



# Australian Indigenous Health - *Within an International Context*



Jane Freemantle, Kirsty Officer, Daniel McAullay and Ian Anderson





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By Jane Freemantle, Kirsty Officer and Daniel McAullay, Telethon Institute for Child Health Research, Centre for Child Health, University of Western Australia under the auspices of Kulunga Research Network, and Ian Anderson, Onemda VicHealth Koori Health Unit, The University of Melbourne

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#### **Telethon Institute for Child Health Research**

PO Box 855, West Perth

WA 6872 AUSTRALIA

T: +61 8 9489 7777

F: +61 8 9489 7700

E: [enquire@ichr.uwa.edu.au](mailto:enquire@ichr.uwa.edu.au)

W: [www.ichr.uwa.edu.au/kulunga](http://www.ichr.uwa.edu.au/kulunga)

#### **Cooperative Research Centre for Aboriginal Health**

PO Box 41096, Casuarina

NT 0811 AUSTRALIA

T: +61 8 8922 8396

F: +61 8 8922 7797

E: [admin@crcah.org.au](mailto:admin@crcah.org.au)

W: [www.crcah.org.au](http://www.crcah.org.au)

**Authors:** Dr Jane Freemantle, Dr Kirsty Officer, Mr Daniel McAullay and Professor Ian Anderson

**Project Manager:** Dr Jane Freemantle, Telethon Institute for Child Health Research

**Editorial Support:** Elizabeth Chester, Tammy Gibbs, Cathy Edmonds and Cristina Liley

**Managing Editor:** Jane Yule

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The Kulunga Research Network is the Indigenous research arm of the Telethon Institute for Child Health Research (TICHR) and was established in 1999. Kulunga is a joint initiative between TICHR and the Western Australian Aboriginal community (through the Aboriginal Health Council of WA). The aim of Kulunga is to build capacity in Aboriginal research. A team of Aboriginal researchers and staff oversee the Aboriginal child and maternal health research programs of TICHR. Kulunga aspires to a model of research and practice that brings together the ideas and experiences of Aboriginal communities and the research expertise of Aboriginal people in a world-class, multi-disciplinary research setting.

Established in 1999, and with a focus on Koori health issues for south-eastern Australia, Onemda VicHealth Koori Health Unit's aim is to develop an integrated approach to research and teaching in Aboriginal health. Its vision is to foster an academic environment that values Aboriginal knowledges and methodologies; to support ethical practice and Aboriginal self-determination; and to develop a national and international profile for research and teaching in Aboriginal health that is underpinned and informed by the principles of Aboriginal community development.

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*Jane Freemantle, Kirsty Officer, Daniel McAullay and Ian Anderson*



# Glossary

<i>AAA</i>	Aboriginal Academic Achievement	<i>CHD</i>	coronary heart disease
<i>ACS</i>	Aboriginal Children's Survey	<i>CVD</i>	cardiovascular disease
<i>AIDS</i>	Acquired Immune Deficiency Syndrome	<i>ESRD</i>	end-stage renal disease
<i>AIHW</i>	Australian Institute of Health and Welfare	<i>HIV</i>	Human Immunodeficiency Virus
<i>APS</i>	Aboriginal Peoples Survey	<i>IHS</i>	Indian Health Service
<i>ARF</i>	acute rheumatic fever	<i>ITK</i>	Inuit Tapiriit Kanatami
<i>CHA</i>	Community Health Aide	<i>LRTI</i>	lower respiratory tract infection
<i>CHA/P</i>	Community Health Aide/ Practitioner	<i>RHD</i>	rheumatic heart disease
		<i>RSV</i>	respiratory syncytial virus
		<i>SIDS</i>	Sudden Infant Death Syndrome
		<i>STIs</i>	sexually transmitted infections



# Executive Summary

Aboriginal health is not just the physical wellbeing of an individual but is the social, emotional and cultural wellbeing of the whole community in which each individual is able to achieve their full potential as a human being thereby bringing about the total wellbeing of their community. It is a whole-of-life view and includes the cyclical concept of life–death–life (National Aboriginal Health Strategy Working Party 1989).

An analysis of national health information gives a powerful insight into the ongoing legacy of colonisation on the Aboriginal people of Australia, New Zealand, Canada and the United States of America (USA). While these first-world nations boast first-class health systems, the key health indicators clearly show that the traditional custodians of the land do not share equally in the benefits of these systems. There is a pressing social justice issue in the wide disparity in outcomes that sees Aboriginal people suffer a far greater health burden than non-Indigenous people. Of great concern is that, despite widespread acknowledgment of this disparity and actions to address it, progress appears to be minimal in many indicators.

Aboriginal populations in Australia, New Zealand, Canada and the USA share many commonalities, which include cultures extending for thousands of years; deeply held spiritual beliefs and practices; prolonged experiences of exploitation; prejudice and discrimination; attempts at forced segregation followed by forced assimilation; large-scale neglect of human rights; an appalling health status; and an increasing,

if at times ignored, effort to achieve international recognition and protection for their peoples and cultures.

It is a human right to be counted in population statistics, and Aboriginal people should not be invisible in national health statistics. Currently, the measurement of the health of Aboriginal people worldwide is complicated by deficiencies in the data describing Aboriginal people. These deficiencies are, in part, due to inconsistencies in the collection, the sources, completeness, classifications, analysis interpretation and ownership of the data in each jurisdiction.

This report considers published peer-reviewed and government accounts of health outcomes for Aboriginal people over the past decade. It particularly focuses on the Aboriginal peoples of Australia, New Zealand, Canada and the USA. It places the reports in the context of the history, structure and data quality of the countries considered. The report also includes selected case studies that outline Indigenous programs that have had an impact in improving the health and wellbeing of Indigenous people.

## Executive Summary

It is widely acknowledged that mortality and morbidity statistics are important indicators of a population's health. Mortality levels and trends provide vital information on the many serious diseases and injuries. Furthermore, studies of the trends in mortality and morbidity and related statistics demonstrate how the health status of a population changes and enables the effect of health policies, services and interventions to be monitored and evaluated. Currently, Indigenous people worldwide are relatively invisible in health statistics due to major deficiencies in health data describing them. Reliable data describing the health of Indigenous people, globally and nationally, are needed to inform policy and program development, to evaluate policies aimed at improving service delivery and health status, and to assess the effectiveness of programs and interventions.

This report highlights the critical issue of lack of data describing Indigenous health and the inconsistencies in data collection and sources globally and nationally. These deficiencies preclude the accurate comparison of health data not only between Aboriginal and non-Aboriginal people, but also between the Aboriginal populations across the globe. As such, caution is emphasised in global comparisons of statistics describing the health of Aboriginal people.

Despite these statistical deficiencies, there have been numerous reports describing the health outcomes of Aboriginal people in Australia, New Zealand, Canada and the USA. Reports have also identified an ongoing and, in some instances, increasing disparity in health outcomes between Aboriginal and non-Aboriginal people.

The literature reports a substantial decrease in the overall death rates among the general population. However, while a similar decrease was observed among Aboriginal people in New Zealand, Canada and the USA up until the 1980s, comparatively little reduction has occurred since the mid-1980s. The mortality rates reported in Australia for Aboriginal people are higher than those reported in New Zealand, Canada and the USA. The Australian Institute of Health and Welfare (AIHW) and the Australian Bureau of Statistics report little change in this mortality rate until the 1990s.

Disparities exist in reported life expectancy between Aboriginal and non-Aboriginal people in the four countries. However, the highest disparity between Aboriginal and non-Aboriginal people and the lowest life expectancy has been reported in Australia for Aboriginal and Torres Strait Islander people. Infant mortality is also higher and the disparity greater among Aboriginal and Torres Strait Islander people (compared with non-Aboriginal and Torres Strait Islander people) than the rates reported in New Zealand, Canada and the USA.



Circulatory, respiratory and endocrine conditions, injury and poisoning, and cancers were responsible for most of the total deaths in the Aboriginal populations in Australia, New Zealand, Canada and the USA. The major decreases in mortality rates in the Canadian Aboriginal people and American Natives were in deaths due to injuries; for New Zealand Māori and Aboriginal and Torres Strait Islander people, the main gain was in circulatory conditions. Conversely, there has been a substantial increase in deaths due to endocrine conditions, variable improvements in cancers and a surprising lack of progress in deaths due to circulatory diseases in Aboriginal people in all four countries. However, meaningful comparisons in the rates of these health outcomes between international Aboriginal groups are not possible due to the deficiencies and inconsistencies in data that has already been mentioned.

Reliable total population data in some Australian states and territories provide an excellent resource in determining the patterns and trends of morbidity and mortality among Aboriginal and Torres Strait Islander people. These data have reported that the increase in death rates for many chronic diseases is slowing and that deaths due to infectious diseases have significantly declined. Improvements have been identified across all age groups, but are most dramatic in the under-five age group. These results show evidence of health gain and that

interventions can make a difference. They demonstrate clearly that improved access to primary healthcare can impede increasing preventable mortality rates. Such programs must be supported by well-constructed and well-resourced secondary prevention and health promotion programs.

Significant efforts and resources have been devoted to improving the health of Aboriginal people in Australia, New Zealand, Canada and the USA over the past decade. This paper identifies a number of initiatives that have demonstrated that well-resourced, community-controlled and culturally appropriate and accessible programs can, and do, have a positive impact, and result in significant and sustained improvement in the health outcomes of Aboriginal people. An important component of any health-improvement program will be the ability to measure accurately the disparities and to track the impact that policies, strategies and interventions have on health outcomes. In order for valid evaluations of health interventions and programs to be made, and accurate assessments of vital statistics undertaken, substantial improvements in data measurement and management need to occur in all Indigenous populations.





# Background

The high burden of poor health borne by Aboriginal people in colonised countries is well reported. There continues to be a significant gap in the rates of death (mortality) and poor health (morbidity) between these people and their countries' wider populations.

To Aboriginal people, health is not merely the absence of illness or disease, nor is it a set of statistics or measurements. Health is understood to be the 'physical, spiritual, mental, economic, emotional, environmental, social and cultural wellness of the individual, family and community' (British Columbia Provincial Health Officer 2002). A healthy community is one with resources and opportunities, whose members are self-confident and participate in the political, economic and cultural life and are a part of its decision-making processes.

Aboriginal populations in New World nations share the common experience of having their cultures profoundly affected by contact with outsiders. They are also linked by their history of deeply held spiritual beliefs and practices; prolonged exploitation, prejudice and discrimination; attempts at forced assimilation; large scale neglect of human rights; health problems and social disadvantage; and efforts to obtain international recognition and protection for their peoples and cultures.

Of particular relevance to this document are the Indigenous people of the United States of America, Canada, New Zealand and Australia. Each group of Aboriginal people has a distinct history, culture and legal entitlements.

A number of terms are used to refer to the various groups of Aboriginal people who live in these countries. These four Aboriginal populations, however, share a similar history of colonisation. Kunitz, who has explored the effect of colonisation on health, stated that 'diseases rarely act as independent forces, but are shaped by the contexts in which they occur' (Kunitz 1994:177).

Measurement of Indigenous health outcomes and disparities between Indigenous and non-Indigenous populations is complicated by the deficiencies in the data being used. International comparisons of health data and, indeed, comparisons within countries are only possible if accurate health measures are available. Further, it is imperative that there is consistent and accurate identification of Indigenous people in administrative and statutory records.

Several common issues adversely affect the quality of Aboriginal data in Australia, New Zealand, Canada and the USA (Bramley *et al.* 2004). In particular, concerns regard the quality of Indigenous mortality data and the undercounting of deaths. This is in part due to the inconsistency in collection and misclassification of ethnicity on death certificates. Given the small size of Indigenous populations, the effect of this misclassification results in a minor increase in the reported death rate of non-Indigenous people, but a substantial reduction in the reported Indigenous death rate (AIHW 2006b). Such underestimations in deaths are likely to lead to an underestimation in the size of disparities that exist between the Indigenous and non-Indigenous populations.

Information for these Indigenous populations are usually derived from census data (Bramley *et al.* 2004). However, there are some problems associated with the use of census material, particularly due to changes over time in census ethnicity questions and changes in Aboriginal peoples' propensity to self-identify as Indigenous.

While New Zealand has attempted to adjust for undercounting (Blakely, Kiro & Woodward 2002), similar methodological initiatives are not available in Australia, New Zealand or the United States and, as such, statistical comparisons using corrected data is not yet possible.

This means that the ability to provide accurate patterns and trends of mortality and morbidity and to compare these patterns and trends in different international settings over time is also compromised. This is due to a range of factors including the differing definitions of key indicators of health outcomes; changes in census data; differing definitions of ethnicity in each country; changing definitions over time; and a lack of population data.

Within the Australian context, prior to 1976 no Australian jurisdiction separately identified Indigenous persons in vital statistics or hospital-based collections. In 1984 the Australian Government initiated moves nationally to fully identify Indigenous Australians in births and deaths data collections. By the end of 1997, all major vital statistics and hospital-based collections included the Indigenous status of persons who were born, died or admitted to hospital

in every State and Territory. However, there is an acknowledged under-identification of Aboriginal people in statutory and administrative data collections and thus the complete ascertainment of Indigenous people is questionable. Those States where the ascertainment is of concern are Victoria, New South Wales, the Australian Capital Territory, Tasmania and Queensland (before 1998).

Notwithstanding these limitations, the magnitude of health disparities in Indigenous populations is concerning. Perhaps equally worrying is that these disparities have not reduced in recent years and, in many cases, are increasing. Major disparities in death rates for Indigenous populations have been reported for diabetes, accidents, suicide, pneumonia and influenza, and homicide.



## Key facts: Aboriginal peoples of the world

**300 million Aboriginal people in more than 70 countries** (Berger 2002):

**Australia:** 592,700 (2.4% of total population)

Aboriginal (90%)

Torres Strait Islander (6%)

Aboriginal and Torres Strait Islander (4%)

(Anderson *et al.* 2006)

**New Zealand:** Māori, 526,281 (14.5% of total NZ population) (Anderson *et al.* 2006)

**Canada:** ~976,305 (3.3% of total Canadian population)

The Aboriginal population comprises:

First Nations (62%)

Inuit (30%)

Métis (5%)

Other (3%)

(Health Council of Canada 2005)

**United States of America:** ~3,000,000 (<1.5% of total USA population)

American Indian/Alaska Native alone (60%)

American Indian/Alaska Native plus other race (40%)

(Ongunwole 2002)



## Snapshot 1: Australia - Aboriginal and Torres Strait Islander people

- 'Aboriginal and Torres Strait Islander people have a wide range of lifestyles and social, cultural, educational and family backgrounds. What is true of one Indigenous person or group is not necessarily true of another person's values and life style' (Brown 2001).
- There are at least 250 documented Aboriginal and Torres Strait Islander language groups.
- Aboriginal and Torres Strait Islander people have a lower life expectancy than any other first-world country's Indigenous population.
- Life expectancy for Indigenous people in South Australia, Western Australia and the Northern Territory is sixty years for males and sixty-one years for females—fifteen to twenty years less than that of other Australians.
- Mortality data has been available since Federation. However, provision to identify Indigenous health status has a much more recent origin.
- The first year of inclusion of Indigenous status on death notification forms ranges from 1980 (in New South Wales) to 1996 (in Queensland) (ABS & AIHW 1999).
- The latest statistics on child mortality show Indigenous children are almost five times as likely to die before the age of five as other children (ABS & AIHW 2003).
- Infant mortality has improved since the 1970s but is still more than three times that of the total Australian population (Woollard *et al.* 1998).
- The adult mortality rate has improved over the past decades; however, it is still six to eight times that of the total population (ABS & AIHW 1997).
- Aboriginal people experience lower levels of access to health services than the general population, in some part due to residing further from health services and also as a result of socioeconomic status, availability of transport and ability to speak English (Dawson 2004).



