The current structure (Sept 2005) divides the DHCS into 10 divisions. Many of these divisions are responsible for various aspects of chronic disease programs. The *Preventable Chronic Disease Program* was established to provide leadership for chronic disease programs. It is situated in the Health Development and Oral Health area, which is a part of the Health Services Division. The program is lead by a medical officer and the programs employs Public Health Nurses, a Senior Health Promotion and Policy Officer, Aboriginal Health Promotion Officers, women's health educators, Regional Chronic Disease coordinators, Chronic Disease Network coordinator, in central Australia and the Top End. The Community Physician position is located in the Centre for Disease Control (CDC) in the Top End and the hospital in Central Australia. Professional Practice Nurses, whose role includes standardising practice across the Territory, are situated in Remote Health. Both CDC and Remote health are part of the Health Services Division. Chronic Disease coordinators (although funded through S100 along with some of the positions in the PCD program) are managed through Remote Health. Staff at urban Health Centres are managed through Community Health. Staff on the Tiwi Islands are managed through the Tiwi Health Services. Other Divisions responsible for coordinating areas of chronic disease management include:

- The Community Services Division – Alcohol and other Drugs,
- Information – the Health Gains Unit and PCIS,
- Acute Care – hospitals, dialysis facilities and visiting specialists,
- Corporate Management Services Division – educational activities such as orientation programs, and the
- Office of Aboriginal Health – Family and Social Policy.

There are over 150 remote health clinics in the NT and there are a number of different models and organisations managing remote health clinics. Clinics situated in areas covered by the Katherine West and Sunrise Health Boards are staffed by employees of the Health Boards and act in accordance Health Board policies. Clinics that are funded through PHCAP are staffed with NTDH&CS staff, but are under the control of ATSI Regional Health Boards. Staff of NTDH&CS clinics that are not part of the health zones are funded by the NTDH&CS and respond to NTDH&CS policies. Staff in clinics run by Aboriginal Community Controlled Health Centres act in response to their own policies. While there is some co-ordination across all of these bodies and some shared resources, such as the CARPA guidelines, there is a lack of consistency due to these factors.

### ***Chronic Disease Programs in NTDH&CS clinics and community health***

In 2001, Clarke attempted to record what chronic disease activities were taking place in NTDH&CS clinics. She reported that residents of Darwin and Alice Springs could access a range of services for prevention, early detection and best practice management. A number of these were offered through the non-government sector: GPs, Specialist Physicians, Lifestyle interventions through nutrition counselling, regular incentives and opportunities for physical activity, support groups and counselling for those with chronic diseases to engage in self- management practices.

Clarke found that a number of health zones appeared to have less access to chronic disease services including: Northern Barkly, Pitjantjatjara, Darwin (Belyuen), Top End West and South East Arnhem <sup>(62)</sup>. She also found preventive services were scant for physical activity and nutrition, and tobacco cessation programs only occurred spasmodically. Screening programs did occur in most communities, but lacked targeted men's health programs. The area of best practice management showed widespread gaps in the self-care management and rehabilitation focused programs <sup>(62)</sup>. Clarke recommended: highly prioritising primary prevention especially in the area of community interventions to improve nutrition, increase exercise, and decrease smoking. She also recommended improving the coverage and quality of best practice management. A strong focus of the next phase should be in professional development for remote area staff on how to

use guidelines, recall systems and care planning <sup>(62)</sup>. Specialist multi disciplinary teams to address the specific needs of those with chronic disease should also be a priority – diabetes educators, cardiac educators, foot care specialists for diabetics and eye specialists.

### 3.4.2 Staffing chronic disease programs

Since 2001, a total of eight Public Health Nurse positions have been created in the Northern Territory to enhance the capacity of remote health services to establish and manage chronic disease programs. These positions have played a key role in training staff about chronic disease prevention and management and the implementation of systems to support care.

In addition to the Public Health nurses an additional Chronic Kidney disease nurse was employed in the Top End in renal services in 2004, to complement a similar position that was established in Central Australia in 1998. These positions play an important role in supporting people with kidney disease to maintain their health and slow the transition to renal replacement therapy. In the 2007 financial year, the number of chronic kidney disease nurses is expected to increase with an additional six positions funded by the Northern Territory Government and four positions to be funded by the Australian Government located with AMSANT. These positions will be spread across the Northern Territory with three to be placed in Central Australia, two in the Top End, and with one full time educator position to support workforce development for renal services. An additional four positions will be located with AMSANT to support community controlled health services to support intensive management of renal clients. Finally, a further three positions will be located with the Preventable Chronic disease team to support intensive case management of renal clients in remote areas.

**Table 3.6** *Positions created in the NT by year commenced and funding source*

Positions	Location	Year Commenced	Funding Source
1 x Renal	Central Australia	1998	NTG
1 x PHN	Darwin	2001	NTG
1 x PHN	Katherine (transferred to Sunrise HS 2003 as part of CCT)	2001	\$100
1 x PHN	East Arnhem	2001	\$100
1 x PHN	Central Australia	2001	\$100
1 x PHN	Central Australia	2001	\$100

1 x AHW	Central Australia	2001	\$100
0.5 x CDC N4	Millingimbi	2001	\$100
0.5 x DCC N4	Ramingining	2001	\$100
1 x DCC N4	Oenpelli	2001	\$100
1 x DCC N4	Maningrida	2001	\$100
1 x DCC N4	Wadeye	2001	\$100
1 x Renal	Top End	2002	Industry (Janssen-Cilag)
1 x CDC N4	Groote Island	2003	\$100
1 x AHW4	Groote Island	2004	\$100
1 x PHC, N4	Ntaria	2005	PHCAP through CAAC
1 x PHN, N4	Yeindemu	2005	PHCAP through CAAC
1 x PHN, N4	Angininyi for Tennant Creek	2005	PHCAP through Angininyi
1 x CDC N4	Tiwi Health Services	2006	NTG
1 x CDC N4	Douglas Daly region, Adelaide River	2006	NTG
1 x CDC N4	Boroloola	2006	NTG
1 x PHN, N4	Angininyi	2006	DoHA (regional funds)
1 X PHC , N5	Groote Eylandt	2006	NTG
1 X PHC P3	Maningrida	2007	OATSIH
<b>NEW POSITIONS JULY 2007</b>			
1 x PCD Educator	NT Wide	2007	NTG
1 x Renal PHN	Central Australia Congress	2007	OATSIH (AMSANT)
1 x Renal PHN	Anginyinyi, Tennant Creek	2007	OATSIH (AMSANT)
1 x Renal PHN	Wurliwurlijang Katherine	2007	OATSIH (AMSANT)
1 x Renal PHN	Danila Dilba, Darwin	2007	OATSIH (AMSANT)
1 x PHN N4	Barkly	2007	NTG
2 x PHN, N4	Darwin	2007	NTG
2 x PHN, N4	Nhulunbuy	2007	NTG
3 x PHN, N4	Central Australia (PCD team)	2007	OATSIH

The four PHCAP funded PHN positions were envisaged as having a similar role with the improvement of clinical systems, auditing, and training. However as they have different employers, they have taken on a community health promotion role and a stronger focus on adult health checks. The PCD team and CAAC meet regularly to discuss how best to use these roles and how to support those in them.

The expanded PCD team will work more closely with a smaller number of communities to improve disease management and provide hands on support for adult health checks. They will

also manage a small load of six to eight advanced kidney disease patients and have more engagement with community organisations through sharing information and resources<sup>(63)</sup>.

### ***Aboriginal Health Worker Positions***

In June 2007, Remote Health has started to recruit to the vacant AHW positions with people dedicated to program work, of which chronic disease is a high priority. There are also a number of AHW's who achieved Certificate IV in Diabetes and Cardiovascular Disease in 2005-06. The training was delivered by Healthy Living NT and PCD team have assisted those AHW in completing their coursework for accreditation. The main barrier identified is health centre managers requiring AHW's to continue to participate in acute care rather than solely working in chronic disease programs <sup>(63)</sup>.

The establishment of the public health nurses and the PCD teams has provided leadership for chronic disease activities in remote areas and increased the capacity to deliver screening and chronic disease care. The PCD team have assisted remote services to update the systems that support a planned approach to screening and prevention. At most remote sites staff reported they are overwhelmed with the acute workloads in clinics and that it often falls to the Public Health Nurse to do follow up and the Aboriginal Health Workers on the PCD team to initiate and drive screening activities. A similar relationship has not been established with urban community health services. Interviews in the urban community health services revealed that there was very little interaction or collaboration with the PCD team.

### **3.4.3 Chronic Disease Programs in non-NTDH&CS clinics**

In June 2004, Healthy Living NT received funding from the NTDH&CS to provide education and training to selected non-government health clinics throughout the Northern Territory. This program ran until December 2004 in ten clinics across the Top End <sup>(38)</sup>. This program found:

- In the majority of clinics, staff appeared vague about care plans and required further explanation
- Chronic disease management took a low priority to acute cases either due to lack of time or inadequate staffing
- Three clinics stated they had 100 per cent of chronic disease clients managed under care plans; one clinic stated it had 75 per cent; and one clinic estimated it had 10 per cent
- Four clinics could not give the information or did not know. However one of these clinics advised that it had just appointed a person dedicated to chronic disease, and

- One clinic stated it had no care plans<sup>(38)</sup>.

The review noted that it is possible that these responses may more accurately reflect the lack of knowledge/awareness about coordinated and systematic chronic disease management than the actual situation at any particular clinic <sup>(38)</sup>.

### **ACCHOs**

With the introduction of the *Healthy for Life* program in 2006 many Aboriginal Community Controlled Health services now have dedicated plans to improve chronic disease prevention and care. Services funded in Round 1 of the program include: Central Australian Aboriginal Congress, Anyinginyi Health Tenant Creek, Sunrise Health Service, and Wurliwurlijang Services funded in Round 2 include: Katherine West Health Board, Mathakal Homelands Resource Centre, Laynhapuy Homelands, Ltyentye Apurte Community Govt Council, NTDH&CS Millingimbi and Oenpelli.

Services participating in the *Healthy for Life* program reported that there were dedicated chronic disease activities occurring, supported by a systems approach to care. Some services have established discrete chronic disease programs (Wurliwurlijang and CAAC) while other have enhanced the capacity of all staff to use a systems approach to deliver chronic disease care. The approach to implementing this program and the resources provided has enabled services to have a good look at their approach to chronic disease and to develop a planned approach to improving the quality and scope of service delivery. All services have been able to employ new staff and invest in training and development for their staff.

A similar situation has developed in the PHCAP zones where new resources have been allocated from the Australian Government. New programs have been established with a dedicated focus on chronic disease. *The five zones are:*

1. *Anmatjere Zone* – Laramba (Napperby); Yuelamu (Mt Allen), Pmara Jutunta (Ti Tree 6 Mile), Nturiya (Ti Tree Stn), Engwala (Alcoota), Mulga Bore, Wilora (Stirling), Tara (Neutral Junction), Ti Tree, Luritja Pintubi, Kintore, Papunya, Ikuntji (Haasts Bluff), Mt Liebig
2. *Warlpiri Zone* - Yuendumu, Willowra, Nyirripi
3. *Pitjantjatara Zone* – Finke (Apatula), Imanpa.
4. *Areyonga*
5. *Barkly Tablelands*

### ***General Practice programs***

General practices are present in urban, rural and remote Northern Territory. There are a wide range of general practice organisations in the NT and Australia-wide who represent different preferred interests. Many of these organisations have developed chronic disease programs and guidelines.

In most states, there is a state based organisation for Divisions of General Practices, and a Rural Workforce Agency. In the NT, these two organisations – the NT Remote Health Workforce Agency and General Practice Divisions NT – merged in 2004 to form the *General Practice and Primary Health Care NT* (GPPHCNT). It is the new peak body representing and providing professional support for general practitioners working in private practice and non-government organisations.

In 2005, the GPPHCNT began coordinating the *National Primary Care Collaboratives* program in the NT, of which two major themes are diabetes and heart disease. Over the three years of this program, lead personnel in participating practices and non-government services have been linked up with other participating practitioners across Australia, and they have been working on improving an aspect of their practice within these specific theme areas. The aim is to implement systems to improve care within practices using the “Plan, Do, Study, Act” cycle <sup>(64)</sup>. The NPCC’s have been instrumental in bringing about a change in general practice to implement evidence-based guidelines, care planning and recall systems supported by enhanced use of EPC Medicare items. In the Northern Territory overall 220 people have participated in the NPCC program with 22 GP’s involved in the program, which is estimated to be approximately 10 per cent of GP’s in the NT.

TEDGP conducts a number of programs concerned with chronic disease management, which they see as a core role in supporting general practices/GPs to provide optimal care and to contribute to the achievement of the best possible health outcomes for patients with diabetes <sup>(65)</sup>. Among other roles the TEDGP:

- Identifies and engages organisations, service providers and consumer/carer groups to facilitate patient access to optimal diabetes care in the Top End
- Secures consumer opinion and direction through co-ordination with consumer reference group to support chronic disease management strategies



- Identifies priority practices to increase usage of recall systems via clinical information systems and endorses 'systematic' approach to signify the use of electronic not paper based systems
- Conducts generic training in IM /IT systems on a needs basis to support Division's CD management strategy
- Organises diabetes CPD sessions for GPs and practice nurses (and other CD)
- Collects and disseminate, Australian Best Practice Guidelines for diabetes care<sup>(65)</sup>.

The Central Australian Division of PHC provide similar support particularly with linking in to allied health services through the more allied health program.

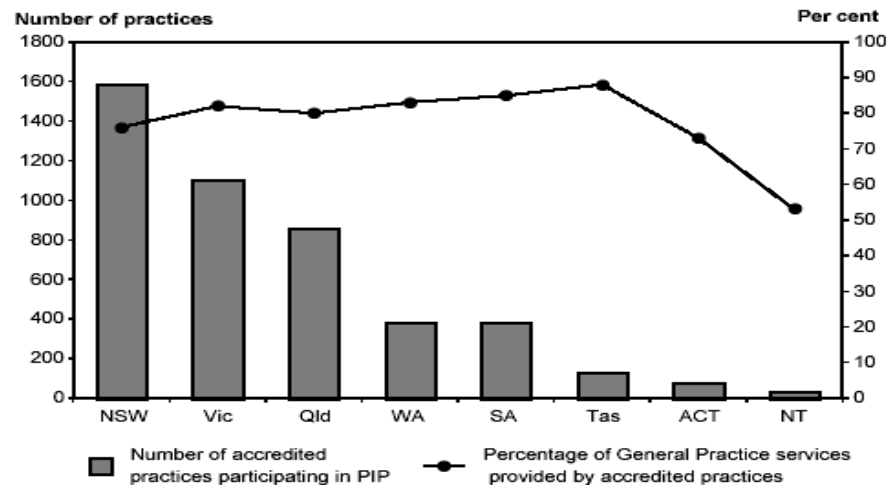
### ***General Practice Incentives***

There are incentives in place for General Practice to deliver a high level of care through the Practice Incentive Program (PIP). PIP payments were originally introduced by the Federal government in 1995 (the scheme was known as the Better Practice Program until July 1998). Practices accredited by Australian General Practice Accreditation Limited (AGPAL) are able to claim payments for evidence of high level of practice in a number of defined areas including electronic prescribing and information transfer, teaching medical students, and diabetes screening and outcomes.

A PIP diabetes incentive payment was introduced in November 2001 to practices that use a patient register and recall reminder system to assist in managing patients with diabetes. Payments are made to practices that reach overall screening targets. In addition, a Service Incentive Payment (SIP) was developed for providers who complete an annual cycle of care for patients with established diabetes mellitus (annual funding \$8.7 million Australia-wide from 2002). Australia-wide, 82 per cent of PIP practices were participating in this scheme by May 2002. An outcomes component for participating PIP practices that reach target levels for the diabetes annual cycle of care for patients was introduced in 2003.

In 2004 the *Australian Institute of Health and Welfare* published a report on the uptake of PIP items for that year. Data from this report suggested that the proportion of general practice services provided by accredited practices participating in the PIP exceeds 70 per cent of the total number of GP services in every state except the Northern Territory where fewer practices were accredited <sup>(66)</sup>. (*Figure 3.3*)

**Figure 3.3** *Number of accredited practices participating in the PIP and the proportion of General Practice services provided by these practices.* <sup>(66)</sup>



Source: Australian Government Department of Health and Ageing (unpub.).

The report also looked at the proportion of people with diabetes mellitus who have received an annual cycle of care within general practice. Australia wide, there were an estimated 744,975 people with known diabetes mellitus whose condition was managed by PIP practices during 2002. Of these people, 18.2 per cent received an annual cycle of care for diabetes. Large rural areas had the highest proportion of people who had received an annual cycle of care (20.1 per cent ), closely followed by other metropolitan areas (19.5 per cent ). The proportion was lowest for remote centres (9.3 per cent ) eligible for claims not receiving services? Because the NT had far fewer accredited practices compared to the rest of Australia, the proportion of people receiving an annual cycle of care in diabetes would probably be even smaller than these figures suggest.

## Discussion

The growth in positions funded by the NTDH&CS to deliver chronic disease programs has largely been in nursing with a slight change in skills mix to target people with public health skills to take on the PCD program role. There has been very few Aboriginal Health Worker positions or Aboriginal specific positions. In fact over the last 7 years there has been a decline in the number of health workers employed in remote communities, due to recruitment and retention issues, with many positions reported as being vacant. This has compromised the effectiveness of the PCD program particularly in their capacity to deliver regular screening and an active chronic disease recall system in communities.

There has been a significant growth in the number of people employed in health services that were funded in round 1 of the *Healthy for Life* program and increases will also occur in the near future for round 2 sites as funding for their implementation plan is released. These will predominantly be in ACCHOs. There has also been growth in staff in the PHCAP zones. In Central Australia this has included 2 medical officers, 2 additional community nutritionists, a public health nurse (as identified previously).

While there is some coordination across all these bodies and some shared use of resources, such as the CARPA guidelines used by all AHSs, there is the potential for any organisation to develop its own separate guidelines and policies. Similarly, the ability to audit what is done across different organisations is also limited, unless services participate in programs such as the *Audit and Best Practice for Chronic Disease* extension project (ABCD) and the NPCC, but this information is only released with the permission of the service

Within the NTDH&CS, there is a need for coordination of a large number of programs directed at chronic disease management scattered across most Divisions. Interviews revealed that coordination between the PCD team and the remote health services could improve, particularly in Central Australia where communication, coordination and planning between these services is less than optimal. It appeared better in the Top End and this may be assisted by the collocation of the PCD with the Remote Health Services. Whereas, in Central Australia the PCD team and the Remote Health services are accommodated in 2 distinct locations.

There are also a number of general practice representative bodies, which have policies about chronic diseases or programs in this area. General practices are largely reimbursed by federal funding arrangements with support from programs offered through the Divisions to assist with systems and professional development. The Australian Government has attempted to increase multidisciplinary care and continuity of care, by providing reimbursement for these activities but the uptake in general practice and community controlled organisation has been lower than other areas because of the lack of access to allied health professionals, who can claim the EPC items or incentives offered. This was identified as being a particularly acute problem in Katherine as most of the services in and around Katherine have chronic disease programs with people on care plans who need access to allied health services. Priority areas for action included access to dieticians and podiatrists.

In the regional health zones in Central Australia the revenue raised through Medicare is monitored and transferred back to communities. A similar transparent process is not in place for other NTDH&CS clinics and as such there are no incentive for the local team to be more diligent in completing chronic disease activities to claim EPC items.

### **Assessment against objective**

There has been a definite shift in the general understanding across the Northern Territory of the need for dedicated and focused chronic disease activities. The PCD program has been tasked with the development of chronic disease programs and activities, and there is evidence of strong leadership in this endeavour. Where additional resources have been provided dedicated staff and strategies have been implemented to address chronic disease issues, but chronic disease programs with dedicated staff are not consistently in place in all remote clinics. The key barrier identified in achieving this is financial resources, community infrastructure and the declining Aboriginal Health Worker workforce numbers.