## Key facts: Aboriginal and Torres Strait Islander—structures and healthcare

- Colonisation of Australia by Great Britain began in 1788 with the arrival of the First Fleet.
- Original 'protectorate' system of the nineteenth and early twentieth centuries resulted in widespread displacement of Indigenous people.
- 'Protectionism' was replaced by a policy of assimilation in the 1930s, which was replaced by a policy of self-determination in the 1970s.
- The 1967 referendum allowed the Commonwealth Government to legislate for Indigenous people (formally the power rested with the States).
- Following the referendum, the Office of Aboriginal Affairs was set up to establish Aboriginal health units (Harrison *et al.* 2001).
- The Aboriginal and Torres Strait Islander Commission was established in 1990 and disbanded in 2005.
- Currently the Office of Indigenous Policy Coordination coordinates a number of regional Indigenous Coordination Centres.
- Historically and currently, there are no treaties between the Australian Government and the Aboriginal and Torres Strait Islander people.
- The first National Aboriginal Health Strategy (1989) was never effectively implemented (Anderson *et al.* 2006).
- Since the National Aboriginal Health Strategy, there has been an increasing focus in Australia on improving the capacity of Indigenous primary health services—particularly through improved health financing and health workforce development (Anderson *et al.* 2006).
- Policy frameworks relating to health now reflect a mutual obligation philosophy rather than the previous framework based on self-determination (Anderson *et al.* 2006).
- In 1998–99 an estimated A\$12.45 billion was spent on health services for Aboriginal and Torres Strait Islander people, equating to 2.6 per cent of national health expenditure (ABS 2001).
- Overall, it was estimated that for each \$1 spent on health services for non-Aboriginal people, \$1.22 was spent on health services for Aboriginal people (ABS 2001).



## Key facts: Patterns and trends of mortality in Australian Aboriginal and Torres Strait Islander people

These data are based on the information derived from (and thus apply to) the Northern Territory, Western Australia and South Australia only.

- Life expectancy at birth was an estimated seventeen years less than for Australians as a whole: males 59.4 years and females 64.8 years (AIHW 2005a).
- Infant mortality has decreased significantly over the past two decades; however, the rate of decrease has not been as fast as in the non-Aboriginal population (AIHW 2005a; Freemantle 2003).
- The overall age-standardised death rates were almost three times as high for both Aboriginal males and females compared with all Australians (AIHW 2006a:227).
- However, total mortality has decreased for both males and females in Western Australia, 1991–2003 (AIHW 2005a).
- Mortality due to diseases of the circulatory system have shown a consistently significant decline (AIHW 2006a:228).
- There have been mixed changes to cancer mortality rates over the past two decades in the Northern Territory, including:
  - increases in smoking-related cancer deaths;
  - significant increases in deaths due to oropharyngeal, oesophageal and pancreatic cancers;
  - increases (non-significant) in deaths due to breast, liver and gall bladder and lung cancers and deaths due to leukaemia; and
  - decreases (non-significant) in deaths due to colon, rectal, stomach and cervical cancers (Condon *et al.* 2004).
- Deaths due to non-communicable diseases, and circulatory diseases in Western Australia, and due to communicable disease in males in Western Australia and South Australia declined significantly in the 1990s (ABS & AIHW 2003).
- There is evidence that the previously reported rising mortality rates due to ischaemic heart disease and diabetes mellitus in the Northern Territory are slowing (Thomas *et al.* 2006).
- Deaths due to chronic obstructive pulmonary disease declined in the 1990s in the Northern Territory (Thomas *et al.* 2006).
- There has been a statistically significant reduction in all-cause mortality rates, particularly in children aged less than five years in the Northern Territory and Western Australia (Freemantle *et al.* 2004; Thomas *et al.* 2006) and in males in Western Australia in the thirteen- to seventeen-year age group (Freemantle *et al.* 2004).
- There has been a statistically significant reduction in deaths due to communicable diseases and injuries in children aged five years and over in the Northern Territory (Thomas *et al.* 2006).



## Data collection in Australia

- 'Determinations of relative health status within the Indigenous population must take into account the impact of variability in data quality' (Cunningham 2002).
- The apparent differences in Indigenous mortality in remote areas compared with urban areas is of a magnitude that could be explained by relatively modest regional differences in data quality.
- The question asked in Australian data collections refers only to the respondent's 'ancestry' or race (Treiving 2001).
- The format of the question has remained fairly consistent since 1981, with only a minor and one-off divergence in 1986.
- The 1986 Census did include a question to identify Aboriginal and Torres Strait Islander origin and a question to determine the ancestry of all people.
- No distinction between the population of historical ancestry and the current identity population can be drawn; however, these questions were cross-edited in 1986 (Ross 1999).
- Change between the censuses in the propensity to self-identify as Aboriginal and Torres Strait Islander significantly affects the interpretability of counts derived from successive censuses (Helps & Harrison 2004).
- The estimated completeness of identification of Aboriginal and Torres Strait Islander people in death registrations based on the 1996 census was 55 per cent, with the Northern Territory followed by Western Australia having the highest per cent coverage (Helps & Harrison 2004).

## Snapshot 2: New Zealand - Māori

- The Māori were the first people to inhabit New Zealand.
- The word *māori* means 'normal', 'natural' or 'ordinary'.
- Archaeological and linguistic evidence (Sutton 1994) suggests that probably several waves of migration came from Eastern Polynesia to New Zealand between 800 and 1300 AD. Māori origins relate to those of their Polynesian ancestors.
- The first recorded contact between Māori and Europeans was in 1642.
- Colonisation began in the early 1800s.
- In New Zealand the policy priority placed on Indigenous health is evident with the *He Korowai Oranga: Māori Health Strategy* (King & Turia 2002).
- One of the most important developments has been the development of Māori providers who deliver a wide range of primary care and health promotion activities (Anderson *et al.* 2006).
- The term *Tangata whenua* (literally, 'people of the land') is often used by Māori to describe themselves in such a way that emphasises their relationship with land.

## Key facts: Treaty of Waitangi

- In 1840, the Treaty of Waitangi was created as a contract between Māori and the Crown.
- Among the terms of the treaty, it was stated that:
  - Māori would retain possession of their lands and fishing areas.
  - At the same time, Māori would accept the new colonial government's pre-emptive right to purchase land. All sale of land by either Māori or European would be transacted via the government.
  - Māori would accept the sovereignty of the Queen.
  - Māori would be guaranteed the same rights and privileges as those of all British subjects.
  - All land that had been unfairly bought would be returned to Māori hands.
- Two versions of the Treaty of Waitangi, one in Māori and one in English, were distinctly different and gave rise to significantly different interpretations.
- In the past thirty years there has been a substantial increase in the recognition of Māori rights (Freemantle 2003).



## Data collection in New Zealand

- The 1981 Census used a definition that relied on the concept of ‘fractions of descent’.
- The 1986 Census moved towards self-identified cultural affiliation.
- However, birth and death registration continued to use the ‘fractions of blood’ question until 1995, making comparative numerator and denominator data difficult to obtain.
- The 1991 Census identified both ancestry and cultural affiliations.
- The 1996 Census maintained the concepts and definitions of the 1991 Census (Paediatric Society of New Zealand 2005).
- The 2001 Census moved back to the wording of the 1991 Census.
- Current protocols for recording of ethnicity recommend the use of the 2001 Census question.
- Changes to ethnicity recording for death certificates in 1995 and further modification of the ethnicity question in the 1996 Census meant that, for both numerator and denominator data, the ‘Māori ethnic group’ definition can be used with greater confidence (Ellison-Loschmann, King & Pearce 2004).
- These changes in the question asked in New Zealand regarding ethnicity from the 1981 Census to the 2001 Census have presented problems in determining the patterns and trends. **In particular, time trend comparisons pre- and post-1995 would not be reliable and make comparisons over time difficult both within New Zealand and between other Indigenous populations and New Zealand** (Mako 1998; Statistics New Zealand 2001; Tobias 2001).



## Snapshot 3: Canada – First Nations, Métis and Inuit

- The Constitution Act of 1982 'legally' described the Aboriginal peoples of Canada as 'Indians', 'Inuit' and 'Métis' (Bartlett 2003).
- Many Indigenous peoples (both First Nations and Inuit) have inhabited the region that is now Canada for thousands of years and have their own diverse histories.
- Aboriginal peoples in Canada have had interactions with Europeans as far back as 1000 AD, but prolonged contact came once French and English settlements were established in the 1500s.

### First Nations

- First Nations (term replacing the word Indian) refers to both Status/Treaty persons and non-Status/non-Treaty persons of First Nations ancestry; the former are sometimes referred to as 'registered' persons (Provincial Health Officer 1999).
- First Nations can be officially recognised as registered or status Indians according to the rules set out in the Indian Act and are recorded as such in an Indian Register, which is maintained by Indian Northern Affairs Canada (Canadian Population Health Initiative 2004).
- First Nations until recently predominately lived on reserves, but over the past decade more than 40 per cent have moved off the reserves into urban areas.
- Status/Treaty Indians are represented by the Assembly of First Nations; non-Status/non-Treaty Indians are represented by the Council of Aboriginal people.

### Métis

- Métis are of mixed First Nations and European lineage, have their own language and culture, and are distinct from the two other Aboriginal peoples.
- The Métis are represented by the Métis National Council and live predominately in the western provinces, with the majority living in cities (68 per cent).

### Inuit

- Inuit are distinct from the First Nations and Métis. They are the Aboriginal people of Arctic Canada who share a common language and predominately reside in the Northwest Territories and northern Quebec.
- They generally live in the fifty-three communities located in the four Inuit regions: Nunavut (>50 per cent), Inuvialuit, Nunavik and Nunatsiavut.
- The Inuit are represented by the Inuit Tapirisat of Canada (Tookenay 1996).



## Key facts: First Nations, Inuit and Métis – treaties and healthcare

- Many treaties were signed by both the federal government and First Nations (Royal Commission on Aboriginal Peoples 1996a)—they stated that the Crown would provide healthcare to the First Nations to reimburse them for the use of their land and resources (Adelson 2005).
- In Canada, treaty status is given to those individuals of Aboriginal heritage who have registered as Indians with the federal government.
- ‘Treaty Indians’ make up approximately 85–91 per cent of the total Aboriginal population.
- Treaty Indians receive free healthcare (physician, hospital and emergency visits) and free prescribed medications (Sin *et al.* 2002).
- First Nations people hold to the view that healthcare is a treaty right that was affirmed in the treaty-signing process and, as such, is legally binding to this day.
- Aboriginal people believe that the provision of healthcare falls under federal jurisdiction, as opposed to being a provincial/territorial matter (Adelson 2005).
- Health Canada has been responsible for providing healthcare to the First Nations and Inuit populations who live on reserves and/or in Inuit communities (Health Canada 2003).
- The Métis are not eligible for the healthcare programs and services of the First Nation and Inuit Health Branch (FNIHB) of Health Canada, and must obtain healthcare services from territorial or provincial sources (Health Council of Canada 2005).

## Data collection in Canada

- The first national census of Canada was taken in 1871.
- In 1996 Aboriginal identity and population group were added to the census.
- There are significant problems with data describing Indigenous Canadians.
- There is a recognised and un-quantified under-coverage of mortality in the census.
- Population estimates for 1965, 1996 and 1997 were adjusted for net census undercount.
- The 1966 Census under-coverage was greater among Aboriginal peoples than other segments of the population. Enumeration was not permitted or was interrupted before it could be completed on seventy-seven Indian reservations and settlements, representing an estimated 44,000.
- Mortality counts vary between censuses, which affect estimates.
- Given that registered First Nations are people who are entitled to treaty rights, the existing federal Status Verification System used to identify Canadian Aboriginal people would only include registered First Nations people. The 'other' Aboriginal people would have been included in the 'all other' groups if they were non-registered First Nations, Inuit or Métis. **This results in an under-estimation of the true rate of mortality and morbidity among Aboriginal Canadians** (Martens, Sanderson & Jebamani 2005).



## Snapshot 4: United States of America – American Indians and Alaska Natives

- Native Americans arrived approximately 20,000–30,000 years ago through a land-bridge across the Bering Sound from northeastern Siberia into Alaska.
- The oldest documented Indian cultures in North America are Sandia (15,000 BC), Clovis (12,000 BC) and Folsom (8000 BC).
- The American Indian/Alaska Native population, once estimated at 10 million prior to colonisation, is now recorded at around 3 million and growing, with the majority identifying themselves as one of the American Indian tribes, bands, pueblos or villages, which each have diverse cultures and languages.
- American Indians have a profile similar to that of developing countries—high birth rates, young median age and life expectancy less than that of the white population.
- They comprise a large number of distinct tribes, states and ethnic groups, many of which are still enduring as political communities.
- They are also known as American Indians, Indians, Amerindians, Amerinds or Indigenous, Aboriginal or Original Americans.
- Alaska Natives include births identified as ‘Indian, Aleut and Eskimo’, residing in Alaska (Taffel 1987).
- Alaska Natives are in some respects treated separately from Native Americans in the USA.
- American Indians and Alaska Natives are a heterogeneous population, with 562 federally recognised tribes residing in the rural and urban areas of thirty-five states of the USA.
- These small, culturally different populations create sampling problems that make generalising American Indians, and similarly Alaska Natives, as a group nearly impossible (Ellison-Loschmann, King & Pearce 2004; Whitbeck *et al.* 2006).
- Almost 38 per cent of the American Indian/Alaska Native population live on rural reservations and mostly in the western USA, and 22 per cent live near reservations (Ellison-Loschmann, King & Pearce 2004; Narva 2002).
- The historical experiences of the individual tribes in the USA have clearly had an impact upon values and expectations related to Indian communities.
- **While tribal similarities do exist, each of the 562 federally recognised tribes, and the numerous tribes that are not federally recognised, has its own diverse culture and beliefs and any generalisation of data between and within the American Indian and Alaska Native communities must be made—and interpreted—with caution** (Galloway 2005).