## **3.5 FUNDING & INDIGENOUS GOVERNANCE**

The provision of resources is key to enhancing the core range of services required for comprehensive primary health care and building capacity in communities. There are 4 objectives related to funding that will be discussed in this section. They include: financing objectives to support community control of health services, funding community controlled health services and non government agencies to deliver prevention and health promotion programs and investment in intersectoral action to support health promoting actions.

In addition to providing an overview of the activities related to these objectives, other funding strategies that have contributed to the chronic disease activities are discussed in this section. They include S100, the use of EPC items and NT growth funding for priority service developments.

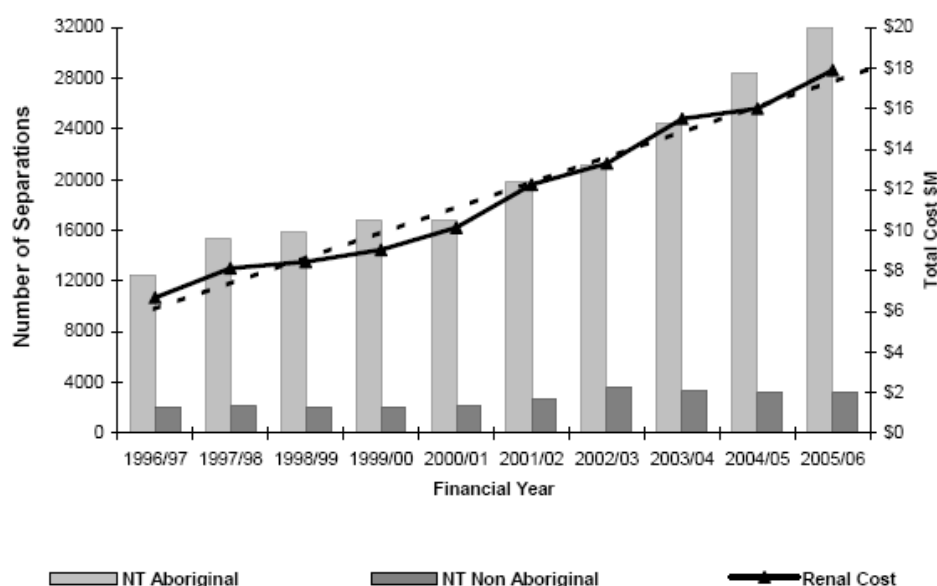
### **Funding arrangements at baseline**

In the late 1990s, it became apparent that the economic and social costs of chronic diseases in the Northern Territory were escalating, and that the current health system had limited capacity to deal with these increasing costs. Altogether it was estimated that chronic disease accounted for

about 25 per cent of the hospital budget in 1997, about 40 per cent in 1999 and, if uncontrolled, was predicted to consume 56 per cent of the budget by 2004 <sup>(10)</sup>. Figures in 2005 show that in the three years between 2000/01 and 2002/03, excluding renal dialysis, about 7 per cent of hospital resources were used for hospitalisations directly caused by acute manifestations of chronic diseases, and including renal dialysis about 45 per cent of hospital resources were due to chronic disease related hospitalisations <sup>(11)</sup>.

Figure 3.4 below taken from the 2006 NTDH&CS Annual Report indicates the realities of these predications, where the budget for same day renal hospital treatment cost \$18M.

**Figure 3.4** Same-day renal treatments, 1996-97 to 2005-06



Changes in Commonwealth health policy in the late 1990s influenced the NT's response to chronic disease. In 1995, CoAG proposed a three-year plan to reform health and community services. Key aspects included:

- movement towards outcome/output funding and 'broad-banding' of programs;
- allocation of capital to care streams including coordinated care;
- proposals for trials of new care arrangements with built-in incentives for the most cost-effective use of funds;
- multilateral and bilateral agreements to cover all relevant services and
- the establishment of nationally consistent payment and information systems <sup>(67)</sup>.

Subsequent Federal Budgets reflected these proposals. In 1996-97, allocations were developed to improve access to health care in rural and remote areas, and to address the perceived rural health workforce crisis.<sup>(15)</sup> In 1997-98, additional funds were directed to improving health services in regional Australia, including development of innovative models of service delivery and specific purpose payments for States and Territories. Examples included the coordinated care trials. In 1999-2000, funding was developed for Primary Health Care Access Program (PHCAP) zones. Under these arrangements health 'zones' could be set up in the Northern Territory in which a single funding agreement could be established between the Commonwealth, NT Government and the zonal ACCHOs to allow all health-care funding to that community to be pooled <sup>(21)</sup>.

Five key focus areas that were identified in the Territory Health Services 1996-97 Annual Report were congruent with the new Federal policy initiatives. These were: increased access to Commonwealth funding particularly for health services to rural and remote communities preventive health, increased emphasis upon chronic disease including renal disease, community care and community based services, and workforce recruitment and retention. Limited funding, was a major issue. The 1996-97 Annual Report for Territory Health Services noted:

*The NT is further challenged by the need to fund services in rural and remote communities that the Commonwealth Government directly funds in other States and Territories. This anomaly happens as a result of the low number of private medical practitioners servicing the Territory's rural and remote areas. Territory Health Services provides these communities with medical services that would otherwise be provided by private medical practitioners directly billing the Commonwealth. This results in a substantial shortfall of funds (approximately \$45M per year) and presents the NT with a major financial barrier to the provision of health services at a level equal to that of other States and Territories <sup>(68)</sup>.*

### **3.5.1 Greater community control over health services**

**Objective 7:** *There will be a greater degree of community control over health services, through a variety of mechanisms.*

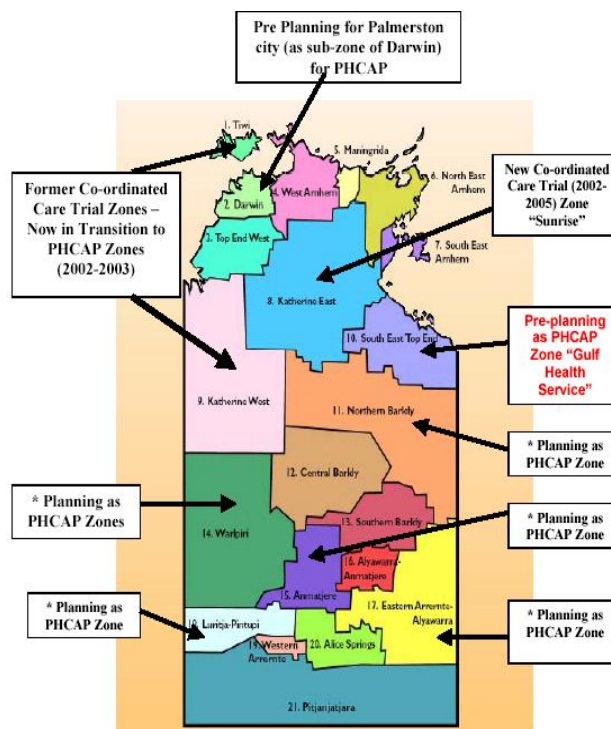
The primary method used by the NTDH&CS to increase the degree of community control over health services, since the Coordinated Care Trials, is through the roll out of the Primary Health Care Access Program (PHCAP), which was announced in the 1999-2000 Commonwealth budget.

The level of funding provided by the Commonwealth was to be based on the average Australian Medicare expenditure multiplied by two, in acknowledgement of higher Indigenous needs, and by another factor of two, if remote.

Sunrise Health Service is a Community Controlled Health Service that was established in 2002 based on a funds pooling model. In the early years of the establishment of the service Medicare for the region was cashed out, but following the establishment phase in 2005, the funding arrangement changed with the service required to generate Medicare income to supplement the NTDH&CS and specific DoHA program funding.

A total of 21 Health zones were defined and priority zones were nominated in the Barkly and Central Australia: Anmatjere, Eastern Arrernte-Alyawarra, Luritja-Pintubi, Northern Barkly and Warlpiri, and two health zones in the Top End: South East Top End and Darwin, as well as the former Aboriginal Coordinated Care Trial sites at Katherine West and in the Tiwi Islands.

**Figure 3.5** NT Primary Health Care Access Program Zones 2003 <sup>(69)</sup>.



The structure and process adopted for the implementation of PHCAP was complex, involving three layers of decision-making processes, across 21 zones, to a population of around 50,000

people (Figure 3.5). Each layer brought together the four main stakeholders and members of the Health Forum – AMSANT, ATSIC, Territory Health Services and the Commonwealth Department of Health & Aged Care.

The 2003 *Aboriginal Health Strategic Framework*, reasserted the 1989 *National Aboriginal Health Strategy's* commitment to Indigenous community controlled primary health care services, naming the new PHCAP as the mechanism and making a commitment to supporting the development of Indigenous Health Boards. The document was signed by all State and Territory Health Ministers. Despite this support by 2005 a renal physician noted "At the time of writing, the development of zone strategic plans for primary health care are in their infancy, and PHCAP fatigue is prevalent." This is evident in the lack of recent documentation about the health zones.

### 3.5.2 Funding Community Controlled Health Services

**Objective 8:** *Aboriginal community controlled health services will be funded to deliver key preventive programs, and early detection and best practice clinical management services, to defined segments of the population in specific locations.*

There are 12 *Aboriginal Community Controlled Health Organisations* (ACCHOs) in the NT. The peak body for ACCHOs in the NT is *Aboriginal Medical Services Alliance of the NT* (AMSANT), which was formally established in 1994. Aboriginal Health Services were funded by the Commonwealth Government through ATSIC until 1 July 1995. In 1995, the funding responsibility for Aboriginal primary health care was transferred from ATSIC to the *Office of Aboriginal and Torres Strait Islander Health*, in the Department Health and Ageing.

Following the transfer, AMSANT became involved in the detailed work of setting up the new arrangements, including drafting and commenting on the provisions of the Framework Agreements that each State/Territory Government would sign (along with the Commonwealth, ATSIC and the community controlled sector) specifying the roles and responsibilities of these players, and setting up the actual planning structures. The *NT Framework Agreement* was signed off by the Northern Territory Health Minister in April 1998.

Since then, AMSANT has chaired the *NT Aboriginal Health Forum* (NTAHF) and the Central Australian and Top End regional planning bodies (CARIHPC and TERIHPC). By 2001, AMSANT, working with the NTAHF planning partners, secured PHCAP funding for five health zones in



Central Australia and two zones currently proposed in the Top End. Through the NTAHF structure, AMSANT has continued to play a key role in the roll-out of other interim financing options (such as RCI, RHS and regional planning funds), through targeting available funding against the health needs of Aboriginal people prior to the full roll-out PHCAP, and to implement these interim financing options in accordance with agreed regional plans.

ACCHOs provide key primary care services in many urban and remote communities. A common model for service provision in these organisations is that Aboriginal Health Workers provide the first contact point for all patients; they then refer on to a GP employed by the ACCHOs if necessary. In the past, this service model resulted in a lack of Medicare funds provided to ACCHOs compared to other primary health sectors. Since 2002, doctors working in ACCHOs have been able to bulk bill patients, with the proceeds from Medicare flowing back to the practice pay group under section 19 (2) of the *Health Insurance Act*. This means that billing items such as EPC item 710 Adult Health Check Screen and more recently EPC item 708 Child Health Screening are able to be used to provide Medicare funding to ACCHOs.

### **3.5.3 Funding of non-government organisations for preventive programs**

**Objective 9:** *Non-government organisations in the wider society will be funded to deliver specific preventive programs.*

The 2005-06 NTDH&CS Annual Report states that there was a 14.1 per cent increase in grants and subsidies to community organisations but is not explicit about which organisations <sup>(2)</sup>.

The major NGOs concerned with the chronic diseases identified in the NTPCDS are:

- the National Heart Foundation NT (IHD and HT),
- Healthy Living NT (Diabetes and IHD),
- the Lung Foundation and Asthma Foundations (COAD),
- the Australian Kidney Foundation (Renal Disease), and
- the Arthritis and Osteoporosis foundation <sup>(70)</sup>.

Other groups that have received funding for chronic disease activities include: NGOs such as *Life Be In It* – Physical activity programs, communities such as Gapuwiyak for the *Strong Women*,

*Strong babies, Strong culture program*, ACCHOs such as Wurliwurlijang – Nutrition programs, and Health Boards for operational funding.

The National Heart Foundation (NT Division), Healthy Living NT, the Asthma Foundation, the Arthritis and Osteoporosis Foundation, Kidney Health Australia and the Cancer Council of the NT are all members of the Good Health Alliance NT, which is a coalition of NT chronic disease non government organisations. The mission of this group is to reduce the impact of chronic disease on the Northern Territory population through active collaboration, encouragement of prevention, advocacy and formation of strategic alliances. The strategic goals of the organisation are to advocate for:

1. Strengthening of the *Preventable Chronic Diseases Strategy* and recognition of its importance within the Department of Health & Community Services specifically, and the NT Government as a whole.
2. Realistic funding for implementation of the *Preventable Chronic Diseases Strategy* in the 2004/05 NT budget and beyond.
3. A whole of community approach to the *Preventable Chronic Diseases Strategy*, taking into the account the diversity of the NT's cultural and geographic environment.
4. The establishment of a sustainable alliance to act as the peak body for preventable chronic disease in the NT.
5. Recognition by federal government of the impact of chronic disease in the NT through national alliances and organizations.

### ***Healthy Living NT***

In 2003-04, *Healthy Living NT (HLNT)* received recurrent funding from the NTDH&CS for:

- cardiac rehabilitation and secondary prevention services,
- a free needle and syringe program, and
- Diabetes community education and support services in Darwin and Alice Springs.

In 2003, HLNT also attracted a grant from the Department of Health and Ageing to chronic disease training in remote communities and develop culturally appropriate Indigenous diabetes education and awareness resources. This series of 5 Indigenous diabetes information kits was launched in July 2004 <sup>(71)</sup>.

The diabetes education teams at HLNT include: diabetes Clinical Nurse Consultants, Dieticians, Diabetes Nurse Educators, health promotion staff, and diabetes Aboriginal Health Workers. In 2003, HLNT in Darwin provided diabetes education, management and support to a total number of 2,070 clients in Darwin and 904 people in Central Australia and information and assistance to a further 3,888 people in Darwin and 2392 in Central Australia <sup>(71-73)</sup>. In contrast, in Alice Springs, where HLNT employs a 0.5 FTE Aboriginal Health Worker (funded by NTDH&CS and outsourced from Congress) Indigenous clients make up 33 per cent of their overall case load <sup>(73)</sup>. In 2006 they report 10 per cent of their clients as Indigenous <sup>(73)</sup>.

Healthy Living NT also provides cardiac education and rehabilitation services in both Darwin and Alice Springs. In 2004 annual report, HLNT in Alice Springs reported that 59 per cent of patients in Alice Springs Hospital with an acute cardiac syndrome were provided with education <sup>(74)</sup>. A similar program is conducted in Darwin.

### **Asthma Foundation**

The Asthma Foundation of the Northern Territory is funded by the NT Government to provide education, information and support to people with asthma and their families including all health care providers both government and non government that provide services to people with asthma.

In 2005 the Asthma Foundation NT Education team provided asthma information and support to 244 individuals with asthma, 285 health professionals and over 1300 members of the wider community.

In addition to programs funded by the NT Government the Asthma Foundation NT in two national programs funded by the Commonwealth Government. They are the Asthma Friendly School program and the Asthma Community Support Program. The Asthma Friendly School program aims to raise community awareness of asthma and improve knowledge and self-management of asthma amongst children. The Asthma Community Support program promotes best practice asthma management to the wider community and assist people with asthma to develop relationships with general practitioners and allied health professionals in order to establish appropriate asthma self management skills.

Locally the Asthma Foundation NT administers the following:

- The Asthma Friendly Child Care program

- The Conoco Phillips Asthma Swim Program
- The development and production of the “shortwind” resources for Indigenous people.

### **National Heart Foundation**

The National Heart Foundation NT is primarily responsible for implementing national projects in the NT but they have worked collaboratively with Healthy Living to develop the NTDH&CS funded Cardiac Rehabilitation. The National Heart Foundation is linked in via an MOU to provide resources for this service. In Central Australia the NHF is involved in Community development activities.

In 2004 the Heart Foundation NT was funded for 0.2 FTE for an Indigenous nutrition worker but this ceased in 2006. In 2007 a full time worker was employed to work on the national Childhood Healthy Weight program.

### **Cancer Council of the Northern Territory**

The Cancer Council of the Northern Territory receives funding from the Northern Territory government in addition to funding received from the Australian government and revenue raised through fund raising. There have not been any specific services implemented to address the PCDS, but general health promotion information is available to the general public to promote good health.

### **Arthritis and Osteoporosis Foundation**

The Arthritis and Osteoporosis Foundation has been the sponsor of self management training both for people with Arthritis and Osteoporosis but for chronic disease self management generally and provides support for physical activity to arthritis sufferers.

One major difficulty for health providers in the NT is that organisational structures often do not allow productive relationships between hospital and community services. NGOs often provide a useful link between acute services in NT hospital and community-based services because NGO educators are able to see people in hospital and follow them up in the community. *For example: Healthy Living NT* provides rehabilitation and maintenance services in the community in addition to their hospital services, which results in continuity between these services. In Alice Springs in 2004, HLNT provided a four-week exercise program, individual consultation with the Cardiac Educator and the Nutrition Educator, cardiac education, and rehabilitation services to 72 patients, of whom 42 per cent had received prior inpatient education. HLNT also supports active cardiac

maintenance group for people with longstanding cardiac conditions. These involve an exercise session per week, under the supervision of a physiotherapist and the cardiac educator.

### **Assessment against objective**

The NTDH&CS funds a wide variety of non-government organisations to deliver specific preventive programs. These organisations play a key role in providing these services. Unfortunately, funding is often project-specific and time-limited. This results in limited long-term benefits for some programs, and little time to monitor progress.

## **3.5.4 Intersectoral Action For Healthy Living**

**Objective 10:** *There will be intersectoral action promoting good nutrition, adequate environmental health standards, greater physical activity, safe alcohol consumption and non-smoking. Such intersectoral action will take a whole-of-life approach supporting mothers, infants, children, adults and the elderly to remain healthy.*

A number of legislative changes have taken place since the NTPCDS to support changes to alcohol consumption and a reduction in child sexual abuse and its underlying causes. Proposed changes to the 2003 *Liquor Act* and a new *Antisocial Behaviour Act* in 2005 will decrease the supply of alcohol by regulating its sale, provision, promotion, and availability, while new dry areas, alcohol management plans and Alcohol Courts are designed for harm minimisation and reduction in demand <sup>(2)</sup>. Reporting of child sexual abuse is already mandatory under the *Community Welfare Act*, and the 2007 Wild/Anderson Inquiry into the Protection of Aboriginal Children from Sexual Abuse is in the process of canvassing other legislative, educational and remedial options <sup>(2)</sup>.

In the lead-up to the PCDS, Weeramanthri suggested the development of 'Intersectoral Taskforce on Primary Prevention' or an 'Intersectoral Taskforce to Promote Wellness and Healthy Living' <sup>(75)</sup>. This body however, was never formed. The major body that was set up by the NT Government for intersectoral action for healthy living was the *NT Chronic Disease Network* – a network of community and government bodies working with chronic diseases, supported by administrative staff situated within the NTDH&CS.

An evaluation of the *Chronic Disease Network* was undertaken in 2000, it noted that the CDN had:

*...fostered an increased level of trust and the development of a relationship between Territory Health Services and non-government organisations. Members identified the fact that there now exists a viable and sustainable basis for working collaboratively ....* <sup>(18)</sup>

This view was endorsed by interview participants. Since this time, the CDN largely develop and circulate *The Chronicle*, a two-monthly newsletter addressing chronic disease issues, and convene a yearly chronic disease conference. By 2005, the numbers attending the conference had increased to greater than 400, involving members and non-members of the CDN. In late 2005 the CDN began attempts to provide a better forum for intersectoral action, and plans for this are currently in progress.