## Key facts: American Indians and Alaska Natives—treaties and healthcare

- Treaties were first made with ‘independent Indian nations’ and later with ‘Indian nations’ dependent on the domestic economy.
- Congress stopped making Indian treaties in 1871 but continued to regulate Indian affairs.
- Under a mixture of American Indian and Alaska Native case law and federal legislation, the United States Government is obligated to provide a certain level of healthcare to federally recognised American Indians and Alaska Natives, not based on race, but on government-to-government relations (Senate Committee on Indian Affairs 1998).
- The *Snyder Act 1921* (P.L/ 67-85, 25 U.S.C § 13) provided legal foundation for the Native healthcare system with the establishment of the Indian Health Service (IHS).
- The IHS (an agency of the United States Department of Health and Human Services) is the primary federal healthcare provider for American Indians/Alaska Natives living on or near tribal lands without charge.
- Tribes exist as sovereign entities, but federally recognised tribes are entitled to health and educational services provided by the federal government.
- The IHS estimates that approximately 60 per cent of all American Indians and Alaska Natives are eligible for IHS services in or near reservations and other areas where IHS has responsibility (Indian Health Service 1999).
- Those of the American Indian/Alaska Native population who do not permanently reside on a reservation have limited or no access to IHS services.
- Healthcare in Alaska is currently provided to Alaska Natives by the Alaska Tribal Health System, a component of the national IHS, and is based on a networked infrastructure of non-profit organisations controlled by communities and village members (Provan & Carson 2000).
- In 1971 the Alaskan Native Claims Settlement Act was enacted, which established a corporate structure for the Alaska Native infrastructure (Case & Voluk 2002).



## Data collection in the United States of America

- Data on race has been collected since the first decennial census in 1790.
- The 1980 Census was the first to identify American Indians as a separate group throughout the country.
- Alaska Natives in Alaska have been counted since 1880, but were enumerated separately in 1940 as Eskimo and Aleut.
- In the 1970 Census, separate response categories were used to collect data on Eskimo and Aleut populations only in Alaska.
- The 1980 Census was the first census where data were collected separately for Eskimo and Aleut in all states.
- The 1990 Census used three separate response categories to collect information on the American Indian and Alaska Native population.
- Census 2000 used a combined 'American Indian and Alaska Native' response category to collect data on both American Indian and Alaska Native populations.
- United States censuses have obtained information on the race of all individuals in the past several censuses.
- Because of these changes, the 2000 Census data are not comparable with data from the 1990 or earlier censuses.
- **Caution must be used in interpreting changes in the racial composition in the USA and therefore in data that relies on the census.**

## Data quality issues

**The ability to compare the health status of Indigenous populations around the world is desirable. However, currently no such ability exists.**

As a result, published comparisons of health outcomes should be carefully scrutinised

in order to determine just how the data have been compiled, what groups of the Indigenous communities have been included (and excluded), and the accuracy of Indigenous identification and classification of health outcomes.

## Data quality issues

### Australia

- Jurisdictions assessed by the Australian Bureau of Statistics as having sufficient accuracy in Indigenous identification: Northern Territory, Western Australia, Queensland, South Australia (representing 60 per cent of the Indigenous population) (ABS 2003).
- The validity and reliability of Aboriginal and Torres Strait Islander population estimates is problematic (Helps & Harrison 2004).
- Incomplete coverage of Indigenous births and deaths in some States and Territories' data sets.

### New Zealand

- Māori mortality rates are underestimated due to different recording of ethnicity between mortality and census data—the so-called numerator–denominator bias (Blakely, Kiro & Woodward 2002).
- Māori deaths were underestimated by a quarter and Pacific deaths by a third in the mid-1980s and first half of the 1990s (Blakely *et al.* 2004).

### Canada

- Recognised deficiencies in the quality of data on Canadian Aboriginal births, deaths and migration, which affect the accuracy of population estimates, an underestimation of mortality rates and health outcomes among Aboriginal people (Martens, Sanderson & Jebamani 2005).
- Canada does not include Aboriginal identity on death certificates (Bramley *et al.* 2005).
- There is a significant lack of mortality and morbidity information on 'off-reserve' or 'non-Status' Indians, which includes Inuit and Métis.
- There is no way of determining Aboriginal identity for Canada as a whole from Statistics Canada's Vital Statistics Database (Allard, Wilkins & Berthelot 2004).

### United States of America

- The Census Bureau in the USA has acknowledged that Native Americans are routinely undercounted, which significantly impacts on accurate denominator data (Berger 2002).
- The Centers for Disease Control and Prevention state that 'there is a 40–50 per cent misclassification of [American Indians] as either White or Hispanic' (Grandbois 2005).
- The problem of misclassification of race on the death certificates is well documented, resulting in an underestimate of American Indian/Alaskan Native death rates (Baldwin *et al.* 2002).



## *Case study: United States of America - Indigenous misclassification*

The misclassification of Indigenous people in the USA arises from:

- the use of Spanish surnames to determine race;
- personal observation by data collectors to determine race;
- the lack of an American Indian/Alaska Native response category on forms;
- inconsistent definitions of who is considered to be American Indian/Alaska Native; and
- federal and state recognition of tribal nations (that is, non-federally recognised tribal members may not identify themselves as American Indian/Alaska Native (Grandbois 2005)).

These issues generally arise in the misclassification of other Indigenous people of colonised countries.



# Aims

The aim of this project was to enable the evidence-based advocacy work of OXFAM Australia by:

- considering international comparative research that examines the literature that reports on the mortality and health status of Aboriginal peoples in a number of countries, including key trends;
- identifying some of the 'lessons learned' from other contexts, with a focus on areas of improvement and factors that have contributed or led to positive change in Aboriginal health, while also noting (where useful) contributors to any negative changes;
- providing information to enable recommendations for improvements in approaches of Australia's federal and state/territory governments that impact upon Aboriginal and Torres Strait Islander health and wellbeing;
- informing public understanding and debate on Aboriginal and Torres Strait Islander issues in Australia, particularly the current and future impact of the approaches of Australia's federal and state/territory governments to Aboriginal and Torres Strait Islander health, and by engendering optimism that improvements in Aboriginal and Torres Strait Islander health are in fact possible.

# Methods

## Literature search strategy

The database search included Ovid Medline, Austhealth and Global Health. Government reports (grey literature) were accessed using references from published papers, Internet searches and personal communication with relevant departments in the countries under review. The searches were limited to a publication date between 1996 and 2006 and to English text. The search strategy depended on the subject terms and the indexing practices of each database. Citations that included the following terms were retrieved: Indigenous; Aborig\*; Native; Inuit; Māori; Métis; Indian; First Nations; and: Australia; New Zealand; Canada; United States; America; Alaska. These were then combined with searches on health-specific terms that included: health indicators; health status; mortality; morbidity; infant; chronic disease; infection; respiratory or lung or pulmonary; asthma; COPD or chronic obstructive pulmonary disease; cardiovascular or heart; circulatory; stroke or cerebrovascular accident; rheumatic fever or rheumatic or rheumatic diseases or rheumatic heart disease; kidney; renal; diabetes mellitus or NIDDM; mental health; suicide; depression; social and emotional; accident or accidents; injury or injuries; sexual\*; transmiss\*; HIV or Human Immunodeficiency Virus; AIDS or Acquired Immunodeficiency Syndrome.

These articles were categorised according to content. Categories included: author/s; title;

journal or type of report; population studies; summary of content; results; comment on the reliability and inclusiveness of the Aboriginal status; limitations; and leading cause of death.

The literature was considered in the context of the status of Aboriginal health according to the particular health indicators and the patterns and trends and disparities that have been observed over the past decade. This section importantly considers the literature according to the methodologies used and considers how well the populations described are defined in order that the validity of the comparisons might be evaluated. While cross-sectional, cohort and survey data have been discovered through the literature search and the contents noted in this document, data from population-based studies is mainly reported in the summary document.

## Analysis

The literature was reviewed to identify the following questions.

- What is the status of Aboriginal health in Australia, Canada, the USA and New Zealand as identified in the literature?
- What are the capabilities in the literature to:
  - o identify whether the health status changed over recent decades?
  - o identify the key trends in Aboriginal health in each of these contexts in specific areas?
  - o allow comparisons both within and between countries?

- How valid are the comparisons being made?
- What is the context within which these observations occur?
- What are the 'lessons learned' from other contexts, with a focus on areas of improvement and factors that have led to success, while also noting (where useful) contributors to any negative changes?
- What recommendations can be drawn from the experiences of Australia and other countries for the approaches of Australia's federal and state/territory governments that impact upon Aboriginal and Torres Strait Islander health and wellbeing?

Particular health indicators in the comparisons included:

- perinatal and infant—maternal mortality, infant mortality, cause-specific mortality, birth weight, prematurity, admission to hospital for infections;
- childhood—age-specific mortality, cause-specific mortality, rates of admission to hospital for infection, accident and injury;
- young persons/adults—life expectancy, suicide and self-harm, rates of admission to hospital, accident and injury, incidence of HIV;
- indicators relating to early adult deaths (chronic disease), social and emotional wellbeing (including mental health issues, self-harm and suicide), and sexual health;
- gender.

## *Selected reports and papers*

More than 2500 papers and reports were discovered through the literature search. Of these, 530 were considered for inclusion in the literature review. The number of papers identified for the specific topics were mortality, 31; injury, 28; cardiovascular, 32; infection, 93; respiratory, 26; rheumatic heart disease, 23; suicide, 31; mental health, 43; diabetes, 32; renal, 37; HIV, 27; sexually transmitted diseases, 22; and health status, 105.

Few papers clearly defined the Aboriginal populations that they were describing with regards to their representation of the total Aboriginal population. In papers where the Aboriginal status is based on the self-reported status of the mother, it is important to consider that some mothers may be reluctant to identify as Aboriginal, that the mother might be non-Aboriginal and the father might be Aboriginal, and that midwives may not ask or may guess. However, of all the types of mortality data, perinatal mortality provides the most accurate estimate of excess Aboriginal mortality because the numerator and denominator can be obtained from one dataset.





# Results

## General profile

A background paper for the Federal Parliament of Australia in 1998 reported that:

Indigenous people in Australia, New Zealand, Canada and the USA are worse off by almost any socio-economic indicator than their non-Indigenous compatriots. However, the slow rate of improvement in health and the increase in mortality for older adults in Australia is in marked contrast to the trends in New Zealand, Canada and the USA where [life expectancy] gaps have been reduced to three to seven years (Dow & Gardiner-Garden 1998).

In 2001 life expectancy overall for all males (76.6 years) and all females (82.1 years) was highest in Australia. Male Indigenous life expectancy for Māori (69.0 years) and among First Nations (68.9 years) was similar, but lowest in Aboriginal and Torres Strait Islander males (56 years). Life expectancy for Indigenous females was highest among Canadian First Nations (76.6 years) and lowest among Aboriginal and Torres Strait Islander females (63 years) (Bramley *et al.* 2005). However, it is important to note that reports on vital statistics for Indigenous populations do not include all Indigenous people living in each specific country (see Tables 1 and 2).

**Aboriginal and Torres Strait Islander people have a life expectancy of approximately twenty years less than non-Aboriginal and Torres Strait Islanders.**

Chronic conditions including heart disease, stroke, diabetes and renal failure represent a serious and escalating health burden for the Aboriginal and Torres Strait Islander populations. The incidence of chronic disease is much more common in Aboriginal and Torres Strait Islander people than in non-Aboriginal and Torres Strait Islander people, and occurs at a much younger age. Social disadvantage, inactive lifestyle and poor nutrition are major contributors.

Mortality in the early years, particularly in the first year of life, is an important measure of the effectiveness and availability of health services for mothers and children. The data on infant mortality is relatively accurate because it comes from the one data set. Consequently, disparities in infant mortality rates between rich and poor nations and between Aboriginal and non-Aboriginal children are important and relatively accurate indications of inequalities in social and economic status, as well as inequalities in the availability of healthcare (Freemantle *et al.* 2004).

The rate of Indigenous infant mortality was highest among Aboriginal and Torres Strait Islanders (14.3/1000 live births) and lowest among First Nations people (6.4/1000 live births). The relative difference was highest among Aboriginal and Torres Strait Islanders (three-fold) and lowest among First Nations people (1.2). Note that the latter statistic does not include the data describing Inuit and Métis peoples and therefore is likely to be an underestimation of the total Indigenous infant mortality rate.



The highest proportion of Indigenous babies born prematurely at less than thirty-one completed weeks was observed among Aboriginal and Torres Strait Islanders (13 per cent); the lowest proportion was among First Nations (5 per cent).

The importance and benefits of early intervention in childhood to prevent poor outcomes in adulthood cannot be stressed too strongly. O'Dea suggests that, given the emerging consensus that 'the pathways to chronic disease of adulthood begin in fetal and early postnatal life', an excellent starting point to addressing the chronic health burden would be to work towards improving the health of the next generation through the development of a comprehensive national program to improve maternal and child health. Such programs would aim to improve antenatal and neonatal care, increase birth weight and reduce premature delivery (O'Dea 2005).

The median age of Indigenous populations was lowest among Aboriginal and Torres Strait Islanders (21 years) and highest among American Indians/Alaska Natives (27.8 years). The largest absolute difference in the median age between Indigenous and non-Indigenous was in Australia.

The inability to accurately compare Indigenous people across countries has been highlighted by Ross and Taylor, who argued that:

while the health of Indigenous people in [Australia and New Zealand] remains worse than that of non-Indigenous people, available statistical evidence suggest that the health of the Māori has improved rapidly in the last 60 years or so... but there is no corresponding improvements in the health of Indigenous Australians (Ross & Taylor 2002:219).

Ross also reports the differences between Aboriginal Australians and Māori and their non-Indigenous peers in the life expectancy of males and females: Aboriginal males live 21.5 years less and females 20.0 years less than non-Aboriginal males and females respectively; Māori males live 8.1 years less and females 9.0 years less than non-Māori males and females respectively. However, other researchers urge caution with this interpretation. Cunningham and Paradies note: 'Rates of expectation of life and population size for Indigenous Australians is still experimental and likely to be less reliable than data for [New Zealand]' (Cunningham & Paradies 2000). Further, the method of calculation of the denominator differs between the two groups—the denominator for Australian statistics includes all Australians and for New Zealand statistics includes only non-Māori (Ross & Taylor 2002).

And, as Anderson *et al.* (2006) state, 'the analysis of Indigenous health world wide is limited by the availability of good-quality health data, which substantially limits the extent to which we can provide a detailed comparative analysis across [the various] sites'.



Table 1: General profile

	Australia*		New Zealand*		Canada*		USA*	
	Aboriginal and Torres Strait Islander	(All)	Māori	(All)	First Nations	(All)	American Indian/ Alaska Native	(All)
Life expectancy (years)								
Males	56	(76.6)	69.0	(76.3)	68.9	(76.3)	67.4	(74.1)
Females	63	(82.0)	73.2	(81.1)	76.6	(81.8)	74.2	(79.5)
Median age	21	(35)	22.0	(33.9)	24.7	(37.7)§	27.8	(35.8)
Infant mortality (per 1000 live births)	14.3	(4.7)	8.9	(5.7)	6.4	(5.3)	9.8	(6.8)
Low birth weight (proportion of LBW live births)	13%	(6%)	8%	(6%)	5%	(6%)	6%	(8%)

\*Aboriginal compared with (all non-Aboriginal)

### Sources

**Life expectancy**—Australia: AIHW 2002. New Zealand: Statistics New Zealand 2004. Canada: Health Canada 2002. USA: Centers for Disease Control and Prevention 2002.