### **Assessment against objective**

There has been some increase in the community control of health services with the establishment of *Sunrise Health Services* and *Aboriginal Health Boards* in the PHCAP zones. Very little progress has been made with allocating sustainable NT funding to *Aboriginal Community Controlled Health Services*, however the *Australian Government* has provided these additional resources. Similarly it was difficult to find many examples of specific ongoing prevention and health promotion programs that were being delivered by non-government agencies.

Some evidence of intersectoral action was identified, but without a clear implementation plan to target the social determinants of health, there was not a mechanism to tie other government and non-government services into action, or to monitor their progress.

### **3.5.5 Funding sources for NTDH&CS PCDS activities**

#### ***EPC Items***

In November 1999, the Australian Government introduced a range of Medicare items that were intended to provide a framework for the multidisciplinary care of chronic conditions. The EPC items provide a Medicare rebate when GPs undertake or participate in specific clinical activities, such as care planning and case conferencing for people with complex needs. EPC items of relevance to preventable chronic diseases include:

- Rebates for undertaking comprehensive annual health assessments for older people - over 75 years for non-indigenous and over 55 years for indigenous people
- Rebates for developing multidisciplinary care plans for patients with chronic, complex or terminal conditions and complex care needs

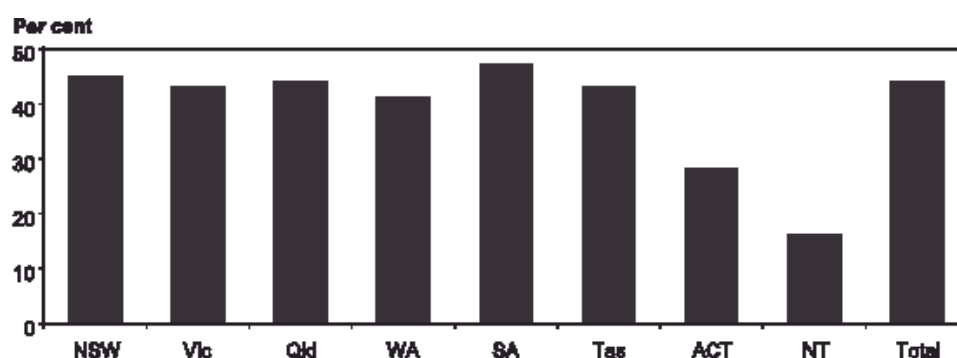
- Rebates for participating or arranging multidisciplinary case conferences for patients with complex care needs

From May 2004, an additional item for two-yearly health checks for Aboriginal and Torres Strait Islander people aged 15-45 years was introduced (Item 710). In May 2006 this list was extended to include a child health screening (Item 708) and work is currently underway in 2007, to develop a Medicare item for antenatal care.

EPC items can be claimed by NTDH&CS remote health services and Aboriginal health services. In these cases the rebates do not go back to the practitioner, since practitioners are usually salaried, but instead go back to their employer. This has allowed increased Medicare funding to return to the Territory, potentially addressing imbalances pointed out in the 1996-07 THS Annual Report quoted above.

The uptake of Medicare EPC items by GPs increased from 23 per cent in quarter four in 2000, to 46 per cent in quarter two in 2002, and remained at 44 per cent during the following two quarters *Figure 3.6*. The lowest uptake was in the NT. In 2004 the estimated Divisional take up was 33 per cent in the Top End and 46 per cent in Central Australia, accounting for a total of 394 adult health checks, item 710, claimed for NT Aboriginal adults during this year <sup>(76)</sup>. Data after this date is not published or is labelled by Medicare as 'not for publication'.

**Figure 3.6** *Percentage of 'active' GPs using Medicare EPC items by State and Territory, December quarter 2002. <sup>(66)</sup>*



The need to maximise funding opportunities and provide better chronic disease care has lead the remote services of the NTDH&CS to increase their use of the EPC care planning items. Data available does not tease out whether these items have been used more remotely or in urban environments, however between the March quarter of 2004 and the December quarter of 2004 the uptake of these items in the NT more than doubled from 313 to 662. Additional sourcing

from the Department of Health and Ageing in June 2007 revealed that the number of accredited practices in the NT had increased from 27 in 2001-2002 to 31 between 2005-06.

In the regional health zones in Central Australia the revenue raised through Medicare is monitored and transferred back to communities. A similar transparent process is not in place for other NTDH&CS clinics and as such there is no incentive for the local team to be more diligent in completing chronic disease activities to claim EPC items.

### ***S100 Scheme.***

During 1999-2000 the PCDS became part of the core business of the then, Territory Health Services. As a priority project it received \$928,000 in new funds, supplemented with funds redirected from primary health care and public health <sup>(77)</sup>. However, ongoing sources of external funding were required in order to progress the strategy and develop new services within that framework. This came about through a novel application of the Section 100 (S100) scheme.

S100 of the National Health Act was originally intended to allow the Australian Government to provide medications outside the normal mechanisms of the Pharmaceutical Benefits Scheme (PBS). Under S100, the Commonwealth Minister may make special arrangements so that an adequate supply of special pharmaceutical products are available to persons who are living in isolated areas; or who are receiving medical treatment in such circumstances that pharmaceutical benefits cannot be conveniently or efficiently supplied or are inadequate for that medical treatment.

In 1999, the Federal Minister for Health and Aged Care approved arrangements under Section 100 for the supply of PBS medicines to remote Aboriginal Health Services (AHSs), enabling clients to receive medicines directly from the AHS, without the need for a normal prescription form, and without charge. Local NT pharmacies were then able to use S100 to supply approved remote AHSs with PBS medicines without the usual co-payment arrangements. Funds that had previously been spent on medicines to other areas of need were therefore redistributed to remote health services <sup>(78)</sup>. However the NT Government health services were not included in this arrangement.

In April 2002 a Memorandum of Understanding (MoU) was signed between the Commonwealth and the NT Government to extend the PBS to all remote NT communities where there were no pharmacies <sup>(77)</sup>. It required that the S100 payments would not be used to replace or reduce the NT Government expenditure on remote Aboriginal health. Territory Health Services proposed that the major portion of S100 be devoted to remote area implementation of the NT PCDS and Quality



Use of Medicine Programmes. Although there was no absolute requirement to link S100 with chronic disease; in practice the annual savings from S100 became the main source of ongoing funding for PCDS activities <sup>(12)</sup>. The savings from S100 implementation were agreed at approximately \$2.325M per annum. This was to be allocated across the NT as follows: Top End Services Network: 51.7 per cent, Central Australian Services Network: 36.7 per cent, NGO Service Development (Top End): 10.5 per cent, and NGO Service Development (Central Australia): 1.1 per cent. S100 revenue was expected to exceed savings, because revenue included growth in PBS drug costs as well as handling fees.

By 2001-2002 the NTPCD Program was fully in place and was one of the operational arms of the PCDS. Other NTDH&CS programs that contributed directly to the PCDS outcomes included: Community health, Remote Health, Environmental Health, Communicable Diseases, Family and Children's Services, Mental Health, Alcohol and Other Drugs, child and maternal health, Oral Health, and Nutrition and Physical Activity. Those that contributed indirectly included: Education, Housing, Department of Industries and Development, and Sport and Recreation.

In early 2001 a public health physician was appointed using S100 money to head a Top End Preventable Chronic Disease Program. In August 2001, she began recruiting public health nurses who began work by November. Chronic disease coordinator positions (RN 3A) were created, advertised and recruited for Maningrida, Oenpelli Wadeye, Mililingimbi and Ramingining. By 2004/05, there were chronic disease coordinator positions in five of the major Top End communities.

**Table 3.7** *Summary of Section 100 (S100) expenditure to end of 3rd quarter 2004/05*

*(Sources: Report to NTAHF 10/9/04 Attachment 1 tables A.1, A.2; Report to NTAHF 27/5/05 Attachment 1 table A.1)*

<b>S100</b>	<b>Agreed Budget allocation</b>	2000-01 (\$K)	2001-02 (\$K)	2002-03 (\$K)	2003-04 (\$K)	2004-05 (\$K)	<b>Total (\$K)</b>
	TESN – Chronic disease	902	1203	1203	1203	1203	<b>5714</b>
	CASN – Chronic disease	640	853	853	853	853	<b>4052</b>
<b>Expenditure (Actual)</b>							
	TESN	506	860	1368	1313	1345	<b>5392</b>
	CASN	550	857	906	717	396	<b>3426</b>

In Central Australia a slightly different approach was taken. In June 2002 a Central Australian service plan allocated money to PCD coordination in Central Australia but a report in February 2004 suggested that only the coordinator and a women's health nurse were filled.

### ***Priority funding for PCDS implementation***

A strength of the current PCDS is that it allows governments to fund new programs as they arise when the chronic disease services case has been already clearly spelt out in the PCDS Strategy. *For example:* cardiac rehabilitation – offered through *Healthy Living NT* – began as a project with the Divisions of General Practice. However it was eventually funded from the NT budget because it was a best buy of PCDS. At the Departmental level, the \$100 funding of the PCD Program was supplemented by rolling a number of other existing positions into the program including 'Total Recall' nurses.

### ***Assessment against objective***

Currently only a minority of areas are funded using the Health Zone model, and the actual benefits of this for chronic disease have not been clearly demonstrated. This model of care appears administratively complex, and implies the involvement of an increased number of decision-making bodies in chronic disease care.

Many projects addressing chronic disease paradoxically suffer from short timelines in which they are funded to operate and a lack of funds to arrange follow up. *For example,* in June 2004, *Healthy Living NT* received funding from NTDH&CS out of unspent \$100 money to provide education and training to selected non-government health clinics throughout the Northern Territory. This program was only conducted until December 2004 <sup>(39)</sup>. During this time, they arranged for cardiac and diabetes educators to visit 11 non-government health services across the NT. A total of 40 health professional staff, and 48 clients, received diabetes and cardiac education in education sessions ranging from one to three hours duration. Both clients and staff regarded these education sessions positively.

In another *example,* in 2003 the *Darwin Diabetes and Education Resource Centre* for *Healthy Living NT* received a \$60,000 NDIP Grant from the Department of Health and Ageing to employ an Aboriginal Health Worker to identify barriers in access to diabetes education for urban Indigenous people in the Darwin area. This project commenced in October 2003 but was completed in July 2004, and produced exceptional results. Where before 2003, the Darwin offices of Diabetes Australia NT had seen few Aboriginal people, by early 2004 this situation had changed considerably and they reported seeing between 34 and 66 Aboriginal and Torres Strait Islander people per month. Unfortunately, this fell back to between 1 and 4 Indigenous people per month for the last few months of the year after the program stopped <sup>(71)</sup>.

## CHAPTER 4. CLINICAL OUTCOMES OF THE NTPCDS

This section of the report utilises published data available in the public domain and reports furnished by NTDH&CS regarding the clinical goals of NTPCDS. It covers relevant data for Indigenous populations in the NT, from 1999. It does not cover the urban and non-Indigenous population specifically.

### The 3-year goal (2002)

The three-year goal of the NTPCDS was to reduce the projected impact – hospitalisations, deaths and financial costs – of the five common chronic diseases in the Northern Territory<sup>(13)</sup>.

1. Renal disease
2. Type 2 diabetes
3. Hypertension
4. Ischaemic heart disease and
5. Chronic obstructive airways disease.

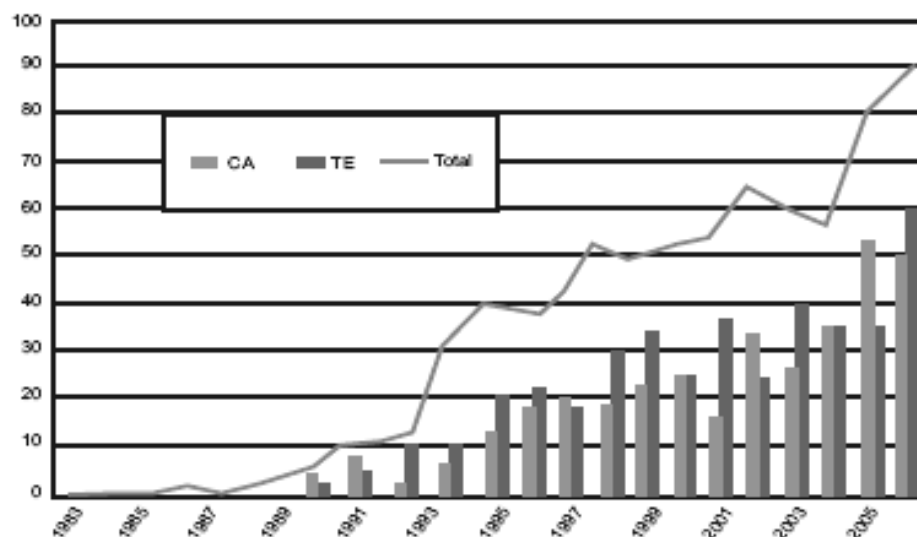
The 10-year goal (2009) was not assessed in 2002 therefore the most recent data that can be found is up to 2006 and is limited.

### 4.1 End Stage Renal Disease (ESRD)

Trends in incidence of End Stage Renal Disease (ESRD) are modified by demographic changes, disease control (effectiveness of prevention and treatment of progressive kidney disease), competing risks (including dying from untreated uraemia or non-renal co-morbidity), lead-time bias and classification bias<sup>(79)</sup>.

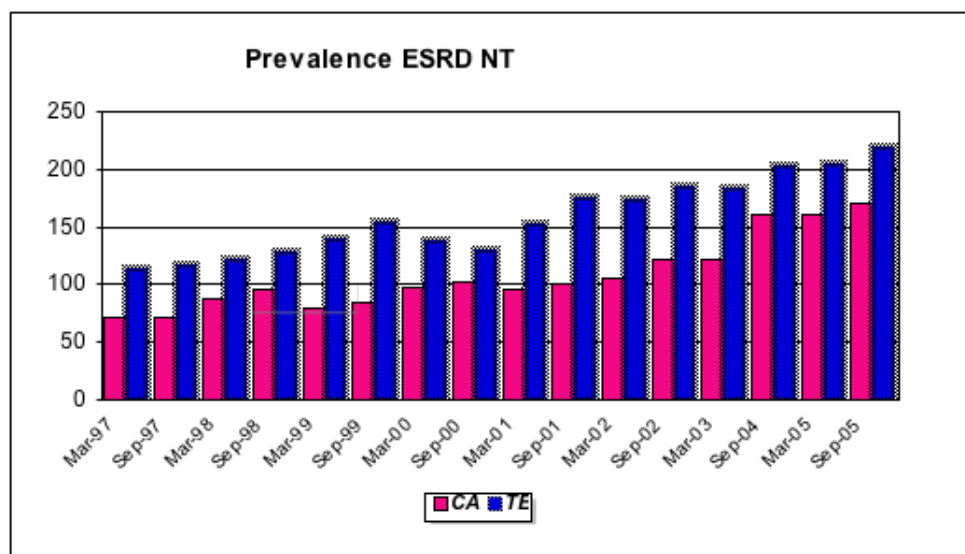
There appears to be a relatively constant number of new cases for Renal Replacement Therapy (RRT) reported in the NT to 2003 (*Figure 4.1*). It is unclear from these data whether recent disease control measures have had an impact on the incidence of treated ESRD in the NT.

**Figure 4.1** *New ESRF Patients by Region 1993-2005. Source: NTDH&CS<sup>(2)</sup>*



Total prevalent caseload represents existing surviving cases plus incident cases, and shows an increase of more than 100 per cent over the period 1997-2006 (*Figure 4.2*). These increases represent either better survival of patients on RRT, or a recent increase in incident cases, or both.

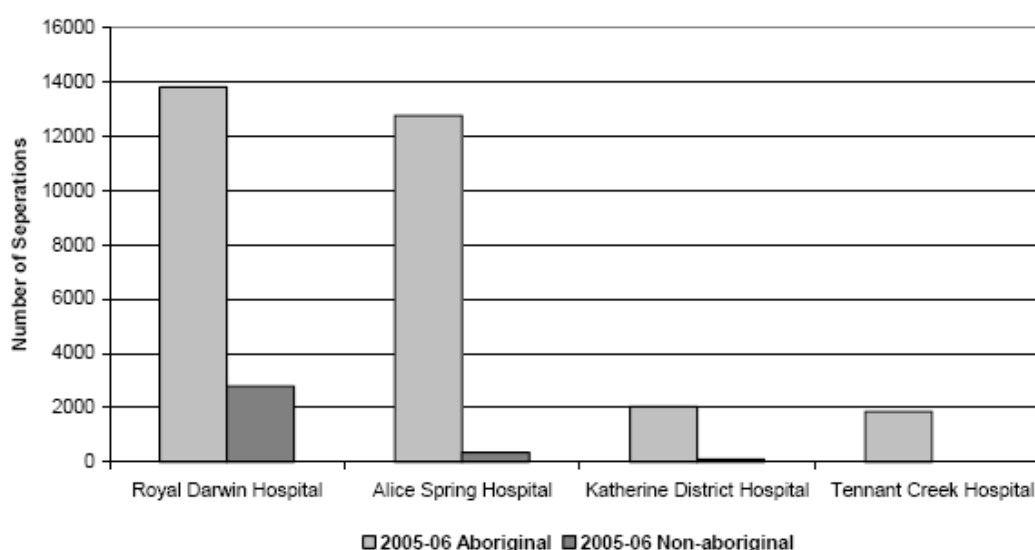
**Figure 4.2** *Growth in the prevalence in end stage renal disease between 1997-2005, in Central Australia and the Top End of the Northern Territory.*



Qualitative work carried out in Darwin in 2001 identified high levels of miscommunication between Aboriginal renal patients and their health service providers<sup>(80, 81)</sup>. Following this work,

improvements have been made to service delivery, including interpreter services <sup>(82)</sup>. Although no causal attribution can be made, it is possible that improvements to the service model for RRT for Indigenous clients, including improved communication and shared understanding of care processes, could be contributing to improved survival on RRT suggested by these data.

**Figure 4.3** Same-day renal treatment 2005-06 <sup>(2)</sup>.



The number of same day renal treatments grew by 10.5 per cent from 2004-05 to 2005-06. The number of treatments delivered increased by 14.5 per cent at Royal Darwin Hospital and 3.4 per cent at Alice Springs Hospital <sup>(2)</sup>. The number of treatments for Aboriginal patients increased by 12 per cent from 2004-05 to 2005-06. Gove District Hospital previously had no renal dialysis services, however a one-chair home dialysis unit opened in August 2006<sup>(2)</sup>.

## 4.2 Primary Care Level Chronic Disease Care Processes and Intermediate Clinical Outcomes reported in the NT.

There are no systematically collected and reported data from NTDH&CS on clinical care processes and intermediate client outcomes at Primary Care Level. Published reports in selected Top End sites (on small numbers) do not go beyond 2003.

Published reports identify short-term gains in quality of care at community level for diabetes <sup>(83)</sup> and renal disease in selected Top-End communities, but these have not been sustained for longer than 2-3 years, and do not report beyond 2003 <sup>(84)</sup>.

### ***Diabetes and Hypertension***

Bailie et al examined a cohort of 137 Indigenous adults with diabetes in seven health centres over a three year period to 2001, and found that the proportion with HbA<sub>1c</sub><7 per cent improved from 19 per cent to 32 per cent, but there was no improvement in mean HbA<sub>1c</sub> or BP control. Hoy et al found that control of blood pressure and renal function deteriorated from 2000 to 2003 after the service model moved from a highly focussed renal program to a more comprehensive service model, resulting in higher renal and all-cause mortality during 2000 to 2003 <sup>(85)</sup>.

### ***Chronic disease care processes and intermediate outcomes***

A report comparing chronic disease care processes and intermediate outcomes in two NT Indigenous communities, and 23 North Queensland Indigenous communities in 2002, found little difference between the NT and Queensland for Aboriginal communities despite the implementation of a focussed Chronic Disease Management program in the NT communities over the previous two years <sup>(86)</sup>.

**Table 4.1** *Comparison of selected chronic disease measures in 3 populations in Northern Australia, 2002* <sup>(36)</sup>.

	Northern Territory (n=194)	Cape York (n=252)	Torres Strait (n=921)
Mean (95% CI) HbA <sub>1c</sub> level	8.7% (8.4%–9.2%)	8.7% (8.5%–9.1%)	9.0% (8.9%–9.1%)
HbA <sub>1c</sub> level < 7%	28 (26%)	53 (26%)	116 (22%)
HbA <sub>1c</sub> level < 9.5%	75 (69%)	129 (64%)	232 (45%)
Mean (95% CI) systolic BP (mmHg)	128.4 (125.8–131.0)	129.4 (127.2–131.6)	130.1 (128.8–131.4)
Mean (95% CI) diastolic BP (mmHg)	79.1 (77.4–80.8)	79.6 (78.2–81.0)	77.3 (76.6–78.0)
Median (interquartile range) urinary albumin/creatinine ratio	14 (2.9–86)	13 (2.2–62)	6.8 (1.7–32)

## **4.3 Hospitalisations and deaths relevant to the CDS**

Reports from NTDH&CS do not go beyond 2001, so available data do not reflect the NTPCDS. A recent report examined long term trends in Indigenous deaths from Chronic Diseases in the NT and found a modest fall-off in the rise in selected death rates in the 1990's, probably due to improved access to health services generally, including hospital services <sup>(87)</sup>.

A recent ten-year follow-up of a cohort of 296 adults in a remote central Australian Indigenous community from 1995-2004 found significantly lower CVD and all-cause mortality and hospitalisation rates compared to other NT Indigenous adults. CVD standardised mortality ratio (SMR) was 0.57 and SHR was 0.34 <sup>(88)</sup>. This finding was surprising in the context of a recent review of that particular health service, which found that chronic disease care systems (registers, care planning and recall systems) were relatively poorly developed, but the health service model supported the preferred decentralised lifestyle of the population. This was a community-controlled health service, funded by OATSIH <sup>(89)</sup>.

In summary, there is very little published and routinely reported data which can directly link activities identified in the NTPCDS with clinical care processes at a primary care level, intermediate clinical outcomes relevant to the PCDS and longer term outcomes such as avoidable hospitalisations and mortality in the NT to date.

## CHAPTER 5. KEY RESULT AREAS

This chapter reports on the progress being made towards meeting the NTPCDS ten-year goal – to reduce the projected incidence and prevalence of the five common chronic diseases in the NT and their immediate underlying causes <sup>(13)</sup>. The key result areas are:

### 5.1 Maternal health

*The Health and Well Being of Northern Territory Women: from the Desert to the Sea* was published in November 2005. Apart from data on child protection reports and children in care, the report highlights that women represent 67% of all victims of manslaughter, 60% of victims of assault and 95% of sexual assault victims. The report also highlights the barriers to reporting, particularly for Aboriginal women.

#### 5.1.1 Improving infant birthweight

One major program developed in the NT to address low birth weight in Indigenous communities was the *Strong Women, Strong Babies, Strong Culture Program* (SWSBSC). The aim of the SWSBSC was for senior women within Aboriginal communities to help younger Aboriginal women:

- prepare for pregnancy
- to support pregnant Aboriginal women by encouraging them to visit clinics for antenatal care early in their pregnancy
- by providing advice and encouragement about healthy pregnancy management in relation to nutrition (including greater use of bush foods)
- by promoting the adoption of safe practices such as not taking alcohol and smoking during pregnancy, and
- by reinforcing the need to seek adequate and timely medical help and to take prescribed medicines <sup>(90)</sup>.

The program began in 1993 as a pilot project in three Top End communities of the Northern Territory that were interested in participating and that had poor peri-natal health. Between late 1996 and early 1997, it was implemented in a second group of communities that also had poor peri-natal health status. In 2003, the program was reviewed and concluded that, although the program had shown significant results in the communities in which it was first trailed, it had little effect when the other communities were included <sup>(90, 91)</sup>.

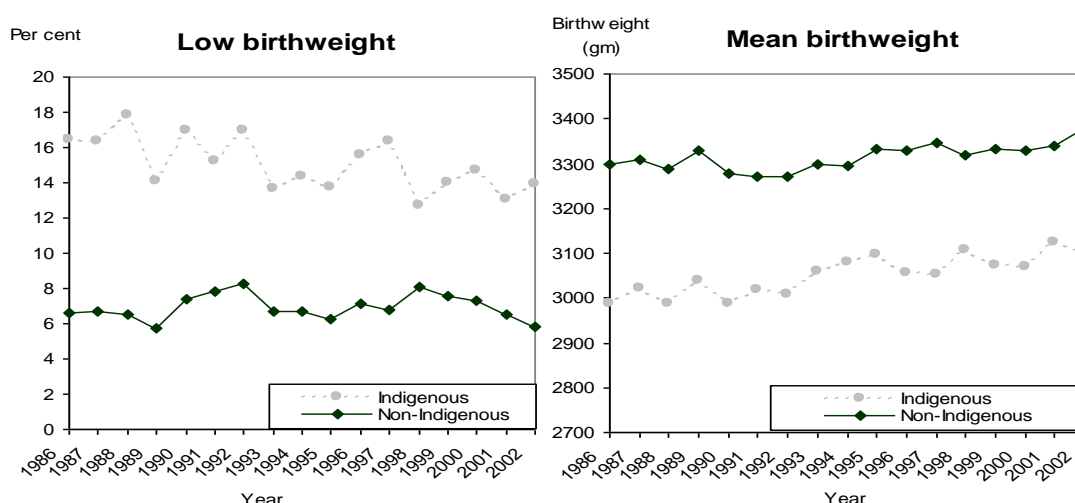


The NTDH&CS also collect birthweight data across the NT in its Midwives' collection. Results are published 1-3 yearly by the Health Gains Unit. The proportion of low birthweight in NT indigenous newborns has improved from about 16-18 per cent in the late 1980's to 13-15 per cent in the five years from 1998 to 2002 <sup>(3)</sup>. This proportion remains about double that for the non-indigenous newborns.

**Table 5.1** *Percentage comparison of babies by birth weight and Indigenous status in the Northern Territory, 1986-2003. Data from NT Midwives collections 1986-2002 <sup>(3)</sup>.*

Year	1986	1987	1988	1989	1990	1991	1992	1993	1994
<b>Aboriginal</b>	16.4%	16.3%	17.9%	14.1%	17.0%	15.2%	16.9%	13.6%	14.4%
<b>Non-Aboriginal</b>	6.6%	6.7%	6.5%	5.8%	7.4%	7.9%	8.2%	6.7%	6.7%
Year	1995	1996	1997	1998	1999	2000	2001	2002	
<b>Aboriginal</b>	13.7%	15.5%	16.4%	12.7%	14.0%	14.7%	13.1%	14.0%	
<b>Non-Aboriginal</b>	6.2%	7.2%	6.8%	8.1%	7.5%	7.3%	6.5%	5.8%	

**Figure 5.1** *Low and mean birth weights for Indigenous and non-indigenous babies in the NT 1986-2002 <sup>(3)</sup>.*



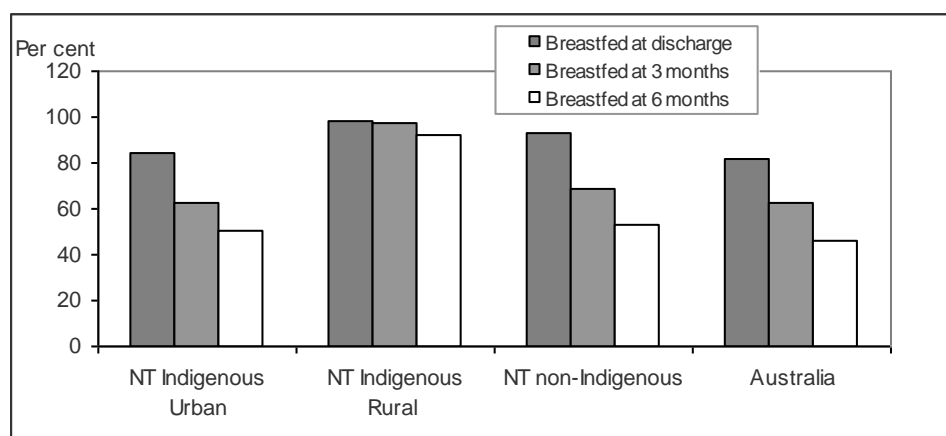
It is important to note that an improvement in birthweight *per se* will not always be associated with less chronic disease in the long term. There is increasing recognition that large babies due to mothers with gestational diabetes may be more likely to develop diabetes themselves in adulthood. Gestational diabetes is more common in Indigenous mothers. Therefore an increase in Aboriginal birthweight due to maternal gestational diabetes would not be an ideal outcome.

## 5.2 Promotion of child growth

### 5.2.1 Breastfeeding (BB)

Breast feeding rates at discharge from hospital were unchanged from 1993-2003 remaining at 93 per cent <sup>(3)</sup>. However, breast feeding rates at three and six months post birth fell between 1993-2003, from 77 per cent to 73 per cent at three months, and from 68 per cent to 59 per cent at six months. This fall was largely due to a decrease in breast feeding rates in the urban Indigenous population.

**Figure 5.2** *Breastfeeding for infants* <sup>(3)</sup>.



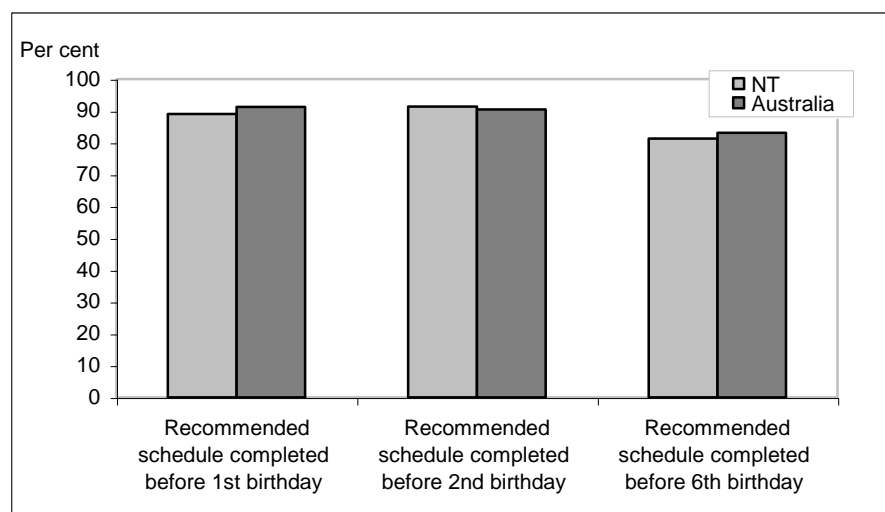
In 2003, breastfeeding rates at hospital discharge were similar to national average. By 6 months, the proportion of NT rural Indigenous infants who were still breastfed were above national average <sup>(3)</sup>.

### 5.2.2 Childhood immunisation (BB)

The impact of childhood immunisation on adult chronic disease particularly relates to reducing rates of childhood pneumonia, which contribute to adult chronic lung disease. Many of the vaccines in the current schedule prevent childhood pneumonia.

The immunisation coverage for the NT has improved significantly since 1999. While some of these improvements may be due to changes in definition, Australian Childhood Immunisation Register (ACIR) data suggests that NT children have immunisation coverage that is as good as, or better, than the rest of Australia <sup>(3)</sup>. Timeliness for vaccine delivery is reported to be less than optimal <sup>(3)</sup>.

**Figure 5.3** Vaccination coverage for 0-6 year old children, 2003-2005 in NT and Australia<sup>(3)</sup>.



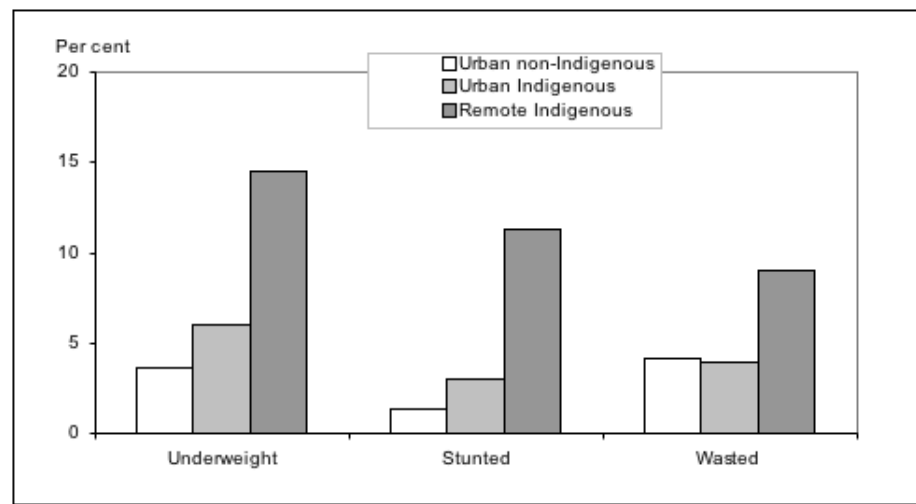
The incidence of invasive pneumococcal disease has more than halved since the introduction of a new vaccine in 2001, mainly for NT Indigenous children between the ages of 1-2.

### 5.2.3 Preventing childhood malnutrition (BB/KRA)

Growth Assessment and Action (GAA) is the monitoring and growth promotion program for children under five years of age in rural and remote communities of the Northern Territory. It commenced in 1998 and includes regular monitoring of nutritional status and interventions for children who are not thriving. Most communities have more than 80 per cent participation of children in the program and therefore the reported proportions are a good indication of nutritional status.

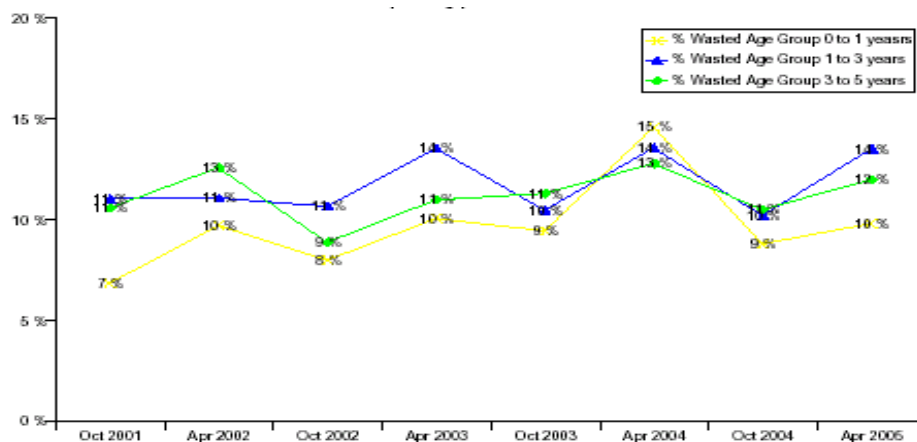
Between 1999 and 2004, the proportion of children who were underweight decreased in East Arnhem, Katherine, and Barkly districts. The proportion of children who are underweight in the Alice Springs district is close to the national average and showed no change over this period. There is no change in the Darwin district where the underweight proportion remains at approximately 20 per cent<sup>(3)</sup>.

**Figure 5.4** Under-nutrition for children from NT urban, rural and remote areas, 2004 <sup>(3)</sup>.



As *figure 5.4* indicates, Indigenous children in remote communities experience high levels of underweight (14.5 per cent), stunting (11.3 per cent) and wasting (9 per cent) <sup>(3)</sup>. This however represents only 49 per cent of the urban non-Indigenous five year olds, 30 percent of the urban Indigenous five year olds, and 79 per cent of resident remote five year olds in 76 communities.

**Figure 5.5** Percentage of children who are 'wasted' by age group for all NT <sup>(37)</sup>



Between 2001 and 2005, overall rates of stunting, wasting and anaemia have not changed greatly. This suggests that there will be little effect on chronic disease attributable to this item.

It is also important to note that knowledge of the role of childhood nutrition in the development of chronic disease has changed since the PCDS was introduced. It is now apparent, that the group who is most at risk of chronic disease are not those children who are born small, but those who are born with low birth weight and who then develop obesity in childhood. This indicates epidemiologically that if low birth weights continue to be a major problem in some sectors of the NT population, an improvement in child weights may be associated with an increase in the rates of chronic disease in adulthood rather than a decrease.

#### **5.2.4 Decreasing childhood infections through better environmental health conditions (KRA)**

The Indigenous Community Housing Survey (ICHS) assesses remote Indigenous housing maintenance requirements to promote conditions conducive to improved resident health <sup>(92)</sup>. The ICHS was instituted by the Indigenous Housing Authority of the NT (IHANT) in 1998 and redeveloped during 2004 after an evaluation. As a result, data from 2004 can be used to provide appropriate baseline data. A bi-annual survey is now conducted throughout the Territory. The ICHS establishes a standardised method of assessing maintenance requirements for each house surveyed. Surveyors look for damaged or missing items and perform a number of simple tests to assess functionality. The National Indigenous Housing Guide emphasises the need for functioning health hardware in order to enable householders to perform the nine Healthy Living Practices. The first 4 practices involve people having the facilities to:

- wash themselves
- wash their clothes and bedding
- remove waste safely
- store, prepare, and cook food

Results of the 2007 Indigenous Community Housing Survey reveal poor environmental health conditions especially in discrete remote communities, where there continues to be a lack of basic housing maintenance, overcrowding, unsafe water supply, lack of rubbish disposal and the highest national sewerage overflow rate <sup>(6)</sup>.

## **5.3 Underlying determinants of health**

### **5.3.1 Maternal and childhood education**

Refer to section 3.2 of this report for information on educational attainment.

### **5.3.2 Alleviate Poverty**

The alleviation of poverty is the most important factor in the prevention of chronic disease as it affects levels of education, access to food and shelter and our basic human needs. Many Indigenous Australians live below the poverty line, receiving a mean income that is 59 per cent of other Australians <sup>(51)</sup>. In remote areas the food budget can represent 56-89 per cent of the total Indigenous household income, compared with the national average of 18 per cent. In 2006, NT Indigenous households continue to receive only 59 per cent of income to non-indigenous households <sup>(5)</sup>. These factors affect every aspect of Indigenous lives including their ability to live in safe housing and to buy sufficient good quality food for their families <sup>(93)</sup>. It is however beyond the scope of this evaluation to provide evidence of this in the NT community.

### **5.3.3 Promote 'sense of control' and mental well-being (KRA)**

Data on this has been collected in the DRUID study in urban Indigenous people in Darwin in 2004. Trend data is not available. The NTDH&CS conducted a Health and Well-being Survey in the Non-Indigenous population of the NT in December 2000 <sup>(94)</sup>. In this survey respondents were asked about their perceived control of life events. Overall, 5.5 per cent of the urban population, and 6.1 per cent of the rural population felt a lack of control in their life often or always. 12.8 per cent of respondents reported being psychologically distressed using the *Kessler 10* score. Trend data is not available for this study.

## **5.4 Lifestyle modification**

### **5.4.1 Smoking cessation and prevention programs (BB)**

Smoking is the single most important modifiable cause of preventable disease, disability, and premature death in the NT. In 2002, 40 per cent of the NT Indigenous population between 15 and 24 year olds were current daily smokers, compared with 30 per cent of this age group in the non-Indigenous population. This equates nationally with this population group. In 2006, AIHW

reported that 50 per cent of the Indigenous population aged 18 years and over were daily smokers, with the highest rates between 25 to 44 year olds <sup>(95)</sup>.

#### **5.4.2 Brief intervention for hazardous alcohol use (BB)**

The Northern Territory's patterns of alcohol and drug consumption exceed national averages: 17.1 per cent of Territorians engage in risky or high risk drinking, and in the past 12 months 20.9 per cent smoked cannabis, 5.2 per cent used analgesics for non medical purposes, 3.9 per cent used speed and ecstasy <sup>(96)</sup>.