**Mortality data**—Australia: ABS 2003. New Zealand: New Zealand Health Information Service 2003. Canada: Statistics Canada 2001 for 'all Canadians' (note that the national mortality data set does not include information describing ethnicity and no data are available to describe off-reservation Aboriginal Canadians); Statistics Canada 2001, Probert 2003 and First Nation and Inuit Health Branch 2002 for 'on-reserve' Indigenous Canadians. USA: Centers for Disease Control and Prevention 1999 (note the national mortality data set in the USA has race information).

**Median age**—Australia: ABS 2002a.

New Zealand: all New Zealand, <<http://www.bigcities.govt.nz/people.htm>>.

Māori, <[www.stats.govt.nz/products-and-services/Articles/census-snpst-maori-Apr02.htm](http://www.stats.govt.nz/products-and-services/Articles/census-snpst-maori-Apr02.htm)>.

Canada: Statistics Canada 2001 Census.

USA: <<http://www.census.gov/population/pop-profile/2000/chap02.pdf>>.

**Low birth weight**—Australia: AIHW 2002. New Zealand: Statistics New Zealand 2004. Canada: Health Canada 2002. USA: Centers for Disease Control and Prevention 2002.



## General mortality

In terms of size of relative disparities that exist for disease-specific mortality, Māori and Aboriginal and Torres Strait Islanders have the highest levels of disparity when compared to their non-Indigenous populations.

The highest disease-specific mortality rates for heart disease and cancer are found in New Zealand. Canadian First Nations peoples have the highest mortality rates of

all population groups for intentional self-harm and pneumonia/influenza. American Indians/Alaska Natives have the highest mortality rates for all population groups for assault. Non-Indigenous Americans have the highest mortality rate for HIV and there is no difference in the rate of HIV between Aboriginal and Torres Strait Islanders and non-Aboriginal and Torres Strait Islanders (Bramley *et al.* 2005).



Table 2: General mortality: age-standardised mortality rates (per 100,000)

Disease	Australia			New Zealand			Canada			USA		
	I*	NI†	RR	I*	NI†	RR	I*	NI†	RR	I*	NI†	RR
Total neoplasms	237.0	187.0	1.3	228.2	146.1	1.6	98.9	143.0	0.7	91.3	142.0	0.6
Ischaemic heart disease	162.6	87.1	1.9	206.1	110.2	1.9	83.8	89.6	0.9	83.1	118.9	0.7
Cerebrovascular disease	73.8	35.5	2.1	55.2	47.2	1.2	28.1	30.9	0.9	25.3	35.6	0.7
Other chronic obstructive pulmonary disease	33.7	13.7	2.5	33.7	13.7	2.5	10.8	16.1	0.7	15.8	22.7	0.7
Intentional self-harm	19.4	11.9	1.6	12.9	13.1	1.0	27.4	12.2	2.3	12.0	9.8	1.2
Pneumonia and influenza	13.2	6.2	2.1	9.9	10.3	1.0	24.4	17.7	1.4	14.0	13.2	1.1
Diabetes	85.4	8.7	9.8	62.5	11.0	5.7	19.5	13.3	1.5	36.2	16.7	2.2
HIV	3.8	3.8	1.0	1.0	0.5	2.0	NA	1.2	NA	2.9	5.0	0.6
Assault	7.8	1.4	5.6	3.9	1.0	3.9	8.1	1.5	5.4	10.6	6.4	1.7

Table adapted from Bramley *et al.* 2004

\*Indigenous † Non-Indigenous ‡ Relative risk

### Sources

**Mortality data**—Australia: ABS 2003. New Zealand: New Zealand Health Information Service 2003. Canada: Statistics Canada 2001 for ‘all Canadians’ (note that the national mortality data set does not include information describing ethnicity and no data are available to describe off-reservation Aboriginal Canadians); Statistics Canada 2001, A. Probert 2003 and First Nation and Inuit Health Branch 2002 for ‘on-reserve’ Indigenous Canadians. USA: Centers for Disease Control and Prevention 1999 (note the national mortality data set in the USA has race information).



## Infection

Throughout the world infections are recognised as a major (and potentially preventable) cause of death, particularly for Indigenous populations and for infants. An estimated 10.5 million children under five years of age died in 2002 from largely preventable causes that included infections and parasitic and perinatal diseases (Stein, Innoue & Ma Fat 2004). Excessive mortality and morbidity attributed to infectious diseases among American Indian/Alaska Native infants has been reported for several decades (Young 1994).

Population-based epidemiological data are essential to contribute to the understanding of these deaths with a view to informing health policy and practice (Freemantle 2003). Such data should include not only the patterns and trends of mortality over time, but also measure potential risk factors. These include maternal and infant factors, the specific causes of death, where families live and where the deaths occur (as measures of access to healthcare services).

Aboriginal and Torres Strait Islander people experience a greater burden of both communicable and non-communicable infectious diseases compared to the non-Indigenous population (ABS & AIHW 2003).

Aboriginal and Torres Strait Islander children experience the highest rates of bacterial respiratory diseases reported in the literature (Leach & Morris 2001). The incidence of meningococcal infection among the Western Australian Aboriginal and Torres Strait

Islander population is approximately six times that of the non-Aboriginal and Torres Strait Islander population (Olesch & Knight 1999).

The prevalence of gastroenteritis among Western Australian infants and children is high and is a major cause of hospitalisation of infants (Gracey & Cullinane 2003).

*Streptococcus pneumoniae* (pneumococcus) is a leading cause of otitis media, pneumonia, bacteraemia and meningitis and associated mortality and morbidity (Hanna *et al.* 1997). The incidence of invasive pneumococcal disease is significantly higher in Aboriginal and Torres Strait Islander people compared with non-Aboriginal and Torres Strait Islander people (Roche *et al.* 2006).

Specific information on vaccination coverage and vaccine-preventable diseases in Aboriginal and Torres Strait Islander people has been limited, with most of the published data coming from studies in certain regions or occasional jurisdictional reports (Menzies, McIntyre & Beard 2004). Data describing vaccine-preventable diseases is limited due to incomplete identification of Aboriginal and Torres Strait Islander people and incomplete coverage of surveillance data.

In New Zealand the burden of disease due to infectious diseases continues to remain disproportionately high among Māori children and young people compared to non-Māori (Paediatric Society of New Zealand 2005). A report on the health status of young children in New Zealand identified an increase in hospital admissions for bronchiolitis, bronchiectasis, gastroenteritis and meningococcal infection, particularly among Māori children in the most



## Results

recent years. Hospital admissions for pneumonia remained static, although there was a higher rate of admissions among Māori. Asthma admissions and deaths in young people have declined in New Zealand, although the rates of admission are higher for Māori young people (Paediatric Society of New Zealand 2005).

In Canada *Streptococcus pneumoniae* (pneumococcus) is the leading cause of invasive infections such as bacteraemia and meningitis. Despite advances in public health and medical care, otitis media is still prevalent around the world and continues to persist in Canada (Bluestone 1998). This infectious disease and associated hearing loss has been reported as a frequent problem for many Inuit children (Ayukawa *et al.* 2004). It has also been reported as endemic among First Nations, Métis and Inuit children in northern Canada (Bowd 2005).

Overall, infectious diseases are the third leading cause of death in the USA, and continue to be an important health issue (Binder *et al.* 1999; Holman *et al.* 2001, 2003, 2004).

American Indians and Alaska Natives have incurred excessive mortality and morbidity attributed to infectious disease for several decades (Holman *et al.* 2003). In particular, American Indian/Alaska Native infants are at much greater risk for death than non-American Indian/Alaska Native infants and have a higher mortality rate as a result of infectious disease (Indian Health Service 1999; Gessner & Wickizer 1997; McCusker, Clifton & Miller-Korth 2000).

While there has been a decline in infectious disease mortality among American Indians/Alaska Natives over the past several decades, this population continues to have higher risks for infectious disease mortality than other groups.

Otitis media is one of the most common and costly health problems that affects children younger than five years. Further, it is widely known that otitis media morbidity is greater among American Indian/Alaska Native children, particularly among infants, than among the general population of American children (Curns *et al.* 2002).

## Cardiovascular disease

Traditionally Aboriginal people have been thought to have lower prevalence of cardiovascular disease (CVD) including ischaemic heart disease, but significant social, economic and cultural change over the past several decades has negatively affected this.

In the colonised nations, deaths due to CVD have been declining in the general population. However, it appears that such deaths among Indigenous populations have been increasing over the past decades.

In Australia Kirov *et al.* report that CVD is a leading cause of premature death and death overall in Aboriginal and Torres Strait Islander and non-Aboriginal and Torres Strait Islander people. However, the disparity between these two populations is increasing due to the lack



of significant reduction in CVD-related deaths among Aboriginal and Torres Strait Islander people. The authors suggest that the failure to substantially reduce CVD among Aboriginal and Torres Strait Islander people probably reflects a combination of little change in risk-factors levels, access to treatment and rehabilitation services, persisting social, economic and environmental circumstances, and the slow implementation of strategies to reduce levels of CVD (Kirov & Thomson 2005). Brown *et al.* report age-specific differentials in CVD-related mortality between Indigenous and non-Indigenous Australians between the ages of twenty-five and fifty-four as being seven and twelve times higher (Brown *et al.* 2005).

In New Zealand male death rates are much higher than female deaths rates in both Māori and non-Māori populations. Coronary heart disease morbidity and mortality rates are declining in non-Māori, and there appears to be a decline in mortality in Māori but an increase in the rate of morbidity. However, Māori men and women continue to experience more than double the CVD mortality rates compared with non-Māori (Bell *et al.* 1996). The death rates due to CVD for people under seventy-five years are two to three times higher in Māori compared to non-Māori. Further, in the Māori population over half of the male deaths (53 per cent) and a third of the female deaths (33 per cent) occur before the age of sixty-five years (Hay 2002). Riddell reported mortality and hospitalisation rates for heart failure as being up to eight times higher among Māori compared to non-Māori in the age group of forty-five to sixty-four years (Riddell 2005).

In Canada the prevalence of CVD, while declining among all Canadians, has been reported to be increasing among Aboriginal people. A study by Anand *et al.* reported a higher frequency of CVD among Aboriginal people in Canada and a greater burden of atherosclerosis compared with Canadians of European ancestry (Anand *et al.* 2001). As observed among other Indigenous people of the world, Canadian Aboriginal people have traditionally been thought to have a lower prevalence of CVD. However, as with other colonised people, there has been significant social, economic and cultural changes in the past several decades, which has impacted on an observed increased in cardiovascular-related disease (Shah, Hux & Zinman 2000).

The notion that the incidence of ischaemic heart disease is low among the Inuit subsisting on a traditional marine diet has attained axiomatic status. The scientific evidence for this is weak and rests on early clinical evidence and uncertain mortality statistics. This paper reported a review of the literature of mortality from Greenland, Canada and Alaska (Bjerregaard, Young & Hegele 2003). Mortality from stroke, however, is higher among the Inuit than among other Western populations. The mortality from all cardiovascular diseases combined is higher among the Inuit than among white comparison populations. If the mortality from ischaemic heart disease is low, it seems not to be associated with a low prevalence of general atherosclerosis. A decreasing trend in mortality from ischaemic heart disease in Inuit populations undergoing rapid Westernisation supports the need for a critical rethinking of cardiovascular epidemiology among the Inuit



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and the role of a marine diet in this population (Bjerregaard, Young & Hegele 2003).

In the USA the disparity between American Indian/Alaska Native and non-American Indian/Alaska Native Americans has only recently been recognised (Harwell *et al.* 2005). A study by Howard *et al.* reported that, at present, coronary heart disease (CHD) rates in American Indians exceed rates in other USA populations and may more often be fatal. Unlike other ethnic groups, American Indians appear to have an increasing incidence of CHD, possibly related to the high prevalence of diabetes (Howard *et al.* 1999). This is in distinct contrast to the historically held belief that American Indian groups have low rates of CVD (Sewell *et al.* 2002). Similarly, a study of CHD mortality among Alaska Natives found that while previously at a lower risk of death from CHD than non-Alaska Natives, this discrepancy has disappeared. Between 1999 and 2002, there was no difference in CHD mortality in Alaska Natives compared with non-Alaska Natives (McLaughlin *et al.* 2004).

While available data now indicate that CVD has become the leading cause of death in American Indians, limited information is available on CVD incidence, prevalence and risk factors in this population. Reported CVD rates vary greatly among groups in different geographic areas. Available rates have been obtained from studies of varying sizes and different methodologies.

Schumacher *et al.* noted that existing studies regarding heart disease and stroke occurrence in Alaska Natives were largely limited to mortality data and small

community-based studies. To this end, the authors cautioned against generalisations about the increasing or decreasing prevalence of CVD and risk factors and called for increased descriptive epidemiological studies of the incidence and prevalence of CVD (Schumacher, Davidson & Ehram 2003).

## Injury

Injuries are a leading cause of childhood mortality and morbidity throughout the world. Although there have been substantial declines in the rates of injury deaths among children in developed nations, injuries remain the principal threat to the health and welfare of children (Rivara & Grossman. 1999). Rates of injuries are known to be higher among Indigenous peoples in North America, Australia and New Zealand compared to non-Indigenous people in those countries (Johnson, Sullivan & Grossman 1999; Silva *et al.* 1998). In the USA, American Indians and Alaska Natives also suffer from injury morbidity and mortality at higher rates than other races (Johnson, Sullivan & Grossman 1999).

Berger reported that for certain mechanisms of injury, Indigenous peoples often have dramatically higher injury rates compared with non-Indigenous populations in these countries. Phelan *et al.* reported a five-times age-adjusted rate for motor vehicle-related death among Navajo Indians compare with non-Indigenous Americans (Phelan *et al.* 2002); the Western Australian Aboriginal road injury hospitalisation rate was nearly twice that of the non-Aboriginal population





(Cercarelli & Knuiman 2002); in Northern Saskatchewan suicide and homicide rates among fifteen to twenty-four year olds are three to five times higher among the Native population compared with the non-Native population (Feather *et al.* 1993); and in the USA the rate of fire-related death in one IHS area was six times greater than the national average (Kuklinski, Berger & Weaver 1996).