The use of brief interventions for alcohol use within NT hospitals was reviewed by Brownscombe in 2005 <sup>(96)</sup>. He noted that brief interventions are cheap, effective and are significantly under-utilised. They are reflected in the CARPA manual and the Public Health Bush book. There is also an *Alcohol, Tobacco and Other Drugs: Guidelines for Nurses and Midwives: A Framework for Policy and Standards, and Clinical Guidelines* distributed to wards and clinics across the Northern Territory. The *Brief Intervention for Substance Use: a Manual for Use in Primary Care* <sup>(97)</sup> has been produced by WHO to accompany the ASSIST screening tool".

An early intervention program targeting harmful alcohol consumption amongst Royal Darwin Hospital inpatients ran in various forms from 1988 until 2001, with approximately 100 participants per week. A brief intervention program has existed at Alice Springs Hospital continuously since 1989.

Brief intervention training using SNAPE (Smoking, Nutrition, Alcohol, Program Evaluation) is facilitated by Health Development and Oral Health staff, and Alcohol and Other Drugs (AOD) programs. The Senior Health Promotion and Policy Officer has been training nutritionists and PCD workers in brief interventions. They also conduct non-accredited training in orientation programs with Well Women's Health, in the chronic disease module and for any group who requests assistance. This training is supporting PHC providers to provide early intervention and prevention strategies in the adult health check and to support other clients. The Frontline trainers in AOD conduct accredited training in Brief Intervention as part of the *Cert IV in Alcohol and Other Drugs* for general primary health care providers in government and non-government agencies. This program has been in place since the 1997.

### 5.4.3 Nutrition, weight loss and physical activity programs in high risk populations (BB/KRA)

#### Nutrition

Nutrition, weight loss and physical activities are all areas in which there has been a high investment, both within the NTDH&CS and across other sectors. *The Northern Territory Food and Nutrition Policy* was endorsed by the Territory Health Services' Executive in September 1995. Strategies implemented included; advice on recommended foods to stock, assistance to develop relevant food policies and guidelines for individual stores, assistance with the promotion of healthy food, monitoring the availability and affordability of food, and training staff in food and nutrition. *The Northern Territory Food and Nutrition Policy* action plan was implemented in 2001.

The policy states:

*The goal of the NT Food and Nutrition Policy is to improve nutritional status and health of all Territorians and to reduce the burden of diet-related early death, illness and disability. This is also one of the goals of the NT Preventable Chronic Disease Strategy. This goal is core business for the nutrition team, however, to effect any sustained improvements in nutrition it is essential that partnerships are made with other providers, both internal and external, and with key stakeholders, to ensure ownership of strategies does not remain only with people working in the area of nutrition<sup>(98)</sup>.*

Education and training were major priorities for the nutrition team. The *NT Department of Education* took the lead role in implementing nutrition programs in schools, particularly in primary schools, and ensuring nutrition was included at all levels in the curriculum. Higher education courses in nutrition are available for Aboriginal Health Workers at Batchelor Institute.

A major growth area was the provision of food and nutrition education to community based Aboriginal people, including people employed in the store. The *Community Nutrition Worker* (CNW) program, which involves training and support to local Aboriginal people who provide nutrition education to their own community, has expanded rapidly since its inception in 1995. By 2001, THS funded positions in eight communities and nutritionists also support CNWs funded through other sources (eg CDEP, World Vision). After extensive consultation the new action plan was finalised at a meeting of the NT Nutrition team in September 2000.

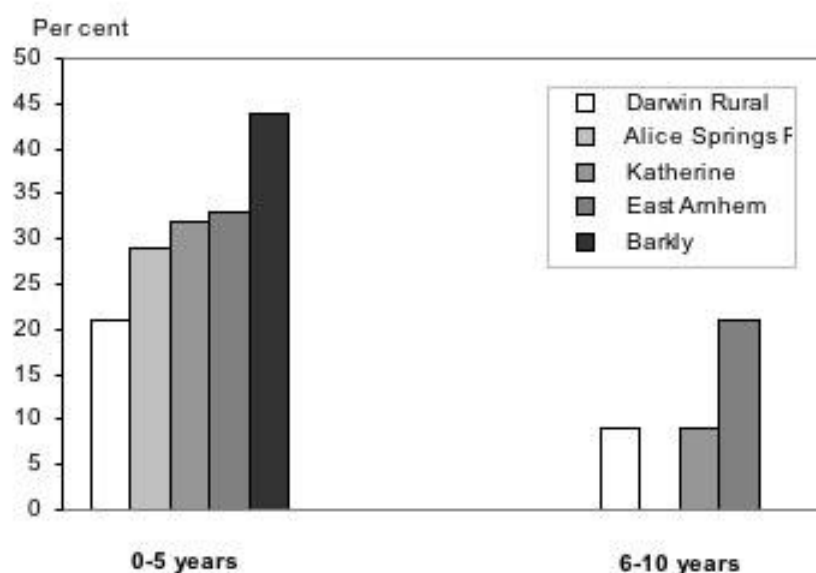


The current action plan identifies different nutritional and physical activity needs at various ages and stages of the lifespan. This is important because chronic disease arises from maternal, childhood, and adult factors working together, so the plan does not specifically target adults as a priority area. Other priority areas targeted include consumption of fruit and vegetables, prevention of obesity, provision of a physically active lifestyle and prevention and management of preventable chronic diseases. All areas identified in the action plan have seen extensive implementation of programs designed to improve education and bring about change at the community level.

### **Anaemia**

Rates of anaemia for children in the NT are extremely high throughout remote communities. In 2004, children under five years the rates of anaemia range from 23.1 per cent in the Darwin rural district to 43.8 per cent in the Barkley district (see *Figure 5.6*).

**Figure 5.6** *Anaemia in children from remote Indigenous communities by NT health district<sup>(3)</sup>.*



### **Physical Activity**

There is no baseline data for physical activity for the NT available before the introduction of the NTPCDS. In July 2003, telephone interviews were conducted with 328 non-Indigenous Territorians<sup>(99)</sup>. The key findings of this survey were that 55 per cent of non-Indigenous Territorians aged 18-54 years reported engaging in sufficient physical activity for health benefits; 35 per cent reported insufficient levels of activity and 10 per cent reported no activity and were classified as sedentary. Men were significantly more likely to be sedentary than women (14 per

cent compared with five per cent). Three-quarters of the sedentary men described themselves as active, compared with 19 per cent of women. Seventy-eight percent of the insufficiently active men considered themselves active, compared with 58 per cent of the women.

## **Obesity**

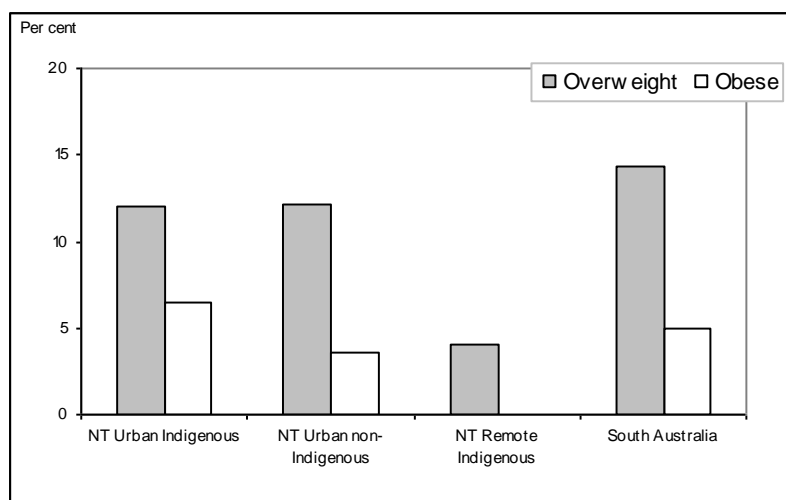
### **Adults**

In the 2000 AUSDIAB study, 58.3 per cent of the Northern Territory non-indigenous AusDiab participants were classified as either overweight (BMI 25-29.9) or obese (BMI  $\geq$  30). The rate for males was 68.0 per cent and for females, 47.2 per cent. The rate for overweight was 45.5 per cent in males and 29.9 per cent in females. The overall prevalence of overweight individuals in the Northern Territory AusDiab sample was 38.2 per cent. The prevalence of obesity was 22.5 per cent in males and 17.3 per cent in females. The total prevalence of obesity was 20.1 per cent. The 2006 AusDiab report does not differentiate states and Territories and we cannot therefore compare improvements in these data.

### **Children**

Increasing childhood overweight and obesity is recognised as a significant problem in Australia. The proportion of NT urban children who are overweight is slightly lower at 12 per cent compared with South Australian children at 14.4 per cent. More NT urban Indigenous children are obese - 6.5 per cent than NT urban non-Indigenous children - 3.6 per cent and South Australian children 4.9 per cent. The proportion of remote Indigenous children who are overweight is 4 per cent and there are no obese remote Indigenous children <sup>(3)</sup>. A future consequence may be increasing rates of chronic disease amongst urban Aboriginal people.

**Figure 5.7** *Overweight and obesity in 4-6 year old children in the NT and SA 2004 <sup>(3)</sup>*



The availability and cost of healthy food in remote areas continues to be poor and extremely expensive despite several inquiries since the implementation of the NTPCDS. The issue of poverty is critical to the success of improving all of these key indicators yet NT Indigenous households continue to receive only 59 per cent of income to non-indigenous households <sup>(5)</sup>.

## **5.5 Early detection and early treatment**

### **5.5.1 Screening (BB/KRA)**

Opportunistic screening is feasible in rural and remote Aboriginal communities, since the majority of community members attend the clinic at least once in a 2 year period. In May 2004, the Commonwealth Government introduced an EPC item for Aboriginal adult health checks (Item 710). In the remainder of 2004, about 200 of these health checks were claimed per quarter. Since the population of Aboriginal people aged 20-55 in the NT is at least 50,000; these checks, at least initially, were significantly under-utilised. The introduction of these checks in remote areas has been delayed by a number of factors. One problem is that some communities do not have doctors, or have a fly in fly out service that might have limited time for chronic diseases care. At the NTDH&CS level, forms for claiming such items were only finalised in mid 2005.

The provision of screening services has also been examined in detail in projects such as the coordinated care trials, and the ABCD program. In general it has been found that people in remote communities are well screened for conditions such as diabetes and hypertension. The ABCD project commenced in 2002 at 12 health centres in the Top End, and has undertaken two annual cycles of care. In 2007 they report improvements in all key aspects of systems to support chronic illness care for almost all participating centres, including:

- improvement in percentage of scheduled diabetes services delivered from 30 per cent at baseline to 52 per cent;
- improvement in the proportion of people with diabetes with a record of a BP check within three months from 63 per cent at baseline to 76 per cent;
- improvement in the proportion of people with diabetes with a record of an HbA1c check within six months from 41 per cent at baseline to 72 per cent <sup>(7)</sup>.

**Table 5.2** Key indicators for ABCD Project round 1-3

Indicator	Round 1	Round 2	Round 3
Overall Systems Assessment Score (0-11)	3.9	5.3	6.3
Overall percentage of diabetes services delivered	30%	36%	52%
Percentage of people with diabetes with a record of a BP check within 3 months.	63%	63%	76%
Percentage of people with diabetes with BP control of:*			
<130/80mmHg	33%	33%	29%
<140/90mmHg	65%	58%	68%
Percentage of people with diabetes with a record of measurement of HbA1c within 6 months	41%	60%	72%
Percentage of people with diabetes with HbA1c control of:*			
<7%	19%	21%	28%
<8%	37%	41%	46%
Mean HbA1c	9.3%	8.9%	8.9%
Overall percentage of preventive services delivered to generally well adults	19%	19%	21%
Percentage of generally well adults with a record of measurement of BP within 12 months	46%	49%	48%

\* these figures based on number of people with a result within the defined period

Table 5.2 from the *ABCD Project Final Report 2007* <sup>(7)</sup>, shows significant improvements over two cycles of assessment and feedback; however there has been minimal improvement in the delivery of preventative services.

### 5.5.2 Adult immunisation (BB)

A National Indigenous Pneumococcal and Influenza Immunisation Program has been recently established, which aims to reduce the high rates of acute respiratory illness and death in the Indigenous population. Five-yearly pneumococcal and yearly influenza vaccine are available free of charge for all Indigenous people over 50 years and those in the 15-49 year old age group who are at high risk, including those with chronic diseases. NTDH&CS has been promoting increased uptake of both vaccines as part of the annual NT Adult Immunisation Campaign run by the Centre for Disease Control since 1995. The ABDC audit in 2007 reported that approximately 83% of adults in their sites had the flu vaccination and 80% had the pneumococcal vaccination in 2006 <sup>(7)</sup>.

### 5.5.3 Aggressive Blood Pressure control to prevent progression of renal disease

A major driving force for the establishment of the PCDS was the rising costs of dialysis in the NT. There have been two main studies, the *Menzies Renal Treatment Program* (MRTPT) undertaken by

Hoy et al in 1995-2000<sup>(100)</sup>, and the Tiwi Coordinated Care Trials between 1997 and 2000. The MRTP study aimed at reducing the progression to end stage renal failure in the Tiwi Islands. Treatment centred around use of the drug *perindopril*, blood pressure control, and attempts to control blood glucose and lipid levels wherever appropriate<sup>(101, 102)</sup>. The trial demonstrated that the number of new people entering renal replacement programs, and overall death rates in the community, could be reduced by meticulous attention to blood pressure control in people at risk<sup>(103)</sup>. The Tiwi Coordinated Care Trial shared much of the philosophy of the PCDS. Chennakesavan has compared the group of people who were enrolled in the MRTP with those who had met the same criteria at the start of the CCT but had not been enrolled in the MRTP, and were instead managed using a coordinated care approach. The study by Chennakesavan provides the only direct comparison of a PCDS-like strategy (the CCT) with a different strategy for management of chronic diseases within the same population<sup>(104)</sup>.

During the first six months of the MRTP, the blood pressure of participants significantly decreased, and as the trial progressed blood pressures remained stable at the lower level or increased slightly. Similar falls in BP were not seen in the CCT cohort, but the BP tended to rise gradually during the study period. At the end of the MRTP blood pressures were still lower than for the CCT. It is interesting to note that the trial did not show any improvement in diabetic management, if anything the diabetics in the trial appeared to have worse control than those in the CCT (24 per cent with HbA1C<7 per cent at the end of the trial compared to 30 per cent of the CCT cohort)<sup>(104, 105)</sup>. This may be because the emphasis of the MRTP was to lower BP, whereas coordinated care had broader aims including care of other conditions.

**Table 5.3**      *Hypertension in MRTP and CCT groups 2002*<sup>(105)</sup>

	Baseline		30 month follow-up	
	MRTP	CCT	MRTP	CCT
Systolic BP	132.4 (22.2)	125.5 (19.9)	123.3 ( 1.3)	128.1(1.7)
Diastolic BP	77.8 (14.5)	78.6 (13.8)	75.2 (0.8)	79.9 ( 1.1)
BP <140/90 (%)	58 %	48 %	72.4 %	59.4 %
BP <130/80 (%)	-	-	48.7 %	38.1 %

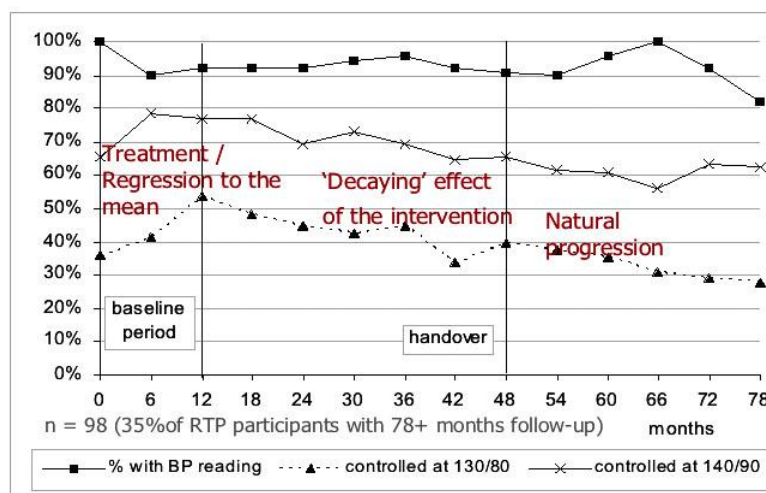
Overall, 266 people were enrolled in the MRTP. The investigators reported that the treatment program prevented at least 16.5 renal deaths and 10.5 non-renal deaths in this population. Overall, this trial suggested that meticulous control of one risk factor (blood pressure) might be more effective than the broad-based approach to multiple risk factors taken by the PCDS. According to Chennakesavan<sup>(104)</sup>:

*The NT Government has partly funded the Preventable Chronic Disease Strategy, which is an overarching framework for the development and delivery of preventative services to the chronically ill. Implementation of this strategy required further examination of the interventions or 'disease management' strategies that have been proved to be effective or efficacious for chronic disease management. The findings from this study suggest that adherence to GSAT guidelines needs to be better in order to achieve desirable changes in patient outcomes<sup>(104)</sup>.*

There has been considerable public debate regarding the decline in blood pressure control and the resulting renal death rates reported from the Menzies program at the time of handover to Territory Health Services in 2002, which were reported in 2005 by Hoy and Kondalsamy-Chennakesavan<sup>(100)</sup>. In 2006 Bailie reanalysed these data<sup>(106)</sup>. He found that the trend over time in the key intermediate outcome indicator of blood pressure control does not support the conclusion they had reached regarding the impact of the handover of the program, and that there had been a decline in blood pressure control as early as the 2<sup>nd</sup> year after entry into the program<sup>(106)</sup>. That year Hoy stated that a number of 'non-renal' deaths had been reported in these data and an intensity of management had been relaxed<sup>(107)</sup>.

Figure 5.8 below demonstrates the trends in monitoring and control of blood pressure of a sample of 98 patients with greater than 78 months of follow-up. They were found not to be statistically different from the rest of the participants on a range of parameters – age, gender, GFR, creatinine, SBP, DBP – except for having a higher proportion with diagnosed hypertension<sup>(106)</sup>. There was a significantly declining trend from 12 months to the end of follow-up and there was no significant change in trend at time of handover.

**Figure 5.8** Trends in monitoring and control of blood pressure.



## **5.6 Best practice management**

### **5.6.1 Prevention of complications of diabetes (BB/KRA)**

#### ***Diabetic retinopathy***

Results from cross-sectional surveys of known diabetics in the Katherine region of the Northern Territory conducted in 1993 and 1996 were published in 2003 <sup>(108)</sup>. This study found the rates of diabetic retinopathy, 21 per cent, and vision-threatening retinopathy, 7–8 per cent, were similar to those found in the non-Indigenous population in Australia. The results were not age adjusted. Given that the non-Indigenous diabetic population tends to be older, and that the Indigenous diabetic population tends to die at younger ages, the similar prevalence rates in the two populations are probably attributable to a combination of earlier onset of diabetes and poorer glycaemic control.

The *National Aboriginal and Torres Strait Islander Eye Health Program* (EHP) arose from recommendations by Taylor in 1997 <sup>(109)</sup>. Indigenous EHP developed a model of screening for diabetic retinopathy with a retinal camera by Aboriginal Health Workers, which would then be reviewed by an ophthalmologist. This model was introduced to several centres across the NT. The model has been evaluated in remote Aboriginal community screening <sup>(110)</sup>. Aboriginal Health Workers from ACCHOs in Darwin, Gove and Central Australia were recruited and trained for these positions and have been fulfilling the role of screening since 2003. At the time of a 2003 review of the program by CRH, data on the effectiveness of this program was not available <sup>(109)</sup>.

#### ***Diabetic foot disease***

In May-June 2004 PHCAP funded the NTDH&CS to conduct a trial of podiatry outreach services to remote Aboriginal communities. Based on the success of this trial, NTDH&CS secured additional Commonwealth funds to enable development and extension of the program for a further 12 months. Although this trial has not yet been fully evaluated, the expected outcomes of the Podiatry Outreach Program were:

- 50 days of podiatry service delivery to Top End communities
- 38 days of podiatry service delivery to Central Australian communities
- Service delivery to include six monthly visits to remote communities that benefited from the 2003/04 trial (ref).

## CHAPTER 6. DISCUSSION OF FINDINGS

This evaluation process has identified a number of improvements and there is general movement in the right direction to implement the actions contained in the NTPCDS. There is however significant room for improvement in the overall planning, management and monitoring of chronic disease prevention and management activities to facilitate engagement with all health service providers in the Northern Territory. This will ensure that all service providers work together in a coordinated way to implement systems improvements and service enhancements.

*Key areas for improvement include:*

- ❑ prevention activities
- ❑ Indigenous employment related to chronic disease programs
- ❑ the simplification, standardisation and coordination of information systems that can communicate across regions
- ❑ organisational structures that facilitate easy communication between those providing chronic disease programs and education, and
- ❑ dedicated investment to support these activities.

### 6.1 Governance and planning for chronic disease activity

An issue that became very clear during the stakeholder interviews was that there had been very little engagement with external, and some internal, services when the PCDS framework was developed. Therefore in the non-government services and urban services the PCDS has very little relevance in influencing service planning and systems change. Most of the direction for these services had come through programs such as *Healthy for Life* and *Primary Care Collaboratives*, which is consistent with the NTPCDS framework. However, these services do not see their actions as contributing to an NT-wide PCDS. Many services identified that the *Chronic Disease Network* was a useful forum for swapping ideas and discussing new initiatives. Yet it is not a decision making group that can influence policy to facilitate improved system support for chronic disease clients.

The stakeholder interviews also identified very little direction as to how to apply the NTPCDS framework in urban areas, where there are multiple providers and many at risk groups. *For example:* in Darwin there are many high risk men with limited supports who would be a key target group for chronic disease initiatives. Work is required to develop a model for chronic



disease care in urban areas regarding the guidelines to be used, recall systems, care planning and team care arrangements involving urban community health services.

The scope of the NT PCDS was canvassed with stakeholders and the response was mixed. Many services could see the benefit of expanding the scope of the NTPCDS to include mental health and preventable cancers, while others felt that services should focus on getting the systems right for addressing the 5 conditions currently covered by the strategy. This issue is really one of resources and capacity. Yet on balance, most people felt that it was logical to expand the scope of the NT PCDS to include preventable cancers because the risk factors and prevention strategies are similar to preventable chronic disease conditions and selected mental health conditions. Though secondary and specialist cancer services should be excluded. The review team also felt that it is logical to include rheumatic heart disease because the systems of care required to manage this condition are similar to chronic disease.

The lack of an implementation plan for the NT PCDS means there is no basis for communicating direction, gaining commitment from other service providers to identify priorities or monitoring progress. Some of the objectives in the PCDS have clearly been achieved without an implementation plan. However this is largely due to all service providers having recognised the need to adopt a quality improvement and best practice approach to service delivery through programs that support these principles. To improve the efficiency and effectiveness of service delivery across the NT, there is a need for consistency in the use of clinical protocols, the approaches to service delivery and the coordination of service providers to deliver comprehensive screening, intervention and chronic disease care services.

## **6.2 Ongoing monitoring and review**

A key barrier to undertaking the NTPCDS evaluation was the lack of systematic data collection processes to inform the progress of the NT PCDS. Part of this is due to the lack of information systems in the community, but it also relates to the lack of a systematic approach to reporting of health activities and outcomes. The ABCD project is supporting services participating in the project to establish a quality improvement cycle based on a cycle of audit, planning and review. These principles need to be implemented into all health services, as they will serve a dual purpose of making review and reporting relevant at the community level, while also providing information to feed into the bigger picture of chronic disease systems development across the Northern Territory.

The NT is leading the way with the establishment of the key performance indicators for Aboriginal health, which all services will report on. In addition to this many services participating in the *Healthy For Life Program* will be required to report on progress against key indicators. These indicators should be linked to the priorities and direction outlined in the PCDS implementation plan. It is also important to establish review and monitoring systems at the local service level as this will assist with strengthening local service provision. Services such as CAAC and the Barunga clinic have been applying these principles over a number of years and can demonstrate definite improvements and robust systems as a result of implementing these practices.

In addition to health outcome indicators it would be useful to report on capacity indicators such as the vacancy rates and how long positions are vacant as this will also help explain outcomes being achieved and if funding for designated chronic disease activity is hitting the target activity.

### **6.3 Best Practice Clinical Guidelines**

The use of clinical guidelines to guide service delivery is integrated as core practice with remote health services and *Aboriginal Community Controlled Organisations*. They use the CARPA guidelines, and general practice use a variety of different guidelines and protocols. In the future there is a need for policy direction for urban based NTDH&CS staff as to which clinical guidelines they should follow for chronic disease care. The scope of practice for urban services is different to remote services. Therefore the CARPA guidelines are not always appropriate in the urban setting, nor are they consistent with general practice. Agreeing to a standard set of guidelines for urban service delivery will provide the basis for a common language when working in partnership with general practice and community controlled health services.

### **6.4 Patient information systems**

Chronic disease care is complex when a large number of patients need to be managed. Therefore the only efficient way to do this is through the use of an electronic patient information system. The lack of an information system in most remote and urban communities is a significant barrier to high quality care. This was as a major issue that arose as part of the stakeholder interviews.

PCIS was developed by NTDH&CS as the corporate patient information and recall system for remote health services in the Northern Territory. However the PCIS will not be implemented into all sites due to technical and infrastructure issues. It is unclear what the solution will be for those services where it will not be possible to implement PCIS.

In Central Australia there is a complete dearth of electronic information systems. The community physician and other service providers reported a high level of frustration with this situation and a lack of any alternatives to support clinical practice. Planning is underway to implement PCIS into some PHCAP zone communities, but not all communities within these zones. It is important that all services within a zone use consistent patient information and recall systems to facilitate data sharing and the training of the workforce.

At the present time there is no information system that supports urban service providers, or the renal units, to manage patient recalls and care plans. The type of information system needed to support chronic disease management and patient recall in urban community health services will be dependent on the model of care implemented for collaborative practice. The renal unit will need a similar system to remote health services as many of their clients on care plans will come from remote areas and hence a consistent system will facilitate information sharing. However the system will also need to be working and able to communicate with general practice. Therefore discussions will be required between these groups to identify what patient information management systems are needed and processes developed to put these into place.

Initiatives such as the *point-2-point project*, sponsored by the *Divisions of General Practice* are designed to improve communication and information sharing between service providers. To facilitate a collaborative approach to patient care with general practitioners the NTDH&CS services need to be able to use these systems to improve communication with general practitioners in the management of patient care.

Stakeholder interviews revealed poor compliance with the use of recall systems. Reasons given for this relate to both workforce capacity and training. It will be sometime before electronic systems are implemented more widely. Therefore developing strategies to improve the use of manual recall systems is essential to ensure patients are receiving high quality care.

## 6.5 Workforce orientation and training

A competent workforce is the key to delivering high quality chronic disease prevention and management. Ensuring access to orientation and ongoing education is a key objective in the PCDS to ensure the workforce is clear about what is required with regards to chronic disease prevention and management. While most organisations identified that they had an orientation program, stakeholder interviews revealed there were a number of barriers to ensuring that remote area staff received orientation.

NTDH&CS has an orientation program. However the high level of staff turnover means that not all staff receive orientation to the systems used in clinics, nor ongoing training to improve their capacity to deliver chronic disease prevention strategies, early detection screening, or clinical management of chronic disease. Ensuring the NTDH&CS orientation and chronic disease programs are delivered regularly is essential to ensuring that a critical mass of practitioners are trained in a consistent way.

All services identified a strategy for ensuring that their workforce has access to training programs that develop their skills sufficiently to deliver chronic disease prevention and management. Given the high staff turnover in the Northern Territory there is a need for ongoing training and specific topics associated with chronic disease care.

The *Pathways to Professional Practice Program* is based on a sound philosophy and provides a good model for replication in other Australian states as it has been proven to increase retention. Both government and *Aboriginal Community Controlled Health Services* identified it as a useful training program. The issue these organisations however raised was that they were not always notified when training programs are offered. Better notification of when training programs are being conducted will assist with improving the capacity of these services, and those in the non-government sector, to deliver chronic disease care.

The evaluation revealed that there are some staff within the NTDH&CS who have problems in accessing training programs due to the delivery methods i.e. week long course with inconsistent delivery frequency. Both urban and remote service providers reported that they found it difficult to attend courses due to lack of relief staff. Different and innovative delivery options should be explored for these staff to ensure everyone has access to these important training programs. The use of tele-health to facilitate this process has been flagged as something NTDH&CS will pursue in its *Building Healthy Communities* policy. This needs to be considered to ensure that all

remote staff can access training and a modular approach to training is used for urban services for which the one-week block program is not suitable.

Stakeholder interviews revealed their staff require more information than is currently delivered in the chronic disease module about renal disease, cardiac disease, and mental health. Consideration should therefore be given to enhancing the chronic disease module, or developing a second module, to provide more training about the management of these complex conditions.

The renal team reported difficulty in accessing general practitioners for training about renal care and the need for early referral to specialists. Early referral is essential to delay the onset of renal failure through intensive patient management. Linking in with general practice training programs will be essential to ensure information and skills development of GPs, will be included.

## **6.6 Indigenous workforce**

The employment of Indigenous Territorians is critical to the success of the implementation of any educational initiatives in the NTPCDS. Aboriginal people make up approximately 30 per cent of the NT population but less than 6 per cent of the public sector workforce. The NTPCDS identified the need for improved educational and employment opportunities to both prevent chronic disease and to create a workforce to address chronic disease. Opportunities to increase Aboriginal employment were identified during a review and programs, such as *Healthy for Life* and the establishment of the PHCAP zones, have increased opportunities for Indigenous employment.

A major challenge facing the NTDH&CS has been the declining Aboriginal Health Worker workforce in recent years. In the period between 1997 and 2004 there was a net decline in the number of registered health workers working in PHC teams in Central Australia from 100 in 1997 to 60 in 2004. The decline has not so great in the Top End with 144 workers employed in 2000 dropping to 130 in 2004. This is compromising the NT DH&CS capacity to deliver chronic disease care and prevention and health promotion programs. This issue is well known to the Northern Territory Government and strategies have been developed to improve training for health workers. Lack of an effective training program is not the only reason for the declining health worker workforce numbers. The lack of clarity concerning the role for Aboriginal health workers in the primary health care setting is also contributing to the marginalisation of the health worker workforce. Clarifying their roles in acute and chronic care will help to better target recruitment and retention strategies.

It was difficult to gauge the progress with improving Indigenous employment to report against the NT PCDS. Systems need to be established that set clear targets to increase capacity of this important workforce and to monitor and report on those targets in the future. This will ensure that there is a focus on actively recruiting and retaining indigenous workers at all levels of the NTDH&CS and as an essential part of the chronic care teams.

## **6.7 Prevention and chronic disease programs**

A major gap identified throughout this evaluation of the NT PCDS process, was the capacity to provide dedicated chronic disease and prevention programs. This is a function of both workforce skills development and the need for resources that are dedicated to this activity.

Prevention and health promotion programs were identified as the highest priority by the stakeholders interviewed. Urban community health services identified health promotion and prevention as core business. However very few regional and remote services could identify sustained prevention and health promotion programs.

The delivery of health promotion programs requires a distinct set of competencies and action is required to ensure that people with these skills are recruited, supported and embedded with primary health care teams to ensure that the full range of primary health care services are delivered in remote communities.

Some ACCHOs participating in *Healthy for Life* have established dedicated chronic disease programs e.g CAAC and Wurliwurlijang. Most services reported that the acute care demands on services prevented them dedicating staff to chronic disease activity. This is leading to inefficiencies and frustrations for other service providers. *For example:* the community physician in Central Australia reported that she needed to complete many basic clinical activities, such as immunisations, because of the lack of leadership on chronic disease care at the community level. In Katherine, ACCHOs identified difficulties with accessing allied health services. The only way to address these types of issues is to increase the number and mix of staff employed in, and visiting, primary health care services to enable them to create the capacity to deliver comprehensive primary health care services.

In the Top End there appeared to be a good coordination of services between the Remote Health Services and the Preventable Chronic Disease Team. However this was not the case in Central Australia. Poor coordination of service delivery between the PCD team and the remote health services in Central Australia was a major issue identified by stakeholders. Structures need to be established to facilitate coordinated planning of services delivered to avoid the silo approach to service delivery at the community level. *For example:* it was reported during interviews that many remote area nurses employed by NTDH&CS do not see chronic disease as core business for them and that this is the responsibility of the PCD team. It is clear that this is not the philosophy of the managers of the Remote Health Services, nor the PCD team. Yet due to the split in the organisational structure this is what is occurring on the ground.

Evidence shows that improving capacity for self-management in chronic care is how major gains in chronic disease outcomes occur. Many services reported they had received training in self-management and that it had been recognised as a key aspect of chronic disease prevention and management. Yet very few services were able to demonstrate that they had structured and integrated a self-management as part of the care planning process. The barriers to supporting self-management relate to the lack of time and appropriate workforce to support this activity.

All of these issues raised require dedicated and recurrent funding to support them and ongoing structured evaluation to measure the impact they are having.

## **APPENDICES**



*EVALUATION OF THE NT PREVENTABLE CHRONIC DISEASE STRATEGY*

## QUESTIONNAIRE

Name of Service:	
Date of Interview:	/ 05 / 2007
Service Type:	<input type="checkbox"/> NGO <input type="checkbox"/> NTDGP <input type="checkbox"/> NT HCS <input type="checkbox"/> AMSANT <input type="checkbox"/> ACCHS <input type="checkbox"/> Health Service <input type="checkbox"/> Service Population
Services Provided:	<div> <input type="checkbox"/> Clinical    <input type="checkbox"/> Prevention    <input type="checkbox"/> GP         </div> <div> <input type="checkbox"/> Education    <input type="checkbox"/> Primary health care    <input type="checkbox"/> Other         </div>

### SECTION 1 • ABOUT THE NTPCDS

1.1 Are you aware of the NTPCDS? YES NO (circle one)

1.2 Has it influenced your service in the past 7 years? YES NO (circle one)

If YES what aspect of the NTPCDS was the driver of change in chronic disease? \_\_\_\_\_

1.3 How have you implemented the NTPCDS? (*ie. Initiated specific services*)

☐ Programs    ☐ Education    ☐ Orientation    ☐ Other

\_\_\_\_\_

1.4 What approaches have you used to engage staff and others in this process?

\_\_\_\_\_

1.5 What has worked particularly well? \_\_\_\_\_

1.6 What has not worked particularly well? \_\_\_\_\_

1.7 Generally speaking if you could change one thing about your approach to implementing the NTPCDS what would it be? (*ie. mental health*)

\_\_\_\_\_

## SECTION 2 • CLINICAL

2.1 What clinical changes did your organisation **plan** to make as a result of the implementation of the NTPCDS?

- |   |                                   |  |
|---|-----------------------------------|--|
| <input type="checkbox"/> Services           | <input type="checkbox"/> Programs | <input type="checkbox"/> Care Planning |
| <input type="checkbox"/> Staffing/workforce | <input type="checkbox"/> Systems  | <input type="checkbox"/> Resource      |
- 

2.2 Of these what **actual** clinical changes did you make? *(If NONE go to Section 3)*

---

2.3 Was this a collaborative process? YES NO (circle one)

If YES who was involved?

- ☐ NTHCS ☐ AMSANT ☐ OATSIH ☐ DGP ☐ Other
- 

2.4 What process did you use to do this – how did you undertake it?

---

2.5 What impact has this had on – service, clients, health outcomes?

---

2.6 How have you measured this impact? *(Provide documentation evidence if possible)*

---

2.7 Were there any particular barriers to introducing this change? YES NO

If YES what measures have been adopted to overcome the barriers?

2.8 Did you require any additional resources to bring about this change? YES NO

If YES where did you access the resources and how?

2.9 If you could change one thing about implementing this process to improve its application what would that be? \_\_\_\_\_

- 2.10 Generally speaking, on a scale of 1-10 how would you rate your success in the implementation of the clinical services related to the NTPCDS?

poor			adequate			good		excellent	
1	2	3	4	5	6	7	8	9	10

### Section 3 • WORKFORCE

- 3.1 Have you had any major changes to your workforce structure that specifically addresses chronic disease? YES NO (circle one)

If YES what impact has this had?

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- 3.2 Has your mix of staff changed to deal with these issues? YES NO (circle one)

If YES in what way has it changed?

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- 3.3 Have you employed any additional Indigenous staff or improved the employment opportunities for Indigenous staff as a result of this process? YES NO

If YES, how many new indigenous staff? \_\_\_\_\_

What resourcing was used, how is this going? \_\_\_\_\_

- 3.5 Do you have a structured orientation process that orientates staff to the underlying causes of CD? YES NO (circle one)

If YES how was this process implemented? \_\_\_\_\_

---

When is it implemented? \_\_\_\_\_

Where was the process implemented? \_\_\_\_\_

- 3.6 Do your staff receive ongoing, onsite support and training to improve their skills in this area? YES NO (circle one)

If YES how is this implemented? \_\_\_\_\_

---

When is it implemented? \_\_\_\_\_

Where is it implemented? \_\_\_\_\_

What has been the impact? \_\_\_\_\_

\_\_\_\_\_

- 3.7 What barriers have you had to implementing changes to the workforce structure?

\_\_\_\_\_

\_\_\_\_\_

- 3.8 Generally speaking, on a scale of 1-10 how would you rate your success in the changes to workforce and their training related to chronic disease?

poor			adequate			good		excellent	
1	2	3	4	5	6	7	8	9	10

## SECTION 4 • PROGRAMS - HEALTH CENTRES & GENERAL PRACTICES

- 4.1 Did you have any CD programs running in your health centres or general practices dealing with *early detection* and *best practice* management? YES NO (circle one)

If YES what is this program? \_\_\_\_\_

When does this program run and how often? \_\_\_\_\_

What are the strengths and weaknesses of the program? \_\_\_\_\_

- 4.2 Do you have designated staff to run these programs? YES NO (circle one)

If YES how is this organized? (*ie. specific funding*) \_\_\_\_\_

\_\_\_\_\_

- 4.3 Do you use *best practice* guidelines? YES NO (circle one)

If YES which ones:

- |  |  |
|--|--|
| <input type="checkbox"/> CARPA                     | <input type="checkbox"/> Women's business manual |
| <input type="checkbox"/> Diab Australia Guidelines | <input type="checkbox"/> Alcohol and Other Drugs |
| <input type="checkbox"/> AHW medicines book        | <input type="checkbox"/> Other                   |
| <input type="checkbox"/> Bush Book                 |  |

- 4.4 Briefly recount any anecdotes you have related to *early detection* and *best practice* management in terms of the following programs:

- |                                   |  |                                     |
|-----------------------------------|--|-------------------------------------|
| <input type="checkbox"/> Diabetes | <input type="checkbox"/> Physical Activity       | <input type="checkbox"/> PHC        |
| <input type="checkbox"/> Renal    | <input type="checkbox"/> Environmental Health    | <input type="checkbox"/> Alcohol    |
| <input type="checkbox"/> CVD      | <input type="checkbox"/> Childhood Malnutrition  | <input type="checkbox"/> No Smoking |
| <input type="checkbox"/> MH       | <input type="checkbox"/> Maternal / Child Health | <input type="checkbox"/> Other      |

- 4.5 Have you worked with any other organisations in developing or implementing these programs? YES NO (circle one)

If YES how has this worked? (*ie. Inter-sectorial action*) \_\_\_\_\_

- 4.6 Generally speaking, on a scale of 1-10 how would you rate your success in the implementation of the program related to the NTPCDS?

poor			adequate			good		excellent	
1	2	3	4	5	6	7	8	9	10

## Section 5 • Prevention

(This section for **ACCHOs** and **NGOs**)

- 5.1 What key preventative programs are you currently funded to deliver?  
*Indicate TICK in the chart below.*
- 5.2 What was the month/year program delivery first commenced?  
*Indicate response in the chart below.*
- 5.3 Since the NTPCDS was introduced in 1999, have you developed or conducted any new prevention activities? *Indicate Y/N in the chart below.*

Program Funding	Mth/Yr	New	Program Funding	Mth/Yr	New
<input type="checkbox"/> Diabetes			<input type="checkbox"/> Environmental health		
<input type="checkbox"/> Renal			<input type="checkbox"/> Physical activity		
<input type="checkbox"/> CVD			<input type="checkbox"/> No smoking		
<input type="checkbox"/> MH			<input type="checkbox"/> Childhood malnutrition		
<input type="checkbox"/> PHC			<input type="checkbox"/> Maternal and child health		
<input type="checkbox"/> CPD			Other		
Alcohol					

5.4 Did you require any additional funding? YES NO (circle one)

If YES where did you receive the funding from? \_\_\_\_\_

5.5 Were these programs population specific? YES NO (circle one)

If YES indicate population types:

- ☐ 0-5 yrs      ☐ School age      ☐ Children  
☐ Women      ☐ Men      ☐ Aged      ☐ Other

5.6 Do you work with government to deliver these programs? YES NO (circle one)

If YES how does this work, have the programs grown/increased? \_\_\_\_\_

5.7 What major barriers to success that you think the NGO and Controlled sector experience in delivering preventative programs?