In Australia injury is the leading cause of death, illness and disability, representing about 6 per cent of all deaths and accounting for 7 per cent of hospital admissions in the general population (AIHW 2004). To date there are few published studies describing the magnitude of injury among Aboriginal and Torres Strait Islander people, and no study provides a comprehensive understanding of the impact of injury on their lives. Available evidence suggests that the overall injury mortality rate in the Northern Territory, Western Australia, South Australia and Queensland was 2.8 times higher among Aboriginal and Torres Strait Islander persons compared with all Australians in these jurisdictions. Further, injury rates were generally higher among Aboriginal and Torres Strait Islander males than females (Helps & Harrison 2004). It is difficult to make an accurate assessment of the extent to which Aboriginal and Torres Strait Islander people experience injury, particularly in New South Wales, Victoria, the Australian Capital Territory and Tasmania, where, to date, Aboriginal and Torres Strait Islander status is substantially under-reported in hospital morbidity (ABS & AIHW 2003; Population Health Division 2004; ABS & AIHW 2002).

Harrison *et al.* report that the rates of injury mortality and hospital admission due to injury are substantially higher for Indigenous Australians than for the Australian population as a whole. Cunningham *et al.* report that the analysis of available data shows the injury-related mortality experience for Indigenous Australians differs substantially from that of non-Indigenous population (Cunningham & Paradies 2000). The AIHW reported higher Indigenous injury-related morbidity and mortality in remote areas, probably due to the increased proportion of Indigenous people in remote areas with limited access to health and other services (AIHW 1998).

Road injury is a major public health problem, particularly involving Aboriginal people in Western Australia who have much higher rates of road injury when compared with non-Aboriginal people (Cercarelli & Knuiman 2002). However, the quality of Aboriginal and Torres Straits Islander ascertainment differs between jurisdictions, complicating meaningful reporting for Australia as a whole, and small case numbers limit reporting for individual jurisdictions. Ascertainment also varies over time, complicating the measurement of trends (Helps & Harrison 2004). Jurisdictions where reporting is believed to be relatively good are the Northern Territory, Western Australia, South Australia and (more recently) Queensland. However, jurisdictions where reporting is believed to be less than optimal due to uncertain quality of ascertainment and other data limitation, and where caution should be exercised in the interpretation of findings, are New South Wales, Victoria, Tasmania and



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the Australian Capital Territory. Helps *et al.* recommend that further work is required to enable reliable rate estimates of Aboriginal and Torres Strait Islander injury mortality for Australia as a whole, and for regions and remoteness locations. The important aim is to achieve estimates that are sufficiently reliable to enable meaningful monitoring of trends over time (Helps & Harrison 2004).

Injuries comprise the leading cause of hospitalisation among all New Zealanders aged ten to nineteen years and account for 70 per cent of adolescent deaths.

Ameratunga *et al.* reported the age-adjusted injury hospitalisation rate ratio for Māori compared with European as 1.17. Māori youth had particularly high rates of motor vehicle occupant and self-inflicted injury and were over-represented among hospitalisations for assault and pedestrian injury (Ameratunga *et al.* 1999). Sargent *et al.* reported that motor vehicle traffic crashes were the leading cause of injury mortality and hospitalisation among Māori, particularly among young Māori (Sargent *et al.* 2004). In the USA, injuries account for 75 per cent of all deaths among American Indian and Alaska Native children and youth, and American Indians/Alaska Natives have an overall injury-related death rate that is twice that for all racial/ethnic populations (Sargent *et al.* 2004).

In Canada injury was the leading cause of death among all people under the age of forty-five and the leading cause of potential years of life lost. Karmali *et al.* reported that population-based studies characterising the distribution, determinants and outcomes of major trauma among Aboriginal Canadians

was lacking. The authors reported that severe trauma disproportionately affected Aboriginal Canadians (Karmali *et al.* 2005). Aboriginal Canadians were at a four-fold increased risk of severe trauma compared with the non-Aboriginal population, with motor vehicle crashes accounting for the overwhelming majority of cases of severe injury or death in both populations. Further, status Aboriginal Canadians were almost five times more likely to be involved in motor vehicle crashes compared with all Canadians (Karmali *et al.* 2005).

## Respiratory

In Australia respiratory diseases are the major causes of illness and death in the Aboriginal and Torres Strait Islander population and have contributed to high rates of hospitalisation since at least the 1980s (Kirov & Thomson 2004). Deaths from respiratory illness continue to be an important, ongoing health problem in Aboriginal and Torres Strait Islander communities (Peat & Veale 2001). Further, the prevalence of respiratory syncytial virus (RSV), the most common cause of lower respiratory tract infection (LRTI), is much higher in Indigenous compared with non-Indigenous children (Carver *et al.* 2003). Almost half of all LRTI-associated hospitalisations are caused by bronchiolitis, with RSV accounting for 50–80 per cent of all bronchiolitis cases. Asthma has also been reported as the leading cause of childhood morbidity in the developed world and the most common chronic



childhood disease (Gessner 2003). However, the prevalence and severity of asthma among Indigenous children has been incompletely described (Lewis *et al.* 2004).

Aboriginal and Torres Strait Islander people reported asthma as a long-term condition more often than the non-Aboriginal and Torres Strait Islander population (17 per cent and 12 per cent respectively). Aboriginal and Torres Strait Islander people living in remote areas reported having asthma slightly less frequently (15 per cent) than those in urban and rural areas (18 per cent) (ABS 2002). It is important to document that asthma does not play as large a role in the spectrum of disease of the northern Australian population attending Royal Darwin Hospital as it does in non-Aboriginal and Torres Strait Islander people. However, it must be remembered that the Aboriginal and Torres Strait Islander population suffers from greater overall morbidity, especially from infectious diseases and malnutrition.

Glasgow *et al.* report that 'existing research on asthma prevalence in Aboriginal and Torres Strait Islander communities provides conflicting data' and that in some studies the prevalence rates are lower in Aboriginal and Torres Strait Islander communities when compared with non-Aboriginal and Torres Strait Islander rates (Glasgow *et al.* 2003). Conversely, several studies have suggested that asthma prevalence is similar or higher in Aboriginal and Torres Strait Islander communities when compared with their non-Aboriginal and Torres Strait Islander counterparts (Peat & Veale 2001; ABS 1995; Downs *et al.* 2002).

In Australia reliable statistics of standardised mortality rates from respiratory illnesses have been collected since 1984, but only in Western Australia and the Northern Territory (Peat & Veale 2001). Chang *et al.* report that in Australia, despite the fact that many respiratory diseases are vaccine-preventable, they are still the most common disorder in all children under five years of age (Chang *et al.* 2000). In addition to medical reasons, factors contributing to respiratory diseases include socio-economic disadvantage, poor environmental living conditions, substantial poverty and a lack of basic health services (Hanna & Torzillo 1991). Read *et al.*, using total population linked data, reported a higher hospitalisation and re-admission rate for LRTI in Aboriginal children compared with non-Aboriginal children (Read, Gibbins & Stanley 1996). Further, in a more recent study, Burgner *et al.*, using similar population data, reported that Aboriginal Western Australian children had a ten- to twelve-fold higher risk of pneumonia-associated hospitalisation compared with non-Aboriginal children (Burgner & Richmond 2005).

In New Zealand studies report higher rates of hospitalisation due to pneumonia (Grant *et al.* 1998), asthma (Pattimore *et al.* 2004) and bronchiectasis (Edwards, Asher & Byrnes 2003; Twiss *et al.* 2005) among Māori children when compared with European children. Similarly, Carver *et al.* reported that the rates of bronchiolitis-associated hospitalisation for American Indian/Alaska Native children are approximately twice that of the general population of American children (Carver *et al.* 2003).



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Although older data, the Royal Commission on Aboriginal Peoples of Canada reported that more than 19 per cent of Aboriginal people more than fifteen years old reported having chronic health problems of asthma, bronchitis and emphysema (Royal Commission on Aboriginal Peoples 1996b). This rate is much higher than reported previously, indicating that asthma and chronic obstructive pulmonary disease may be increasing at a faster rate in the Aboriginal community compared with the non-Aboriginal community (Statistics Canada 1994). Banerji *et al.* stated that little was known about the epidemiology of LRTI in Canadian Inuit children. However, a prospective case study describing hospitalised Baffin Island infants less than six months old reported that Inuit infants in this region suffered from an extremely high rate of hospital admissions for LRTI (Banerji *et al.* 2001).

Differences in mortality rates for pneumonia in Aboriginal and Torres Strait Islander and non-Aboriginal and Torres Strait Islander children have been reported in Australia (Dawson 2004), where the death rate is higher among Aboriginal and Torres Strait Islander children. In the USA the rate is higher for Native Americans. High hospitalisation rates have been noted for Northern American Indians and for rural Australian Aboriginals (Dawson 2004; Whybourne *et al.* 1999). Ethnic differences in morbidity and mortality from pneumonia in developed countries are thought to be primarily due to social and economic factors. Marked differences exist in the ethnic rates of poverty, unemployment and household crowding.

Because of the association between bronchiolitis and RSV infection, bronchiolitis is a good indicator of RSV. Rates of bronchiolitis-related hospitalisation for Alaska Native/American Indian children are approximately twice that of the general population of American children (Carver *et al.* 2003). Gessner reported that asthma is the most common chronic childhood disease in the USA (Gessner 2003). However, few trend data on asthma prevalence exist for the American Indigenous populations and 'none exist for [Alaska Natives]' (Gessner & Neeno 2005). Prevalence data indicate that Alaska Native rural children have a lower risk of asthma when compared to non-Alaska Native rural children, and a higher prevalence compared with urban Alaska Natives. However, there is an increased risk of hospitalisation for Alaska Natives (Gessner 2003).

## Rheumatic heart disease

Acute rheumatic fever (ARF) and its chronic aftermath, rheumatic heart disease (RHD), have become rare in most affluent populations, but remain unchecked in developing countries, as well as in some poor, mainly Indigenous populations in wealthy countries. ARF is a delayed complication of an untreated throat and/or skin infection by Group A *Streptococcus*. It is entirely preventable. Acute and chronic RHD is frequently misdiagnosed or under-reported and therefore the true



incidence is underestimated. Poverty and overcrowding, poor sanitary conditions, lack of education and limited access to medical care for adequate diagnosis and treatment are recognised as contributing factors to rheumatic fever.

ARF is frequently under-reported because of the difficulty in diagnosis and reduced awareness of the disease. Therefore, the true incidence is likely to be underestimated.

Carapetis, Currie and Mathews (2000) reported that the 'highest reported rates are in Indigenous populations in Australia and NZ'. For example, the incidence rate in school-age Pacific Islander children in New Zealand is 80–100 per 100,000 (Lennon 2000) and in Australia, rates of 245–351 per 100,000 are documented for Aboriginal children in Central and northern Australia. However, community-based surveillance suggests that the true incidence exceeds 500 per 100,000 (Carapetis, Currie & Mathews 2000).

The AIHW reported that Aboriginal Australians are sixteen times more likely to die from ARF or RHD than other Australians, and the deaths rates attributable to ARF or RHD is higher in remote areas than urban centres (National Centre for Monitoring Cardiovascular Disease 1999). Further, in Australia in 2004–05, there were 2448 admissions to hospital for ARF and RHD as the principal diagnosis (0.03 per cent of all hospitalisations). In Australia almost all those registered with acute and chronic RHD in the Top End of the Northern Territory and Central Australia were Aboriginal and Torres Strait Islander people (AIHW 2006c). There were

257 deaths in Australia due to ARF and RHD (0.2 per cent of all deaths). Of these deaths, 97 per cent were due to chronic RHD.

In New Zealand ARF and RHD continue to be major health problems among Māori and Pacific Islander peoples. For the period 1995–2000, the annual incidence of ARF was 2.8 per 100,000, an increase of 12 per cent over that reported in 1990–95. The annual rate among Māori aged five to fourteen years was 31.9 per 100,000, compared with a non-Māori rate of 1.7 per 100,000 (Thornley *et al.* 2001).

ARF is rare in the USA, but may well be under-diagnosed due to a lack of awareness of the disease, particularly by young doctors. The mortality rates are similar to those observed in all Australians (less than 2 per 100,000 in 2002), but are less than those observed in Aboriginal and Torres Strait Islander people who are up to two times more likely to die from ARF or RHD as other Australians (Field 2004).

## Suicide

Tatz argues that 'Aboriginal suicide is different' (Tatz 1999:). Aspects of the difference are in the context of crisis among many Aboriginal communities, combined with the complex social, political and economic factors characterising the history and contemporary situation of Aboriginal people. Another aspect of the difference is the higher rate and rapid emergence of suicide, especially among young males. Tatz argues that suicide is a component



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of 'new violence' in Aboriginal communities, which has arisen, at least partly, in response to the removal of the 'often draconian structures' that prevailed with the sequelae to colonisation and whose operations have done little to allow or promote meaningful communities or autonomy (Tatz 1999).

Most reports on suicide highlight the persistent social disadvantage experienced by Indigenous populations in comparison with their respective dominant cultures as a contributor to disparate rates of suicide.

Suicide was not known in traditional Aboriginal societies. Even up to the 1960s suicide was a rarity, at a rate of 3 per 100,000 (Elliott-Farrelly 2005). The 1970s saw the incidence of suicide increase, especially in the age group of thirty to forty years, and by the 1980s suicide became endemic in some Aboriginal communities. The past decade has seen suicide become a significant contributor to premature death among Aboriginal and Torres Strait Islander people (Hunter 2001).

Suicide and related behaviours among Aboriginal and Torres Strait Islander people began to receive attention in the late 1980s, especially in the context of the investigation into Aboriginal deaths in custody. Much of the extensive literature on suicide occurrence, risk factors and prevention has been considered in three literature reviews commissioned under the National Suicide Prevention Strategy (NHMRC 1999).

Hunter *et al.* emphasised that issues of definition, under-reporting, lack of reporting, varying coronial practices and the influence

of race on investigative procedures made comparisons of suicide rates among Indigenous populations problematic. However, the authors also added that, generally, international interpretations of Indigenous information highlighted the impact of the breakdown of cultural structures and historical processes associated with colonisation (Hunter & Harvey 2002).

The Canadian Royal Commission on Aboriginal Peoples (1995) concluded:

[the] high rates of suicide and self-injury among Aboriginal people are the result of a complex mix of social, cultural, economic and psychological dislocations that flow from the past to the present. The root causes of these dislocations lie in the history of colonial relations between Aboriginal peoples and the authority and settlers who went on to then establish Canada and in the distortion of Aboriginal lives that resulted from that history (Royal Commission on Aboriginal Peoples 1995:2).

This quote would equally apply as an explanation for the high rates of suicide observed in the other colonised peoples included in this paper, where the undermining of cultural structures, processes and integrity are consistent.

A Manitoba study stated that 'suicide among aboriginal [sic] people cannot be studied through the use of such traditional data sources such as vital statistics records, since ethnic background is not recorded on the death certificates in any jurisdiction' (Malchy 1997).



In New Zealand Coupe stated that suicide continues to be a major issue for Māori and suggests that the national suicide prevention strategy is somewhat limited in application to the Māori community. 'In Our Hands' and 'Kia Piki Te Ora O Te Taitamariki' are the two parts of the National Youth Suicide Prevention Strategy. They have a set of broad goals and objectives, which together form a comprehensive but far too narrowly targeted approach to reducing suicide in Aotearoa/ New Zealand (Coupe 2000).