*(Provide supportive documents: evidence/statistics)*

5.8 Briefly recount any anecdotes you have related to working with government to deliver prevention and health promotion programs – strengths and weaknesses.

- 5.9 Generally speaking, on a scale of 1-10 how would you rate your success in the prevention of diseases included in the NTPCDS?

poor			adequate			good		excellent	
1	2	3	4	5	6	7	8	9	10

## Section 6 • Funding

- 6.1 In relation to implementing CD activities or programs, have you received any other specific funding that you have not yet mentioned? YES NO (circle one)

If YES where has this funding come from?

☐ NTDHCS ☐ OATSIH ☐ DHCS ☐ S100 ☐ DGP ☐ Other

- 6.2 What successes have been achieved via funding in relation to:

Programs? \_\_\_\_\_

Workforce? \_\_\_\_\_

- 6.3 What have been the barriers to implementing CD programs due to funding processes?

- 6.4 Have you introduced any policy changes as a result of the PCD strategy being implemented?

- 1.5 What has worked particularly well?

- 1.6 What has not worked particularly well?

## Section 7 • Systems

I'm now going to ask you about your *Information* and *Patient* systems as we realise that using a systematic approach to the management of chronic disease improves the health outcomes.

- 7.1 Have you taken part in any process to assist you in the management and use of Patient Information Systems in your organisation? YES NO (circle one)

7.2 Which systems do you currently use to manage your information?

- ☐ Ferret      ☐ Communicare      ☐ Medical Director      ☐ CD recall CDR
- ☐ CCTIS      ☐ CARDEX      ☐ Total Recall      ☐ Paper based      ☐ Other

7.3 How long have you been using it?

- ☐ 0-2 year      ☐ 2-4 years      ☐ 4-7 years      ☐ 7-10 years

7.4 What training has your staff undertaken in their use?

7.5 How do you use the data and information that you gain from the system?

Reporting to	When	Feedback cycle
ACCHOs		
Board		
Don't		
ABCD		
Other		

7.6 What are the strengths of using this system?

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7.7 What would you like to improve about your use of this system?

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7.8 What do you need to be able to do this?

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## Section 8 • Summary questions

- 8.1 Overall where do you think you have made the 3 greatest improvements in chronic disease prevention and management in the past 7 years? *(Tick or list three)*
- ☐ Clinical      ☐ Services      ☐ Programs      ☐ Prevention      ☐ Workforce  
☐ Systems      ☐ Other *(list below)*
- 8.2 What are the 3 areas that you think need the greatest improvement to prevent and better manage chronic disease?
- ☐ Clinical      ☐ Services      ☐ Programs      ☐ Prevention      ☐ Workforce  
☐ Systems      ☐ Other *(list below)*
- 8.3 If you could make one significant change about what is currently occurring what would that be?
- 8.4 Is there anything I did not ask you that you would like to talk about and have fed into this evaluation?

## **STAKEHOLDER INTERVIEWEES**

### **NT Preventable Chronic Disease Program Evaluation**

#### **1. NT DEPARTMENT OF HEALTH AND COMMUNITY SERVICES DARWIN**

##### **Preventable Chronic Disease Program/ Top End Remote Services/ Maternal and Child Health program/Nutrition and Physical Activity program**

Ms Rachel McGuin	CDN Coordinator
Ms Joy Pascall	PHN, PCD Program, Gove
Mr Brad Palmer	Top End Coordinator, Maternal and Child Health program
Mr Christopher Cliffe	Director of Nursing, Top End Remote Services
Ms Cynthia Croft	Top End Coordinator, PCD Program
Dr Christine Connors	PCD Program Director
Ms Marlene Liddle	Strong Women Program Coordinator
Ms Robin Lion	Urban Nutritionist, NAP program
Ms Jason Bonson	Aboriginal Male Health Coordinator, PCD Program
Dr Mike Nixon	DMO, Top End Remote Services
Ms Pam Gollow	Top End Coordinator NAP program
Dr Jenni Judd	Senior Health Promotion Officer, PCD Program
Ms Leonie Conn	Women's Health Educator, PCD Program
Dr Tarun Weeramanthri	Chief Medical Officer
Dr Michael Lowe	Previous Community Physician

##### **Renal Group**

Ms Gill Gorham	Senior Policy Officer, Renal Acute Care
Ms Joy Ellis	Renal access and Anaemia Coordinator
Ms Elaine Bowen	Renal NUM, Nightcliffe Dialysis Unit
Dr Paul Lawton	Renal Physician, Royal Darwin Hospital

##### **Urban Community Health**

Ms Carol Atkinson	Manager, Community and Primary Care services
Ms Moira Stronach	CY & FHSS
Ms Tricia Hoffman	Social Worker, CCC
Ms Debbie Smith	Aboriginal Health Worker, PCCC Palmerston
Ms Coralie Brannelly	RN PCCC Palmerston
Ms Helen Lonigan	CNM Cas Com Care

#### **CENTRAL AUSTRALIA**

##### **Remote Services**

Ms Michelle Evison-Rose	Director of Nursing
Mr Brycen Brook	PHCAP Project officer
Dr Allan Evans	Senior, DMO

##### **Central Australia Specialist Outreach (CASO)**

Dr Ciara O'Sullivan	Community Physician (Telephone 22/6/2006)
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**Preventable Chronic Disease Program**

Ms Valmai McDonald	Health Promotion Strategies unit professional development & support function
Ms Alison McLeay	Coordinator nutrition & physical Activity team
Mr Alan Palmer	Male Health Worker
Ms Julie Wright	Female Health Worker
Ms Lynette Winter	
Ms Kellie Schouten	

**2. NON GOVERNMENT ORGANISATIONS****Good Health Alliance NT**

Ms Anne Kemp	CEO, Healthy Living, Northern Territory (Darwin)
Ms Jill Milner	Health Educator, Arthritis and Osteoporosis NT
Mr Greg Hallen	National Heart Foundation
Ms Jan Saunders	Asthma Foundation NT
Ms Helen Smith	Cancer Council of the Northern Territory
Ms Eva Sarr	National Heart Foundation (Central Australia)
Ms Jane Boughen	Healthy Living NT (Central Australia)

**3. GPPHCNT & TEDGP**

Ms Brooke Kimberly	Good Life Team, TEDGP
Ms Jill Naylor	Public Health Project Officer
Ms Kerry Copley	

**4. AMSANT**

Mr Rob Curry	CEO
Dr Tanya Davies	Acting Medical Advisor

**5. COMMUNITY CONTROLLED HEALTH SERVICES****Central Australian Aboriginal Congress**

Dr John Boffa	Public Health Medical Officer
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**Katherine West Health Board**

Mr Eric Turner	
Mr Greg Henschke	
Ms Danielle Aquino	

**Danila Dilba**

Mr Kane Ellis	Practice Manager
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**Wurli Wurlijang**

Dr Brad Gray	
Ms Gwenda Gleiss	
Ms Sue Mark	

**Aboriginal Medical Service**

Senior Medical Officer
Health Worker CD program
Chronic Disease program

**Sunrise Health Service**

Dr Naru Pal	Senior Medical Officer
Dr Khan	Medical Officer, Chronic Disease

**CADPHC**

Ms Sue Korner	CEO
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### APPENDIX 3. Chronic Disease Registers And Recall Systems

Year	Type	Background	What is it? / Evaluation
1993  Communities where DMO delivers services	Chronic Disease Register (CDR)- II	<p>First established as a chronic disease register to support DMO practice in 1993 in the Top End in 1993. It was replaced in 2000 with and Access Database CDR – II</p> <p>The system is designed to support the needs of DMOs enabling them to create chronic disease registers and recall as well as record and print prescriptions and report on chronic medications</p> <p>DMO's estimate that the 25-50% of patients presented from the CDR II generated recall lists</p>	<p>Each District Medical Officer (DMO) has a laptop that is taken to health centres and data downloaded onto the centralised database on return to 'town'. Only DMO's can enter data and in most cases local staff do not have access to the system. The DMO generates the recall lists that commonly are for Chronic Disease, Pap smears, frequent tests and medications, patients for DMO review and ARF/Rheumatic Heart Disease checks.</p> <p>Many communities have large gaps in the patient records kept by CDR II because where resident GPs have been employed for periods of time, who do not use CDR –II, data stops being recorded in CDR-II. It has never been formally reviewed. Despite this, Schatz recommended that stand alone versions of CDR II be used across the NT <sup>(40)</sup>.</p>
1997 Central Australia remote clinics	Cardex recall system is currently the authorised system	<p>An initial chart audit places people on lists according to diagnosis and need for recall.</p> <p>This system is organised by activity rather than individual patient actions and relies on lists of patients that are based on tasks or program areas.</p>	<p>It was found to be difficult to identify recall scheduled services for an individual patient, as the provider is required to search through a number of lists that could be relevant for each patient.</p> <p>Utilisation of recall systems is not consistent across all communities.</p>
1999 Top End remote clinics	Total Recall is currently the authorised system	<p>It is based on a chart audit, recall system, which is stored in folders in program areas</p> <p>The original Total Recall system had a strong emphasis on active recall for specific program areas, however it is not easy to use opportunistically when patients present for other interventions.</p>	<p>Monthly lists of recall is developed and stored on different recall lists/cards requiring practitioners to go to different locations to find info.</p> <p>PHN's are maintaining the recall system in many communities because of acute care demands on local staff</p>

Year	Type	Background	What is it? / Evaluation
1998-1999  Nguui  KWHB (2005)	<b>Co-ordinated Care Trial Information System (CCTIS)</b> <sup>(111)</sup> .	Devised for the CCT's, where the paper population-based care plans and files were "uploaded" in early 1998 then added as people signed on to the trial.  Training in computer use was given to all staff throughout 1998 and 1999.  The entire system was due to be replaced with Primary Care Information System (PCIS) in late 2000, however CCTIS was still being used in Nguui in 2005.	In 2005 the recall system could still not be accessed by Rural Nurses (RN) or AHWs as lists were generated by the DMO and given to RNs and AHWs at separate clinics.  In 2005, after evaluating PCIS in one community, KWHB changed over to using Communicare in all its health centres.
<b>2000</b> CAAC, Anyinginyi Health Tenant Creek, Amoongoona, Sunrise Health Board (2002) Katherine West Health Board, (2005)	<b>Communicare</b> Patient information and recall system that supports a population health approach.	Funding provided to Community Controlled Health Services to implement Patient Information and Recall Systems: Modules included enable <ul style="list-style-type: none"> <li>• Printing of population lists</li> <li>• Clinical recording of client consultations</li> <li>• Care planning</li> <li>• Recall and reminder function</li> <li>• a prescribing module</li> <li>• pathology module and</li> <li>• Health Insurance Commission (HIC) online module.</li> </ul>	Used to support chronic disease recall and care planning as well as acute care patient needs.  The systems utilisation has improved with participation in Healthy for Life, ABCD, and CIP for services that participated in that program.  Reporting function being upgraded in 2007 to support HFL reporting
<b>2000</b> Wurliwurligang, Lahnupuy Homelands, Miwatj health Service	<b>Ferret</b> Patient information and recall system that supports a population health approach.	Funding provided to Community Controlled Health Services to implement Patient Information and Recall Systems: Modules included enable <ul style="list-style-type: none"> <li>• Printing of population lists</li> <li>• Clinical recording of client consultations</li> <li>• Care planning</li> <li>• Recall and reminder function</li> <li>• a prescribing module</li> <li>• pathology module and</li> <li>• Health Insurance Commission (HIC) online module.</li> </ul>	Ferret does not generate a full electronic medical record; it supplements rather than replaces the client's chart, which remains the medico-legal document. Ferret is intended to assist staff in planning service delivery both for individual clients and at the community level.  Reporting function being upgraded in 2007 to support HFL reporting

<b>Year</b>	<b>Type</b>	<b>Background</b>	<b>What is it? / Evaluation</b>
<b>2000</b>  GP services Ampilatwatja Health Service	<b>Medical Director.</b>	Medical Director is largely used by general practitioners and in a few selected communities. Medical Director has a number of functions that support clinical practice including: <ul style="list-style-type: none"> <li>• Care planning</li> <li>• Recall</li> <li>• Pharmacy prescribing</li> <li>• Pathology ordering and results</li> <li>• Clinical patient records</li> </ul>	The system is mostly used by GP's and where it is being used by a team lists are generated to direct action rather. The system is mainly used by the GP rather than the whole health team.
<b>2003</b>  Bagot Clinic Binjari Jabiru	<b>Primary Care Information System (PCIS)</b>	PCIS developed from CCTIS. A 2005 review of PCIS found that a large number of urgent problems required fixing. It recommended that 'The NTDHCS go ahead with adopting the system as the major recall system for chronic diseases. One of the most important of these was to gain buy-in from clinicians as there was widespread distrust of the new system. The system has the capacity to <ul style="list-style-type: none"> <li>• Print population lists</li> <li>• Clinical recording of client consultations</li> <li>• Care planning</li> <li>• Recall and reminder function</li> <li>• A prescribing module</li> <li>• Pathology module and</li> <li>• Health Insurance Commission</li> </ul>	PCIS is currently being used by a number of small health centres. It continues to be under development by the NT DHCS for implementation into a larger range of facilities.
St Theresa Renal Unit MSOAP	<b>Other electronic systems</b>	These are adhoc systems that have been developed to fill a gap in a corporate system being available. They include spreadsheets, specific databases etc  These systems are not supported by IT services, have limited documentation if any, training is limited.	These systems are used by individual and are not networked to other systems. They are dependent on the interest and skills of individual staff members. They are often limited to individual staff members and are lost when the staff change.

Year	Type	Background	What is it? / Evaluation
	<b>Other manual systems</b>	<p>A range of other manual recall systems/processes are used to flag activities due:</p> <ul style="list-style-type: none"> <li>➤ monthly paper lists,</li> <li>➤ whiteboard lists and</li> <li>➤ diaries.</li> <li>➤ cards inserted into files,</li> <li>➤ stamps on files,</li> </ul>	All of these strategies are dependent on staff preferences and likely to change when staff change.

## **APPENDIX 4. Ethnographic Field Study**

### **Ethnographic field study of people's perceptions of health, health services and chronic disease. Northern Territory.**

Kate Senior and Richard Chenhall  
*Menzies School of Health Research*

#### ***Introduction***

The move from an acute care model of health service delivery to one that focuses on chronic disease involves major cultural changes in the beliefs and practices of health centre staff and also the expectations and behaviours of the people accessing health services.

This paper is designed to examine Indigenous client's perception and experiences regarding health care in general and chronic disease in particular. It draws on material from two communities in Arnhem Land as case studies for the implementation of the chronic disease strategy.

This document was prepared for the NTDHCS review of the NT Chronic Disease strategy. It documents the results of a pilot study of two communities undertaken with the aim of assessing how the changes brought about by the chronic disease strategy are experienced by the clients of the strategy. This paper was funded by part of a grant for the development of an evaluation framework for the Chronic Disease Strategy and is intended to inform part of this development. Because the paper is intended as part of audit of the Chronic Disease strategy, and as a pilot to develop future research questions, it has not gone through the ethics review process that is usual for academic research. It is therefore not for publication, but is an internal document of the DHCS.

#### ***Chronic disease and the importance of individual responsibility***

A key concept which underpins the chronic disease strategy is the idea of individual responsibility. Individuals must be informed about their disease or their disease risk and be actively involved in prevention, or if already diagnosed, management of their condition.

*" medical care then must assure that persons with chronic disease have the confidence and skills to manage their condition; the most appropriate treatments to assure optimal disease control and prevention of complication; a mutually understood care plan; and careful, continuous follow-up"<sup>(112)</sup>.*



An important background to this study is Senior's (2001, 2003) research in the Ngukurr community which explores people's understandings of health and illness, their interactions with the health centre and barriers to taking responsibility for their own health.<sup>(113, 114)</sup> She described a complex interaction of factors which effectively prevented people from engaging in a positive health promoting way with their health services. These included people's understanding of the health centre as a place of sickness, rather than a place that a person would visit to enhance their health or prevent disease. Because people were reluctant to attend the clinic, except in the case of a medical emergency, their perception was that it was a place of sickness and death:

*People don't want to know about sickness inside, if they find problems they'll go and chop you up and then you'll have sickness. As soon as you touch hospital you get sickness. Medicine that they give us, it kills us that's why we stay away from the clinic. If someone told me that my brother or sister has cancer then the whole family would be sick with worry*<sup>(113)</sup>

People's beliefs about the causation of illness also affected the way that they interacted with the health centre and their perceived capacity to make changes to their lives that would improve their health and prevent the onset of illness. Sorcery is considered to be an important cause of sickness and death in the community. Although sorcery is often used as a punishment for social or ritual wrong doing, people also state that it can be used maliciously (motivated by jealousy or greed) and that it can also be accidental (it may miss its mark, or it may be inflicted by malevolent non human agents).

A belief in sorcery, and its often accidental or arbitrary nature, means it is very difficult to argue that changes in behaviour (i.e., giving up smoking) will have positive health benefits. A sense of vulnerability and fatalism means that it may be preferential to retain habits that improve quality of life in the short term, rather than make difficult changes which may in the end be ineffectual.

The history of the community and especially the legacy of the Mission also influenced people's understanding of health and capacity to take responsibility for health. The missionaries enforced good health, but they did so by actively intervening in people's lives (i.e. ensuring the hygiene of houses, monitoring the care of babies, providing meals through a refectory). The response to this has taken two paths. The first is of resistance, people actively oppose what they see as the values associated with non-Aboriginal life in general and the Mission in particular.

For example one elderly woman who grew up during the Mission Era commented that her daily work involved:

*Cleaning and scrubbing floors on my hands and knees, cleaning the louvers –*

*everything was scrubbed by hand, cleaning up the rubbish. We learnt how to look after a home the good way.*

She commented that this was the way to stay healthy, because things were different when you are living in a house and not the bush, but her children strongly opposed these ideas:

*I tell my own daughter how to do it, but all she says is "we're not Munanga - we don't want to live Munanga way." (114)*

The second type of response is an expectation that services will intervene to an even greater extent in people's lives than is the current situation. For example many people in Ngukurr considered that a move to community controlled health should involve a health service that visited people in their houses so that they didn't have to attend the local health centre <sup>(114)</sup>.

Another factor which underpins the success of the chronic disease strategy is how innovations in practice and behaviour are accepted by community members and how knowledge of new behaviours is disseminated through the community. The research of Reid (1983) and Rowse (1996) demonstrates that people in remote Aboriginal communities, will accept and accommodate new ideas about health and illness and that traditional cultural beliefs about the causation of illness are not an insurmountable barrier to change. <sup>(115, 116)</sup> But these changes must bring about positive and tangible benefits and be able to be accommodated within people's cultural repertoire. An understanding of the community and the beliefs of the people within it, and also an understanding of the dynamics of knowledge transfer within the community, would appear to be fundamental to the success of interventions such as the chronic disease strategy. As Senior (2003) pointed out, the assumption that a group of people who are exposed to an innovation will actively disseminate the new information throughout the community can be misguided. She described a hygiene education program carried out at a Women's Centre, where the women considered that the information provided to them was privileged as not to be shared with others <sup>(114)</sup>.

### **Traditional understandings of health and illness**

Cultural beliefs about health and illness are not unchanging. Authors such as Rowse (1996) and Reid (1983) point out Aboriginal people are adaptable and pragmatic and will incorporate new things into their lives (such as clinics and aspects of Western medicine), which they see to be beneficial. <sup>(115, 116)</sup> Reid pointed out that this new knowledge gave individuals "an extended range of possibilities to draw explanations of causality from, which gave "doubters, thinkers and innovators room for manoeuvre". <sup>(115)</sup>

New beliefs do not replace the old, they are incorporated into the belief system, so Aboriginal people can be described as having a plurality of health beliefs. Because of this, it is important to gain an understanding of “traditional” health beliefs to obtain an understanding of the possibilities for potential conflict and barriers between these and the largely biomedical model practiced by the Health Centres.

Reid (1983) has stressed the importance of understand Aboriginal socio-medical theories of illness where people consider that most illness is the result of either neglect of a person to maintain correct social and ceremonial obligations or because of malevolent actions of others. She suggests that Aboriginal understandings of illness among the Yolngu of Arnhem Land provide ultimate explanations for sickness and death with which Western medicine cannot compete.

*The primary function of the sociomedical theory is to provide understanding when the loss of a member of society is a reality or a threat. The theory links perhaps the most uncertain, and therefore anxiety-ridden area of human experience, that of health and ill-health, to the most pervasive and culturally structured area, that of human relations. It explains variations in one by variations in the other: if personal or clan conflicts become more frequent, the incidence of sickness will rise. The immediate cause of the illness or death is usually sorcery. The ultimate causes, however, are disturbances in social relationships*<sup>(115)</sup>

It is further “internally logical, self validating, strategically useful and, in the case of new ideas and events, flexible”<sup>(115)</sup>. This is particularly evidence in the post-colonial era where various social, economic and political changes have occurred in Aboriginal society with increasing community intensification and the blurring of social boundaries. Without the traditional means to carry out order and control, such as *makarrata*,<sup>(115)</sup> due to imposition of the Australian legal system and police presence, there has been an increase in accusations and suspicions of sorcery. This is often most evident when comparing the attitudes surrounding living in large communities amongst unrelated kin and other associated perils with life in homeland centres which are depicted as providing security and protection amongst kin. Since deaths are rare in homeland centres, as the very sick are evacuated to hospital, people are rarely confronted with the possibility of sorcery.

## **Methods**

Two communities in Arnhem land were selected to form case study sites. These communities were selected on the basis that they represented two quite different situations as regards to health service delivery. Also the researchers had already established good contacts in the communities. This is important as the time frame of this study allowed one week in each community. This is very minimal for an in-depth ethnographic study if the researchers had no prior experience in these specific communities.

A number of methods were used including group discussions, semi structured interviews and participant observation. These were conducted generally within the community and specifically within the health centres and council offices. We also conducted interviews with health centre staff, to obtain their perspective on the barriers to successfully engaging with the community. Permissions was sought from the Community council and the health board of each community.

### ***The settings***

Both communities were in Arnhem Land and were closely related in terms of movement of people and cultural beliefs and practices. Their current systems of health care delivery were quite different.

Community A has a population of approximately 900. The health services are provided by the Northern Territory Department of Health and Community services through the health centre clinic. The clinic has a staff of two registered nurses, one doctor, four health workers, one driver and a receptionist.

The clinic has a verandah which serves as an outside waiting area, a central consultation area, a women's room, dentist's room, doctor's office, an emergency room and a tea room. The nurses and health workers consult initially in the central open area of the clinic and minor illnesses and chronic disease checkups are dealt with here. Patient files, which are filed under first name, are kept in the reception area. There is another separate set of files which are for the chronic disease patients; these are kept in the central consultation area.

As an institution the clinic is an important focus of community attention. It is the place where people put up posters and flyers advertising community events, for example while we were at the clinic, students from the school brought in posters advertising adult education. Because people tend to drift in and out of the clinic building, it is difficult to determine who the patients actually are.

Other services are provided to the health centre through visiting teams from the Department of Health and Community Services, from both Nhulumbuy and Darwin and also through Miwatj. During the week that we were in the community, the clinic had several visiting teams, including an eye health team, a foot health team, a mental health team and a public health nurse. It was not clear if any of these groups knew that the others were going to be there, which suggests that there is the potential for improving the coordination of services.

Community B has a population of 1000. It has recently become part of a regional community controlled health service. Previously the clinic was run by the Department of Health and Community Services and was characterized by the long term employment of the RN. Subsequent to the resignation of this person, staffing has been more unstable. There has also been a reduction in the number of health workers at the clinic. The clinic itself is very similar to that of community A. Much of the initial consultation and diagnosis is done in a public waiting area. This practice deters people from visiting the clinic, due to the potential for embarrassment. Unlike community A, the clinic is at the edge of the community and it is not a place where people congregate. Instead, a driver is employed to collect people to come to the clinic. There is no resident doctor in the community, although it is hoped that there will be one soon.

### ***Health concerns in the community***

In both communities, people compared the current state of health unfavourably with that of the past.

*"In the past men were strong, they had big bodies, but now they are nothing, all that Munanga food. In the old days they used to grow bananas, cabbages, carrots, everything, they even tried to grow rice. There was not much sickness then"*

Diet was mentioned in both communities as an important contributor to the poor health profile. In community A, people commented that there were very few healthy food options at the local takeaway and that fresh fruit and vegetables were very expensive. The store carried a range of fruits and vegetables, although these were expensive (\$4.60 for an iceberg lettuce, \$4.50 for half a Chinese cabbage). Meat was reasonably priced, but the choice was limited. Only white bread was available. The take away's most popular food was fried chicken, although some lower fat options such as chicken wraps and sandwiches were available.

The health workers commented:

*"people know about good food, but sometimes they don't want to cook it, sometimes they don't have the pots and pans to do the cooking in the house"*

Other people in community A commented that buying “good healthy food” from the shop was something of a luxury and that people only did this on pay day-the rest of the time they relied on takeaway food.

In community B, Council had intervened in the types of foods that were available in some of the takeaway outlets, particularly those at the school and at the swimming pool complex. They had also (unsuccessfully) tried to prevent Coca Cola from being sold at any retail outlets in the community. Although healthy options were available, the most popular takeaway foods remained fried chicken and chips. The store had placed various health promotion signs concerning diet around the store and the store keeper stated that they often had to educate consumers about how to cook foods when they were first introduced into the store. However, this assumed that people had the means to cook these foods including working stoves, cook tops and pots and pans which were not evident in many households.

In both communities there may be more complex reasons why takeaway food is preferable to food that is prepared at home. The themes of people being poisoned through their food being tampered with (usually through sorcery) were common. As reported in Senior:

*"They'll try and poison me, lots of ways to do it. They could poison my food, my tea, my meat, my chewing tobacco. When we go out we take all our food inside, put it in the fridge and lock the house. You can't leave things lying around".* <sup>(114)</sup>

Because of this risk, fast food prepared by non-Aboriginal people and sealed in individual plastic containers, could also been seen as safe food.

Alcohol and substance misuse were also considered by community members to be important contributors to the poor health profile. Both communities have alcohol restrictions, and community B is attempting to extend these restrictions to encompass a hundred kilometer zone around the community.

Petrol sniffing was a serious problem in community B but ceased in early 2005 due to the introduction of Opal fuel and combination of other factors (see <sup>(117)</sup>). Marijuana is considered to be a problem in both communities, both because it affects mental health and because it is expensive, leaving families with little money left to purchase food.

*"Young people, they are not healthy-they smoke too much ganja. People know its bad, but they still don't stop, some people go crazy"*

Finally fighting, social unrest and sorcery were feared as causes of sickness and sudden death in both communities. At the time when we were conducting this research fear about sorcery

became the main priority in many people's lives, overriding many other concerns, including health.

### ***Management of Chronic disease patients***

In both communities a card system is used to record the details of the chronic disease patients. These patients are called in to the clinic for check ups every three months. Although some people did attend the clinic voluntarily while we were there for their checkups, it is clear that the majority have to be collected and brought to the clinic. One of the nurses in community A commented that the success of any screening or recall for checkups depends on "how persuasive the driver is".

Many of the people we talked to in the clinics were people who diagnosed with a chronic disease and had become familiar to the regime of care and check-ups that their condition imposed on them. It was interesting that people with chronic diseases often considered themselves to be healthier than the general population, because of their regular contact with the clinic (this is also noted in Senior 2003).

These people were generally favourable towards the idea of check ups-as one woman in community A commented:

*"it's good to go to the clinic, they check you out inside"*

Another woman commented:

*"I'm not worried about going to the clinic, the clinic helps you look after yourself"*

Some of the chronic disease patients become diligent in their own self management. While we were in the clinic in community A, two elderly women, came in for checkups. One had just returned from her outstation, and was visiting the clinic as her first priority and the other was just about to go out to her outstation and was visiting to ensure that she had enough of her medication for the period that she would be away.

### ***Screening and early detection***

Although people who had been diagnosed with a chronic condition were generally in favour of screening for disease in the community, some people who had less contact with the clinic were hostile to the idea. Some people considered that being screened would become the first in a series of steps to being diagnosed with a disease, to being removed from the community for treatment and finally to death and autopsy:

*If I am sick, I will just die it's a natural thing. They can't fix you, Aboriginal people always die when they are operated on, they always die of a heart attack and then when you die they cut you up like a bullocky.*

An issue of concern, in both communities surrounded the need for blood tests and also people's lack of understanding of what their blood was being taken for and what would be done with it:

*"You Munanga are always testing us for things. Always blood tests, cut your finger and take blood. You are not allowed to take blood in our culture, in our culture you are breaking the law. Blood is respect our body is an important thing, so important that it shouldn't be treated like the nurses and health workers treat it. They draw blood out of you and send it away-no way"*

Some people considered that there were more appropriate ways to "see inside the body" and determine any health problems than taking blood. A community leader in community B suggested that blood tests were part of the inferior service generally provided to Aboriginal people:

*We should have an x-ray every year. We used to have x-rays before, when we had the missionaries. Its much better than taking blood, it shows us exactly how we are sick and then you can get the right medicine and be sent to Darwin and you'll be alright"*

## **Education**

There was in both communities a difference between how staff at the health centres (particularly) the nurses understood health education and how the community expected such information. The nurses offered education as part of a consultation, carried out in private in the health centre. A story is told, often illustrated with graphic pictures of the results of untreated disease (a strategy which is particularly popular in sexual health). Despite these efforts, health staff comment that this provision of information is often seen as another part of the ritual of attending the health centre and not something that needed to be acted on.

One of the health workers at community B described people in the community as having "no ears" they simply didn't want to listen to the information she was providing them, their objective was to get their condition treated and be out of the clinic as soon as possible. Community members considered that education about good health should be outside of the clinic. One leader said that the lack of such education was a deliberate strategy to keep Aboriginal people unhealthy:

*"They are not teaching us that stuff (information about avoiding chronic disease) at the clinic. This mob at the clinic they are not helping anyone out, they don't tell people how*



*to be healthy, how to get rid of disease. I think that Aborigines are going to have health problems for ever"*

Health workers in both communities talked about the need to go out of the clinic to provide education in the community. They acknowledged however, that this would be difficult work:

*"We try to have community meetings about health-but people are still stubborn-some people listen, some don't.*

In community A, the health workers commented that engaging with the community was very difficult because many people were too shy to talk about health or that they were simply not interested. One of the health workers commented that she did home visits for young mothers and that she also had meetings for them to discuss their problems, but it was always the same group of people that attended. She said that she was very aware that she was not reaching everyone who needed help.

Health workers in both communities said that they found it difficult to balance the demands of their work in the clinic and the need for providing education. Some said that they had been discouraged by other staff members from providing community based education, because it took up too much time.

### ***Discussion and conclusions***

In both communities, it is clear that once someone is diagnosed with a chronic disease, they are generally managed well by the staff at the health centres. Part of this management appears to have been in fostering a sense of self responsibility and self management, as people with chronic diseases appear more likely to be active in their own health care than the general population. It did appear, however, that the clinic had to actively encourage people to come to the clinic and provided a car and driver for this purpose. In some cases, people's attendance at the clinic was akin to a ritual encompassing a set of behaviours that were appropriate to the setting, such as listening to health education messages. For some people this event, in itself, was seen as conducive to good health maintenance precluding changes outside the clinic environment. Extension of the Health Centre's activities into the community may go some way to address this problem. This would include promoting inter-agency collaboration with schools, the store and the community council.

The problem remains of how to foster this sense of responsibility and encourage interaction with health services for the general population and especially young people. People are concerned about screening for disease, and this was often considered to be a major deterrent to attending the health centre. Individuals commented that going to the clinic and being screened for a

disease would result in leaving the community with a fatal condition. Taking of blood for some of the older members of the community was seen as a cultural infringement and they were critical of the lack of respect clinic staff demonstrated in taking and handling blood. Throughout the discussion on screening techniques, there was a general lack of knowledge of why these particular tests were necessary and a perception that tests that involved taking blood were inferior to other possible methods of screening (such as x-rays). There is the need for more education about some of the methods that the chronic disease strategy uses, so that people know why their blood is being taken and what purposes it will be used for.

It must be acknowledged that in both communities, there were many barriers to people taking responsibility for their own health. Sorcery was considered to be an important cause of illness and death in both communities, and there was the attitude that there was very little an individual could do to protect themselves from it. In such an environment, changing one's lifestyle (and enduring the possibly negative quality affects to life quality) may not be seen as worth the effort. It is also clear that many of the current health problems are considered to be caused by outsiders (*Munanga* or Europeans) and therefore the responsibility of outsiders to deal with. Finally, there is the lasting legacy of the Mission, and some people's active resistance to the values instilled by the Missionaries.

The chronic disease strategy is an innovation which has a specific focus on the health centres. People's view of health in both communities does not centre around this single institution, rather health is influenced by a wide range of interrelated factors such as employment, education and people's feelings of self worth. It is too late to investigate these factors before implementing the strategy, but it is important that the chronic disease strategy is not seen as entirely "clinic business" and to foster involvement of other key institutions, particularly the schools.

Education is a keystone of the strategy, but it should not be assumed that information can be simply provided and that people will take up and apply this knowledge to change their own lives. For innovations to be accepted they must be seen to be effective and they must also have accordance with peoples' own understandings of how things work (in this case the causation of illness and effective treatment).

It is also important to investigate how knowledge of innovations is disseminated around the community, what gives this knowledge legitimacy and who takes up and applies this knowledge. Addressing these factors requires a thorough understanding of the dynamics of communities and a realisation that these factors may be locally specific.

*(Draft Version – © August 2006 Jane Lloyd)*

## **How Aboriginal Health Policy Is Implemented: Initial Findings Brief**

**TO:** *the Steering Committee for the Evaluation of the Northern Territory Preventable Chronic Disease Strategy (PCDS)*

**PURPOSE:** *to consider the potential contribution of research, on how PCDS was implemented, to the evaluation of PCDS*

### **CONTENT:**

This brief includes initial findings arising from research into the implementation of PCDS. The research involved 35 in-depth interviews with service providers and administrators across urban and remote areas of the Northern Territory. Participants were asked to comment on: 1) supports and barriers to the implementation of PCDS; and 2) how to determine whether or not PCDS is a success. Responses have been organised into common themes: workforce; funding; relationships; leadership and management; commitments and culture.

Initial findings reveal that there were major changes to the PCDS as it was implemented. This demonstrates that policy evolves as it is implemented (as opposed to emerging complete and ready for adoption); and implementation occurs through a process of collective negotiation.

Results can be presented to the Evaluation Committee in two formats: either as initial findings by November 2006 or collated responses by September 2006. Initial findings pertaining to the workforce theme are outlined below. A draft list of collated responses are attached as appendix one.

The composition of the workforce influences what is implemented. There have been substantial improvements in the management of chronic disease and to a lesser extent, early detection. This is partly attributable to the strength of the workforce, doctors and nurses are trained to treat patients, therefore emphasis has been placed on better management rather than primary prevention.

What is implemented affects the workforce. The focus on better management has directed further training in this area, and has supported the development and use of recall systems and best practice guidelines. These are important strategies that build the capacity of the clinical workforce. Meanwhile primary prevention receives less attention and therefore develops less capacity.

Sufficient numbers of the right mix of staff and a process for inclusive decision making are needed to implement policy. The right mix of staff includes professions such as doctors, nurses, managers, and Aboriginal health workers. But having the right mix of staff also includes values, beliefs, and attributes e.g. a commitment to community engagement. The right mix of staff might include a set of values, or innate qualities, and this is where staff recruitment and selection become important, or they might include skills that can be learnt, and this is where training is important.

**ACTION:**

The intention is for this information to be used by the Evaluation Committee to: 1) assess the relevance of the research to the evaluation; and 2) stimulate discussion on the most expeditious process for information uptake. Either collated responses or initial findings can to be presented to the Evaluation Committee.

### **Draft list of collated responses on supports and barriers to the implementation of PCDS**

<b>Themes</b>	<b>Barriers</b>	<b>Supports</b>
Workforce	<p>Insufficient numbers of service providers</p> <p>Constraints placed on dedicated chronic disease positions</p> <p>Increasing workload in remote health services</p> <p>No agreed benchmarks for staffing levels</p> <p>Person dependent services</p> <p>High staff turn over that erodes community trust and engagement</p> <p>Employing the wrong personalities to key positions</p> <p>Shortage of skills and a mismatch between evidence for public health and the attributes and skills of the workforce.</p> <p>Aboriginal people are under represented in the health workforce. This is a problem for two reasons: 1) it is difficult for non-Aboriginal people to look at improving health from an Aboriginal perspective; 2) employing Aboriginal people is part of the solution to reducing the disadvantage facing Aboriginal people. There were extra demands placed on Aboriginal people, and insufficient support, and inadequate training. And there are inequitable power differential among different professions in health services.</p>	<p>Sufficient numbers of staff</p> <p>Dedicated chronic disease positions</p> <p>Right mix of values and attributes among staff</p> <p>Appropriate mix of skills</p> <p>Team work and collegiality</p> <p>Staff recruitment</p> <p>Training</p>
Funding	<p>Medicare not developed with remote Aboriginal communities in mind</p> <p>Perverse incentives in Medicare</p> <p>Multiple and confusing funding sources and avenues.</p> <p>Funding for PCDS used to support Departmental health services</p>	<p>Funding seen as the most enabling support.</p> <p>And acts as a catalyst for other supports such as workforce.</p> <p>Funding is seen as an indicator of institutional will.</p>
Relationships	<p>Need to improve relationships between: Commonwealth/State; Policy/Operational; Health services and patients; Health services and communities; And across sectors i.e. education, local government.</p> <p>Unclear and contested roles and responsibilities</p>	<p>Stakeholder participation</p> <p>Community engagement</p>
Leadership and management	<p>Implementation hinges on engagement of clinic managers.</p> <p>Quality improvement processes are needed to support implementation.</p>	<p>Leadership as a vehicle for change and therefore an important support for implementation of health policy.</p> <p>Leadership exists within key individuals and groups.</p>
Commitments and culture	<p>Dominant focus on acute care rather than better management</p> <p>Emphasis on treatment at the exclusion of primary prevention</p> <p>Tendency to support vertical (programs focused on disease or stage of life) rather than horizontal approach (building capacity e.g. quality improvement systems, number of staff, training, etc.)</p>	<p>Symbolic commitment i.e. formal recognition and endorsement of PCDS</p> <p>Health professions dedicated to addressing chronic disease</p> <p>ACCHS dedicated to community engagement</p>

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