## Mental health

The Australian National Mental Health Strategy defined 'mental health' as 'the product of biological, psychological and social environment (both past and present), health, care and lifestyle' (Swan & Raphael 1995). Around the world, Indigenous people have experienced rapid culture change, marginalisation and absorption into a global economy that has little regard for their autonomy. Kirmayer *et al.* identified that 'cultural discontinuity has been linked to high rates of depression, alcoholism, suicide and violence in many communities with the most profound impact on youth' (Kirmayer, Brass & Tait 2000:607). Reid and Trompf emphasised that the issue of land was considered paramount to Aboriginal belonging and health and their mental wellbeing: 'next to shooting Indigenous people the surest way to kill us is to separate us from our part of the earth' (Reid & Trompf 1997:). Brown reported that 'to [understand]

the complexity of another culture's health concerns is fraught with difficulty ...

Australian Indigenous people have suffered many losses, which have resulted in much social unrest, and mental and spiritual sorrow' (Brown 2001).

In North America the history of the European colonisation is a harrowing tale of the Indigenous population's decimation by infectious disease, warfare and active suppression of culture and identity. Kirmayer, Brass & Tait stated:

Around the world, Indigenous peoples have experienced rapid culture change, marginalisation and absorption into a global economy that has had little regard for their autonomy. Cultural discontinuity has been linked to high rates of depression, alcoholism, suicide and violence in many communities, with the most profound effect on youth (2000:607).

Manson reported a number of areas where American Indians and Alaska Natives suffer significantly greater disadvantage in a number of economic, social and health domains. He argued that American Indian 'children growing up under these stressful conditions are at a higher risk of behavioural and emotional problems' and that 'some evidence suggests that [American Indian] youth experience more mental problems than their peers in the general population' (Manson 2000). However, Whitbeck stated that 'there are few studies that report prevalence rates of mental disorder among [American Indian] children and the best of those has now become dated' (Whitbeck



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*et al.* 2006). Johnson and Cameron (2001) reported that 'large scale studies of the rates of mental disorders among American Native adults have not been published'.

Durie (1999) reported that 'Māori [suffering from mental ill health] are over represented in crisis, acute patient and forensic services and have substantial higher rates of re-admission than non-Māori'. In the same paper, Durie (1999) stated that 'it cannot be emphasised enough that mental health problems are among the most serious health problems facing Māori today [and] there are no signs that the trends first evident in 1975 are reversing'.

## Diabetes

Diabetes is a powerful determinant of health outcome. For Indigenous peoples across the four countries, diabetes-related mortality is high (Table 2) (Young *et al.* 2000). Diabetes has been also been reported as being a significant and increasing health issue among Indigenous people. Aboriginal and Torres Strait Islander people in particular have a high mortality rate associated with diabetes—the Aboriginal and Torres Strait Islander/non-Aboriginal and Torres Strait Islander relative difference of 9.8 was the highest reported.

Diabetes is a chronic disease with multifactorial causes involving the interactions of genetic susceptibility with environmental factors. Young *et al.* (2000) suggested that 'diabetes [can] be considered to be indicative

of the rapid social changes experienced by Aboriginal people in the past several decades'. Moore *et al.* reported that Type 2 diabetes was increasing among young American Indians and other populations (Moore *et al.* 2003). Lee *et al.* (2004) reported that Type 2 diabetes had reached epidemic proportions in many American tribes and was the leading cause of mortality and morbidity in these populations. Daniel *et al.* (1999) stated that 'type 2 diabetes and its sequelae, such as cardio-vascular disease and renal diseases, are the major causes of premature mortality among Aboriginal Australians'. Moore & Lunt (2000) reported that New Zealand faced an escalating burden of diabetes and its complications, particularly in relation to end-stage renal failure. They also reported that the burden of renal failure was 'especially high in Māori and Pacific Islanders' and that 'this related to both their higher incidence of Type 2 diabetes and an apparent increased susceptibility to end stage damage' (Moore & Lunt 2000).

Among Indigenous people living in the USA, over the past decades the disease burden among the American Indian and Alaska Native population has shifted from acute infectious diseases to chronic illnesses, particularly Type 2 diabetes and its complications. Narva reported that diabetes, a condition virtually unknown prior to World War II, has 'reached epidemic proportions among the native population of North America' (Narva 2002).





## Renal disease

The high rates of renal disease and renal failure are a serious public health threat to Indigenous Australians, but the high rates of end-stage renal disease (ESRD) among Indigenous people have only been fully recognised in recent years (Australian Indigenous HealthInfoNet 2003). Information on the incidence and prevalence of chronic kidney disease among Indigenous Australians is not available at a national level (AIHW 2005b).

Compared with other Australians, Indigenous Australians, in particular those in remote communities, have excessive chronic kidney disease morbidity (AIHW 2005b). Spencer *et al.* reported the doubling of ESRD incidence among Aboriginal people in the year 2000. These increasing rates have major medical and social implications for Indigenous people, including the impact of premature mortality on the community and the negative social consequences that accompany treatment and the high cost of tertiary-level medical care, which adds an enormous burden to limited resources. Better living conditions and education, robust and integrated primary healthcare programs, and systematic screening for early renal disease and treatment of those with established disease are all matters of urgency (Spencer *et al.* 1998).

McDonald & Russ (2003) also reported that 'the number of Indigenous people treated with renal replacement therapy... and... ESRD... in Australia and New Zealand has risen dramatically over the past 20 years'.

Further, it was 'now a major health problem not only for the individuals affected but also the local communities and health services providers' (McDonald & Russ 2003).

Access to haemodialysis facilities, particularly for those living in rural and remote communities, remains a significant issue. Risk factors for renal disease underlie all the excess morbidity and mortality among Aboriginal peoples, and arise out of accelerated lifestyle changes and socioeconomic disadvantage (Narva 2002; Spencer *et al.* 1998).

Although Māori and Aboriginal and Torres Strait Islander people comprise an unduly high proportion of patients treated for ESRD, Stewart *et al.* reported that there are no published age-specific population-based rates to enable an ascertainment of the extent to which individual primary renal diseases contribute to the access of ESRD in Aboriginal and Torres Strait Islander people or Māori or to a comparison with other populations (Stewart, McCredie & McDonald 2004).

Narva (2002) reported that Native Americans experience high rates of ESRD and that these rates are increasing at a significant rate. Narva also reported that the burden of ESRD has become a community-wide problem, and that significant efforts have gone into establishing dialysis services on reservations (Narva 2002). Several studies have demonstrated increased rates of early kidney disease among American Indians/Alaska Natives, both in diabetics and non-diabetics.

In a Canadian study of ten-year incidence rates of diabetic ESRD, results showed a higher rate among all age groups of registered



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native people when compared with non-native people. When a higher prevalence of diabetes among native people was taken into account, native diabetic people were still seven times as likely as non-native diabetic people to manifest diabetic ESRD. The median survival from start of dialysis was under two years in both groups, but more native people died of stroke and more non-native people died of heart disease. Non-native diabetic people were more likely than native diabetic people to receive renal transplants. The study concluded that although the overall incidence of diabetic ESRD in Saskatchewan is increasing, registered native people have a disproportionate risk of serious complications (Dyck *et al.* 1998).

In many Aboriginal communities, the burden of kidney disease, particularly the multi-generational occurrence in some families, is perceived as a major threat to the wellbeing of Aboriginal communities.

## Human Immunodeficiency Virus

Generally, Aboriginal Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) data are incomplete for several reasons. The major reason is the incomplete ethnic/Indigenous information in current national surveillance data. Other reasons include variations between different communities,

misclassification of racial origin and delays in reporting. Positive HIV test reports among Aboriginal people only represent those infected individuals who have been tested and the results subsequently reported. Therefore, numbers do not tend to represent the total number of Aboriginal people affected with HIV. Despite these limitations, available data suggest that Aboriginal people are affected at a younger age than non-Aboriginal people, females are increasingly becoming more likely to be infected than males, that injecting drug use is increasingly the most important mode of transmission and that the HIV epidemic shows no sign of abating (Guthrie *et al.* 2000).

Australia has so far prevented the uncontrolled spread of HIV among its population and the number of cases of HIV and AIDS cases in Australia is among the lowest in the world (National Centre in HIV Epidemiology and Clinical Research 2002). However, great concerns have been expressed about the possible impact of HIV/AIDS among Indigenous people, for whom AIDS was seen as having the potential to 'further erode the social and economic fabric of Indigenous communities' (ANCARD 2000). Indigenous people are seen as being at a particularly high risk of contracting HIV infection due to the high rates of sexually transmitted infections and lack of access to effective services (ANCARD Working Party on Indigenous Australians' Sexual Health 1997).

The Australian Indigenous HealthInfoNet reported that by the end of 2004 the cumulative number of HIV diagnoses was estimated to be 19,674, with an estimated



13,120 people living with HIV/AIDS infection (Australian Indigenous HealthInfoNet 2006), a rate of 3.8 per 100,000. Guthrie *et al.* reported a number of features in the HIV epidemic that distinguish Indigenous from non-Indigenous cases, including a higher proportion of women affected, a higher proportion with heterosexual exposure to HIV, a younger age at HIV and AIDS diagnosis and a higher proportion of people with HIV in rural areas (Guthrie *et al.* 2000). Wright *et al.* reported that while the rate of HIV infection declined among non-Indigenous Western Australians between 1985 and 2002, the rate increased among the Indigenous population (Wright *et al.* 2005) and thus the rate of HIV became the same among both populations.

New Zealand has a low annual incidence of new HIV infections and subsequent low mortality rates among Māori as reflected in study findings. The New Zealand response to the HIV epidemic has been viewed as a public health success story (Davis 1996).

In Canada the Aboriginal population is very diverse, with many sub-groups (Inuit, Métis and First Nations). These groups are disproportionately affected by many social, economic and behavioural factors (such as high rates of poverty, substance abuse, sexually transmitted infections (STIs), limited access to or use of healthcare services), which increase their vulnerability to HIV infection (Centre for Infectious Disease Prevention and Control 2003). However, little is known about the extent of the HIV epidemic among Aboriginal people in North America (Centre for Infectious Disease Prevention and Control 2000). Craib *et al.*

suggested reasons for this that included 'use of surveillance data, underreporting and inconsistent documentation of ethnic status between provinces' (Craib *et al.* 2003).

Calzavara *et al.* (1999) concluded that Canadian Aboriginal communities were not insulated from HIV infection as previously thought and that HIV could spread rapidly if introduced. In a population-based analysis of Aboriginal British Columbians affected with HIV, Hogg *et al.* (2005) reported that more than one in every 100 Aboriginal persons aged fifteen years and over was living with HIV in 2001. Further, that approximately a quarter to a third of all infections among Aboriginal people in Canada occurred in British Columbia (Hogg *et al.* 2005).

An early review of studies conducted on American Indians and Alaska Natives suggested similarities between HIV epidemics among Canadian and American Aboriginals (Metler, Conway & Stehr-Green 1991). The Centers for Disease Control and Prevention reported that from the start of the epidemic through to 2002, there were 2875 reported AIDS cases among Native Americans in the USA (HRSA 2004). Although HIV infection in the American Indian/Alaska Native population remains less than 1 per cent of the total HIV infection rate in the USA, the true prevalence is not known due to low rates of testing and misclassification (HRSA 2004). Speier reported that Alaska Natives accounted for 2 per cent of the HIV/AIDS cases in Alaska, while representing 18 per cent of the population of the state (Speier 2005). However, given the high rate of sexually transmitted diseases and substance abuse among the Alaska Native



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population, Speier suggested a corresponding increased risk of HIV spreading among this population (Speier 2005).

McNaghten *et al.* reported that in 2000, while American Indians/Alaska Natives represented 0.7 per cent of the total American population, they accounted for 0.3 per cent of the estimated number of people living with AIDS (McNaghten *et al.* 2005).

*al.* found that from 1987 through to 2003, the reported rate of chlamydial infection increased by 25.78 per cent in American Native women in the USA. Between 1999 and 2003 rates of gonorrhoea increased by 6 per cent in American Native women, and the rate of primary and secondary syphilis was seven times the rate among white women (Steele, Richmond-Reese & Lomax 2006).

## Sexually transmitted infection

Genital *Chlamydia trachomatis* infection is a major public health problem in Australia. Vajdic *et al.* reported that the prevalence of genital chlamydial infection in Indigenous Australians and young adults is unacceptably high and that quality epidemiological studies were urgently required to supplement the routinely collected national notification data (Vajdic *et al.* 2005).

STIs are a major global cause of morbidity and infertility, with significant sequelae. Jolly *et al.* suggest that STIs are not distributed evenly across the whole population (Jolly *et al.* 2005). In New Zealand rates of STIs, in particular chlamydia (*Chlamydia trachomatis*) and gonorrhoea (*Neisseria gonorrhoeae*), are steadily increasing in the Māori (Johnston, Fernando & MacBride-Stewart 2005).

Alaska has the highest rate of chlamydia in the USA, with Alaska Natives accounting for a disproportionate 46 per cent of all reported chlamydia (State of Alaska 2004). Steele *et*



# Case Studies

A number of cases studies have been identified where interventions have resulted in improved outcomes. Such information is important, as these case studies clearly demonstrate that initiatives that (a) are developed by the community in partnership with those who are best placed to support and advice, (b) respond to community priorities, and (c) are well-resourced and involve community at all levels, can and do make a positive and sustainable difference in health outcomes for Indigenous people. The cases studies have been drawn from the States and Territories in Australia, from New Zealand, Canada and the USA.

Some of the interventions that have been described are:

- a community-controlled and operated health outreach service and 'Kids Club', which works with mainstream health services to respond to the health and education needs of the community, through daily out-reach and the provision of an education centre for children most at risk of truancy (the Jalaris Aboriginal Corporation, Derby, WA);
- an integrated primary healthcare service predominately staffed by Aboriginal health professionals and healthcare workers and focusing on young families using a whole-of-life course framework that includes a collaborative model of antenatal and postnatal care and the provision of comprehensive maternal and child care that extends beyond traditional health services (Townsville Mums and Babies Project, Queensland);
- the development of a health promotion and health education program for the prevention of Sudden Infant Death Syndrome (SIDS) in Aboriginal communities. The program is based on evidence-based information and uses a collaborative management model (SIDS Prevention in Aboriginal Communities, WA);
- the development of a community-controlled, staffed and supported program aimed at improving health outcomes for Aboriginal mothers and babies through improvement in the provision of and access to antenatal care (Strong Women, Strong Babies, Strong Culture, Top End, NT);
- the establishment of a comprehensive primary healthcare service for all Anangu people on their lands that is integrated with other social, educational and employment systems and services and is culturally appropriate and accessible (Nganampa Health Council, Anangu Pitjantjatjara Lands, SA);
- the establishment of a primary healthcare service, staffed by Aboriginal health workers and health professionals, aimed at improving the health of mothers and babies through the provision of culturally appropriate and accessible antenatal and postnatal care (Ngunytju Tjitji Pirni Corporation, Kalgoorlie, WA);
- a unique collaborative program—the Community Health Aide (CHA) Program—funded by the USA federal government (IHS) and developed and managed by local regional Native health corporations, individual villages and the State of Alaska, aimed at providing comprehensive primary

## Case Studies

healthcare to Native Americans in Alaska, particularly in the remote locations of the state. Health aides, telemedicine, rapid medivac, and comprehensive medical and clinical protocols are used in order that a twenty-four hour, seven-day/week expert professional service is available year round (CHA Program, Alaska);

- building true capacity among Indigenous communities through community development and improving the structure and infrastructure in the designing of programs (Gathering of Native Americans, USA);
- the development of specific age-related injury mortality prevention programs, developed by Māori and for Māori within a Māori framework that addresses Māori aspirations (Turanganui-a-kiwa Community Injury Prevention Project, New Zealand);
- development of a strategy to implement a survey to gather detailed information about Aboriginal people in Canada on topics including education, employment, language, economics, health and family dynamics (Aboriginal Peoples Survey and Aboriginal Children's Survey, Canada);
- introduction of a program that facilitates holistic learning through specific initiatives aimed at increasing the educational success of Aboriginal children (Aboriginal Academic Achievement Grant, Manitoba Education, Citizenship and Youth).

These cases studies identified specific improvements associated with the interventions. The following are examples of the main improvements:

- increased interaction with health services, including mainstream health services; an evident increase in knowledge and awareness by non-Aboriginal health professionals in the provision of effective and appropriate ways of interacting with Aboriginal people; increase in educational engagement and reduction in truancy rates (Jalaris);
- reduction in pre-term births and low birth weight; earlier attendance and increase in antenatal care visits; building of capacity to provide antenatal care in Aboriginal-controlled health services (Townsville Mums and Babies Project, Queensland);
- significant increase in knowledge and awareness of risk factors associated with SIDS in Aboriginal communities; development and implementation of community response to raise the awareness of SIDS; development and wide distribution of health promotion and education material acceptable to Aboriginal communities (SIDS Prevention in Aboriginal Communities, WA);
- credited as having a significant impact on improving the child mortality rate; improved health status of pregnant women, particularly a reduction in maternal infections; increase in mean birth weight; reduction in pre-term birth rate (Strong Women, Strong Babies, Strong Culture, Top End, NT);



- increase in birth weight; increase in overall coverage of immunisation particularly in <five year olds; improvement in screening for STIs and HIV; major improvement in data collection, storage and development of an efficient patient recall system (Nganampa Health Council, Anangu Pitjantjatjara Lands, SA);
- increase in early identification of morbidities and referral to hospital; successful recruitment of high-risk women into antenatal programs; improved integration of families into other services (Ngunytju Tjitji Pirni Corporation, Kalgoorlie, WA);
- while it is not possible to directly associate the following changes with CHA Program, there is clearly a correlation between the introduction of the CHA Program and an overall dramatic improvement in Alaska Natives' health; decrease in neonatal mortality; decrease in infant mortality, hospitalisation rates and length of stay; increase in life expectancy, antenatal care and attendance at screening programs (CHA Program, Alaska);
- highly significant changes in awareness of injury prevention and up-take of prevention initiatives among those participating in the program in Turanganui-a-kiwa *Whanau* (Turanganui-a-kiwa Community Injury Prevention Project, New Zealand);
- increased ownership by Aboriginal people of their own information; capacity building of Aboriginal people in data gathering, management and analysis, and the critical evaluation of data and data reports; improved data describing Canadian Aboriginal people (Aboriginal Peoples Survey and Aboriginal Children's Survey, Canada);
- documented improvement in Aboriginal student successes and increase in school attendance and graduation rates (Aboriginal Academic Achievement Grant, Manitoba Education, Citizenship and Youth).

Appendix 1 describes, in detail, these selected case studies.





# Conclusion

The literature showed comprehensively that the health status of the Aboriginal populations of North America, New Zealand and Australia is still below that of the countries' whole populations. However, in most cases it was impossible to compare accurately and appropriately these health data between countries and, in some instances, within countries. International comparisons are only possible if accurate data are available and there are consistencies in data collection and recording demonstrated in the different countries. The reasons for these inaccuracies are in part due to the absence of effective collection protocols for the collection of Aboriginal status and the failure to acknowledge the various Aboriginal groups living within the communities.

Furthermore, there has been a lack of information regarding not only the process associated with the collection of this information, but also explanations as to why such data should be collected. There has also been a lack of government commitment and support for the collection of these data.

There appears to be a number of common issues that adversely affect the quality of the health data that is available in the four countries (Bramley *et al.* 2004). If we are to better evaluate the differences and similarities between the various Aboriginal groups and to accurately measure the differing patterns and trends in health, a comprehensive and accurate profile of existing data is necessary.

Within the Australian context, we have reason to celebrate initiatives over the past two decades that have seen a significant improvement in the completeness and classification of Indigenous information in statutory and administrative data sets in Western Australia, the Northern Territory, South Australia and, more recently, Queensland. Unfortunately, this improvement is not national and there are some States and Territories where there is an acknowledged under-identification of Aboriginal people—thus the complete ascertainment of Indigenous people in statutory and administrative data collections is questionable. There needs to be a significant allocation of resources, both pecuniary and human, to address these inadequacies.

The power of this information would be significant. It would allow us to consider the context in which health outcomes improve and the potential to consider the application of enabling initiatives and systems to other groups where the health outcomes are less impressive. Ellencweig identified the benefit of comparisons in population health and suggested that 'comparing health systems internationally can help raise questions about one's own system. In addition, looking at other systems can furnish alternative ideas and help establish new models of care' (Ellencweig 1992).



Recent total population data in the Northern Territory and Western Australia report a mixed picture of mortality rates in Aboriginal people. Long-term reductions in Aboriginal mortality have been reported with statistically significant reductions in infant mortality, in all-cause mortality (especially in those aged less than five years) and in deaths from both communicable diseases and injuries in those aged five years and over (Freemantle *et al.* 2006; Freemantle *et al.* 2004; Thomas *et al.* 2006). There has been an improvement in chronic obstructive pulmonary disease and in deaths due to kidney disease and diabetes, although the rates for these latter two causes are slowing. Deaths due to cancers also provide a mixed picture, with the cancers that affect Aboriginal people being largely preventable and associated with smoking and lifestyle factors (Condon *et al.* 2004). The improvements in deaths due to infectious diseases (possibly due to improvements in primary care—clinical, disease prevention and health promotion in the area of infectious diseases—access to health services and improved health services infrastructure) have been overtaken by an increase in deaths due to chronic diseases. The latter provide strong justification for the importance of primary prevention programs including anti-smoking programs, improved nutrition and physical exercise programs, screening programs for blood pressure and maintenance of hepatitis B vaccination levels.

This picture of the patterns and trends of mortality in Australia shows distinct improvements in some areas of preventable mortality. There are many outstanding culturally appropriate programs with Aboriginal leadership and control that have been initiated in recent times and there is clear evidence that well-developed and effectively resourced community-controlled initiatives can and have had a positive impact on improving the health outcomes of Aboriginal people. We need to learn from the positive initiatives and also from those initiatives that have not reached their objectives in order that the momentum in the improvement of the health and wellbeing of the world's Indigenous people can be increased and sustained.



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# Appendix I: Case Studies

## Overview

Within the past two decades, community capacity building and community empowerment have emerged as key strategies for reducing health disparities and promoting public health. As with other strategies and best practices, these concepts have been brought to Indigenous communities primarily by mainstream researchers and practitioners. However, mainstream models, and their resultant programs, often have limited application in meeting the needs and realities of Indigenous populations. Indigenous people are increasingly taking control of their local healthcare services (Chino & Debruyn 2006).

Capacity building for Indigenous people needs to go beyond 'action planning' and 'engaging leadership' concepts, which are the first steps in Western models. Before Indigenous people can effectively engage in building healthier communities, the wounds caused by colonisation, historical trauma, racism, and disparities in health, education and living conditions need to be acknowledged, treated and healed (Chino & Debruyn 2006).

An Indigenous model for effective community health initiatives must reflect Indigenous reality. It must integrate the past, the present and the people's vision of the future. It must acknowledge the resources and the challenges, and allow communities to build a commitment to identifying and resolving health concerns and issues.

The following are a selection of cases studies that demonstrate successful programs undertaken in Indigenous communities.

## Australia

Jalaris Aboriginal Corporation—  
Kids Future Club and Health  
Outreach Service, Western  
Australia

### Summary/objectives

This project consists of two parts that have significant interactions:

1. The Jalaris Kids Future Club, which aims to:
  - improve the health and educational outcomes of Aboriginal kids in the Derby area by working with the kids who are most at risk of missing out on education and health services;
  - expose kids and their families to semi-structured learning and child-development activities in preparation for school;
  - encourage a culture of learning using a literacy and numeracy model that develops ways to work with Aboriginal kids and families and supports rather than alienates them from education and learning.
2. The Jalaris Health Outreach Service, which aims to:
  - collaborate with health practitioners and pay a visit to each household that has kids involved in the Kids Future Club at least twice a year, talking with all family members and giving them access to the mobile clinic;

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- provide ongoing family and health support and identify issues in broader family and household units that may be impacting on the kids;
- provide the basis for an important data collection process for evaluation purposes.

### Situation before

The situation for Aboriginal families in Derby:

- The population of Derby is about 5000 people, of which about half are Aboriginal. Thirty-seven per cent of the Aboriginal population is under fourteen years old, and Aboriginal kids make up over three-quarters of the under-fourteen population of the region
- Most Aboriginal families are living in poverty. The mean household income (often for more than seven people) is \$300–\$400 per week. About 90 per cent of Aboriginal families live in rented housing, usually provided by Homeswest.
- Overcrowding is a significant issue and unemployment is high. About 85 per cent of Aboriginal people over fifteen years old in Derby are unemployed, including people engaged in Community Development Employment Projects.
- Over a quarter of Aboriginal babies are born to teenage mothers and over 50 per cent of Aboriginal mothers use tobacco during their pregnancies.
- Substance abuse, especially in those under forty, is high and on the increase.
- Child neglect, family violence and sexual abuse are all significant issues in the community, flowing on in part from the circumstances described above.
- Only 28 per cent of Aboriginal kids in the Derby region regularly eat sufficient fresh vegetables.
- Aboriginal kids in the Derby region have a higher incidence of teeth and hearing problems than in other parts of Western Australia.
- Although the statistics for health-service use in the region are slightly higher than in much of the rest of the State, a significant proportion of the Aboriginal population is alienated and distrustful of any mainstream service.
- The schools in particular have very low levels of trust within the community at the moment. Educationally, Aboriginal kids are performing far worse than non-Aboriginal kids in Derby, as they are across the State. According to the Western Australian Community Controlled Health Organisation (now known as the Aboriginal Health Council of Western Australia), 60 per cent of Aboriginal kids have low academic performance, compared with 19 per cent of all children.
- Truancy is a major problem for Derby's Aboriginal families. The two local schools have estimated that about 10 per cent of children registered with them fail to attend school on any given day. This amounts to about sixty children per day in Derby. Most of these truanting children are Aboriginal. This number does not include the large but unknown number of children who have not been 'registered' as truants.



### Development

- The Jalaris Aboriginal Corporation works with the most marginalised Aboriginal families in Derby. The philosophy and practice of the Jalaris Aboriginal Corporation is based on:
  - an Aboriginal-controlled family organisation, which works on the kinship system;
  - political and factional neutrality;
  - a holistic and child-centred approach to health and wellbeing;
  - an early intervention approach; and
  - action, learning and evaluation.
- the Building Stronger Families in Derby project, including a health caravan and family support outreach, homemaking and environmental health activities for families, a drop-in center for young children (under twelve) and a safe place for women at the Jalaris Centre; and
- the Photo me Derby project in which digital media was used to get kids telling local stories and which hosted the first Aboriginal photography exhibition in Derby with images of and by Aboriginal women and children.

### Provides

- Essential public health to Aboriginal families in Derby, with a client base of about 800 people, including outreach with about 105 families and regular contact with around twenty-two of these. At any one time, Jalaris does intensive work with about six households, which can include up to eighty people.
- Works with a section of the Aboriginal population that does not engage with any other support available in Derby.
- Focuses on health education of families (awareness of preventable illnesses, nutrition). Jalaris has run a variety of programs including:
  - a low-income, low-cost general store on the Aboriginal reserve in Derby;
  - implementing the Mungarri nutrition program, which worked with the local drug action group to provide nutritious meals to the children of drinkers;
- The Jalaris Kids Future Club specifically provides:
  - afternoon kids' educational activities (based on cultural and health activities) four afternoons a week during after-school hours;
  - the activities club, which works with Aboriginal children (up to about twelve years old) who are truanting, at risk of truanting or who have never attended school.
  - the health outreach program for the families of all children who attend the Kids Future Club.

### Outcomes

- Evaluation of Jalaris's work has found that Jalaris adds value to other services and agencies, making useful to Aboriginal people basic services that are often ineffective for those most in need.



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- Feedback from service providers has shown that Jalaris provides an opportunity for non-Indigenous service providers to learn effective and appropriate ways of interacting with Aboriginal people, as well as educating service providers about the broader contextual and social experiences that affect Aboriginal families—critical capacities as Aboriginal services are increasingly mainstreamed.
- The Kids Future Club is in its early days but already has thirty kids and their families involved and it is anticipated that this will jump to eighty.
- A 30 per cent increase in educational engagement is anticipated, as are improvements in truancy rates by participants via the Family Support Outreach service.
- There are positive changes in health and increased interactions with mainstream health services by children and their families.

### Contact

Mr Brett Morris or Maya Haviland  
Jalaris Aboriginal Corporation  
PO Box 610, Derby, WA 6728 AUSTRALIA  
Tel: +61 8 9193 2200  
Fax: +61 8 9193 2637  
Email: Jalaris@Westnet.com.au

## Townsville Mums and Babies Project, Queensland

### Summary/objectives

- To provide comprehensive integrated primary healthcare for young families.
- Integration of service providers delivering care from Townsville Aboriginal and Islander health services, and integration of life course approach into the services.
- To embed maternal and child health requirements within a much broader focus on healthcare and service delivery.
- A 'one stop shop' approach to prenatal, antenatal, postnatal and infant care for young families—a collaborative model of antenatal and postnatal care.

### Situation before

- The health of young mothers and young fathers was considered as separate service requirements ('silo effect').
- This was catered for by general clinic business, or by separate men's and women's clinics.
- There was no focus on particular stages of life—for example, young parents or the contemplation of parenthood before it happens.
- This resulted in many different service providers and organisations, with poor communication and coordination, and with services duplicated and community access restricted.



### Development

- The local community identified a need.
- The project was developed through a community-based forum and the formation of a project reference group.
- A two-year pilot began in 2000, under a partnership arrangement between the Queensland Health Child Health Unit and the Aboriginal and Islander Health Team, the Kirwan Women's Hospital, and Townsville Aboriginal and Islander Health Services.

### Provides

- The program encompasses regular antenatal and postnatal medical examinations, pregnancy nutrition and substance use advice, birthing information and support, supervised childcare and a transport service.
- Education and preventative health promotion aimed at those contemplating pregnancy.
- Immunisation, growth and development monitoring, referral advocacy, social support.
- The Mums and Babies clinic also sees large numbers of infants and children, who are regularly monitored for growth, development, and hearing.
- The program has also been extended to include primary healthcare for children up to eight years of age.
- There is a clinic every morning, with no appointments required.

- Supervised playgroup.
- Female doctors.
- One-on-one antenatal education including nutrition and immunisation information.
- Pregnancy registers, monthly recalls, care plans emphasising essential elements, testing for STIs and other infections, and intervention for risk factors.

### Outcomes

- Less pre-term births (Panaretto *et al.* 2005).
- Less low birth weight babies (Panaretto *et al.* 2005).
- Increase in mean birth weight (Panaretto *et al.* 2005)
- Increased attendance for antenatal care (60 per cent of Townsville-based Indigenous women attending by 2003) (OATSIH 2005).
- Significant improvement in the timelines of the first visit and the number of antenatal care visits (OATSIH 2005).
- Additional outcomes (Dept of Health and Ageing 2001):
  - o improved quality of antenatal care (increasing trend in screening activities, and significant positive trends in recorded care planning, smoking cessation advice and antenatal education activities);
  - o improved service delivery;
  - o capacity building.



## Appendix I: Case Studies

### Contact

57–59 Gordon Street, Townsville  
Queensland 4814 AUSTRALIA  
Tel: +61 7 4759 4000  
Fax: +61 7 4759 4055  
Web: www.taihs.net.au

### Prevention of SIDS in Aboriginal Communities, Western Australia

#### Summary/objectives

- To increase the awareness of risks associated with Sudden Infant Death Syndrome (SIDS) in Western Australia.
- To develop culturally appropriate education programs and interventions to reduce the rate of SIDS among Aboriginal infants.
- To collaborate Aboriginal and non-Aboriginal researchers, health workers, health professionals and policy makers.
- To develop a training manual for use by Aboriginal health workers.

#### Situation before

- Unacceptably high rates of SIDS.
- Lack of culturally appropriate resources to highlight the risks associated with SIDS.
- Lack of community knowledge and awareness of the risk factors associated with SIDS.

### Development

- The project was initiated following total population-linked research in Western Australia that identified that Aboriginal infants were significantly more likely to die from SIDS compared with non-Aboriginal infants (Freemantle *et al.* 2006).
- A collaborative management model was developed to include Aboriginal and non-Aboriginal researchers, health workers, health professionals and policy makers.
- Strong direction and guidance was provided from Aboriginal women in each community involved in the project.
- Aboriginal women were employed to coordinate the project and lead the community education program.
- Throughout this research project, the spirit and integrity was protected through the advice and guidance of the members of the Project Advisory Group.
- The Project Advisory Group was established prior to the commencement of the project and will continue through to the completion of the project, including the proposed evaluation of the project.
- Used a grassroots, community consultation approach in accordance with the principles of participatory action research.

### Provides

- Development of resources in consultation with community groups.
- Development and dissemination of culturally appropriate resources and education material.



- The incorporation of Safe Sleeping education into the training curriculum for Aboriginal health workers.
- Raised awareness of the risk factors associated with SIDS, and encouraged a community-led and devised response to the prevention of SIDS in Aboriginal communities.

### Outcomes

- The results of the community engagement were translated back to the community in such a way as to be relevant and comprehensive to the Aboriginal community.
- Information derived from the project was transformed into policy and practice and used for the improvement in the health and wellbeing of all Western Australian Aboriginal infants and the communities.
- A training manual was developed and introduced into communities.
- Health promotion and education material was developed and distributed through communities.
- Initial evaluation of the program reports a significant increase in the knowledge and awareness of the risks associated with SIDS and development of community responses to raise the awareness of these risks through Aboriginal Community Controlled Health Organisations.

### Contact

Ms Jocelyn Jones  
Chair, Management Group  
Tel: +61 8 9489 7777  
Email: [jocelynj@ichr.uwa.edu.au](mailto:jocelynj@ichr.uwa.edu.au)  
Ms Angela Doyle, Chief Executive Officer  
SIDS and Kids WA  
Email: [angeladoyle@sidsandkids.org](mailto:angeladoyle@sidsandkids.org)

## Strong Women, Strong Babies, Strong Culture, Top End, Northern Territory

### Summary/objectives

- To consult with Aboriginal women and health workers in a range of communities about poor nutrition and infection during pregnancy, with the aim of developing bicultural strategies to reduce the occurrence and effect of these conditions.
- Based on partnership, culture and cultural renewal.
- To employ senior Aboriginal women to deliver the project with a culturally appropriate and attuned package of education and supporting care.
- To help younger Aboriginal women prepare for pregnancy, and to support pregnant Aboriginal women by encouraging them to visit clinics for antenatal care early in their pregnancies.
- Specific goals to increase infant birth weight by earlier attendance for antenatal care and improved maternal weight status.

### Situation before

- Medical model.

### Development

- The project was initiated following research in the Northern Territory that demonstrated the impact of maternal nutrition factors as determinants of birth outcomes for infants.



## Appendix I: Case Studies

- Aboriginal women and health workers suggested action to develop a family model for antenatal care rather than a medical model feeding program.
- Strong direction and guidance was provided from Aboriginal women both in remote communities and in Darwin.
- A widely known and respected older Aboriginal woman was employed on a professional salary as coordinator.
- The project was coordinated in the direction Aboriginal women wanted, and they had an increased degree of control over the process.
- Emphasis on both traditional practices and Western medicine, with a shift in relationships to one of equivalence—Aboriginal women as teachers to non-Aboriginal partners, and rather than excluding non-Aboriginal people, Aboriginal women began to define the areas where these people could be most useful, and legitimised their role as health professionals within the cross-cultural process.
- Strong Women's Story—a narrative using graphic images that provides information about the nutritional status of women and their general reproductive health.
- Strong Women Kit.
- Help with pregnancy preparation.
- Clinic visits for earlier antenatal care.
- Advice and encouragement about healthy pregnancy management in relation to nutrition (including bush food).
- Promotion of safe practices such as not taking alcohol or smoking during pregnancy, and by reinforcing the need to seek adequate and timely medical help and to take prescribed medicines.
- Not a strict protocol—more fluid program of individual and community support.

### Provides

- Two-way sharing of information between Aboriginal and non-Aboriginal people.
- Modification of antenatal care services to develop a bicultural approach that provides high-quality care (delivered in a way that meets the needs of client groups) without additional cost to the health system.
- Credited by the Australian Medical Association as having a significant impact on improving the child mortality rate.
- Improved health status of pregnant women and the positive impact on the health of their infants at birth.
- Two evaluations (Mackerras 1998; Tursan D'Espaignet *et al.* 2003)
- Mean birth weight of infants of Aboriginal women increased by 171 grams.
- Changes in maternal weight were associated with change in birth weight over time.
- Prevalence of low birth weight declined.
- Pre-term birth rate reduced.





- Prevalence of some maternal infections during pregnancy was reduced.
- Evaluation found significant improvements in mean birth weight in the pilot communities and a non-significant four-fold increase in mean birth weight for the second group.
- The evaluations focus on the benefits to pregnant women but the social and economic impact of the program is obviously wider, with the opportunities for gainful and useful employment, earnings and recognition of the skills of Aboriginal people in tackling their own issues.
- The project has developed a model that has captured the imagination and participation of the Aboriginal community. It has engaged the interest of many health professionals and demonstrated a process for partnership with Aboriginal people and leadership by Aboriginal people.

### Contact

NT Health  
PO Box 40596, Casuarina  
NT 0811 AUSTRALIA  
Tel: +61 8 8999 2400  
Fax: +61 8 8999 2700  
Web: [www.health.nt.gov.au](http://www.health.nt.gov.au)

Nganampa Health Council,  
Anangu Pitjantjatjara Lands,  
South Australia

### Summary/objectives

- To provide a comprehensive primary healthcare service to all Anangu on the Anangu Pitjantjatjara Lands in South Australia.
- To improve the health status of Anangu through the provision of high-quality clinical and preventative healthcare services delivered in culturally appropriate ways.
- To have the primary healthcare well integrated with other social, educational, employment and economic systems and services.
- To advocate strongly on behalf of Anangu with governments and other providers to improve access to mainstream social, economic and community services.

### Situation before

- No data available prior to establishment of Nganampa Health Council, but in the case of antenatal care, very few women presented for care prior to the end of the second trimester, and it is estimated that very few would have received adequate care.

### Development

- An Anangu controlled-community health organisation that is Anangu-owned and managed.



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- The health committee is Anangu and makes the key policy, resource allocation and staff appointment decisions.
- The director and clinic managers are Anangu and ensure that the staff members are accountable to Anangu and that services are developed and delivered in the way that Anangu determine.

### Provides

- Six major clinics and three clinics in smaller communities, plus an additional health worker station.
- Twenty-four hour primary clinical care, as well as delivering a range of public health and targeted program activity and health worker training and support.
- With limited resources and many unmet needs, program activity is needs-based and directed towards what can be effectively focused, sustained and evaluated.
- In the late 1980s, Nganampa Health Council made antenatal care a key focus and began a more systematic and sustained approach to improvement.
- Development of a standardised pro forma for assessing and recording, with the regular review of data, particularly focusing on birth weight.
- Has a policy of employing a midwife at each clinic.
- Promotes the development of a close relationship between midwives and pregnant women and uses this relationship to deliver messages about early maternal practice and infant care.

- Developing mechanisms for supporting pregnant women in hospital and preparing them for delivery in hospital.
- Midwife escorts of pregnant women to town and visiting the hospital and delivery ward prior to the delivery period has been very successful.
- Midwives continue to offer support once women return to community.
- Targets:
  - o early presentation;
  - o >five antenatal visits;
  - o standardised testing, screening and surveillance;
  - o optimal timing for ultrasounds;
  - o meeting ideal birth weights.

### Outcomes

- There has been incremental improvement in all outcome measures.
- Among the many successful outcomes reported for the year 2005, the 2005 Annual Report noted that:
  - o in the program addressing failure to thrive, there had been weight increases in 80 per cent of the clinic visits;
  - o the clinics have achieved the most thorough screening coverage for HIV and STIs;
  - o by August 2005, 99 per cent of children under five years had been immunised;



- o 98 per cent of children under five years, 89 per cent in the six to fourteen years age group and 77 per cent in the fifteen to nineteen years age group had been immunised for Meningococcal C; and
- o the development of a comprehensive database for storage of health data and provision of an efficient recall system.

References: OATSIH 2005; Dept of Health and Ageing 2001; Endean, Roberts-Thomson & Wooley 2004; Nganampa Health Council 2004, 2005

### Contact

3 Wilkinson Street, Alice Springs, NT 0871  
(Postal address: PO Box 2232  
Alice Springs, NT 0871 AUSTRALIA)  
Tel: +61 8 8952 5300  
Fax: +61 8 8952 2299  
Web: [www.nganampahealth.com.au](http://www.nganampahealth.com.au)

Ngunytju Tjitji Pimi Corporation,  
Kalgoorlie, Western Australia

### Summary/objectives

- To address the unacceptably high rates of Aboriginal maternal and infant death and illness in the Goldfields region.
- To improve the health of Aboriginal people in the region by improving the health of the mothers, making them better able to care for their infants and children to enable them to experience healthier lives.
- To provide a holistic service, with a strong educational focus.
- Long-term vision: to improve the health of expectant women, mothers, children and adolescent females by means of ongoing research through a culturally appropriate specialised Aboriginal health community-based 'woman's business' Aboriginal Maternal and Infant Health Service, which will form affiliated links to other similar service providers throughout the State and support accredited Aboriginal health worker specialists to provide quality research and holistic healthcare to their people.

### Specific aims:

- To reduce mortality, morbidity and hospitalisation of Aboriginal expectant mothers, women and infants in the Goldfields region of Western Australia.
- To offer quality maternal and child healthcare that is delivered by specialised Aboriginal health workers in a culturally appropriate manner from a community-owned agency.
- To empower Aboriginal women to make informed choices about their own and their families' health by providing culturally appropriate support and education.
- To collect and analyse information about Aboriginal health, research methods and healthcare delivery and make it available to Aboriginal people, healthcare providers and health planning bodies.



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### Situation before

- Particular risk issues for families in the area are diabetes, nutritional failure, ear health, failure to thrive, domestic violence and substance abuse.
- There was a significant reluctance to access and use existing health services.
- Late presentation and non-compliance with treatment led to less than optimal outcomes.

### Development

- In all aspects of the functions, management and planning in the areas of business, health, staffing and playgroup services, Aboriginal women were given the freedom to advise, design, implement or manage the services.
- All staff members are women and Ngunyntju Tjitji Pirni is controlled by a committee of Aboriginal women.
- All services protocols and research methods have been developed and refined for use through a process of community consultation to ensure that they are culturally appropriate and acceptable.
- Developed in light of the evidence that appropriate care (developed by and with the people who are to receive it) can be extremely effective in increasing attendance and reducing adverse effects of lifestyle factors and disease, and improving the outcome for mother and child.
- Commenced in 1993.

### Provides

- Services to Aboriginal women in the pre- and post-natal period, infants, and children aged zero to five years and to women's health generally.
- Comprehensive maternal and infant health screening and clinical care.
- Health promotion and parenting skills for women clients.
- Organisation of playgroup educational sessions for mothers to teach their children.
- Education, training and accreditation of Specialist Aboriginal health workers.
- Development of strong health promotion activities that are accompanied by social support to empower Aboriginal mothers to make informed choices for the better health of themselves and their families.
- A strong level of support for client liaison and advocacy—for example, help with understanding correspondence from government agencies, accompanying to meetings, and ensuring clients receive appropriate medical referrals and that they have the capacity to attend appointments.
- Flexible service provision that takes into account the unpredictable circumstances in which many clients live.

### Outcomes

- Through non-clinical roles, Ngunyntju Tjitji Pirni has been able to develop a strong working relationship with many government agencies outside of health.
- General improvements in the health of those enrolled.

## Alaska

### Community Health Aide Program, Alaska

#### Summary/objectives

- More data are required to adequately compare the Ngunytju Tjitji Pirni children with the total children born in the Ngunytju Tjitji Pirni catchment area.
- Evaluation conducted February 1993–June 1996 showed:
  - active recruitment of high risk women;
  - early identification and referral of childhood morbidity;
  - good coverage of vaccinations and 69 per cent coverage of completed vaccinations at one year of age;
  - the program was well received by all those surveyed, and identified as a need in the community;
  - integrated into other services and covered all family groups;
  - generally the data suggest the children received early referral to hospital when necessary, thus avoiding some repeated hospital admissions and extended stays;
  - highlighted the benefits of early and continuing enrolment in a program such as Ngunytju Tjitji Pirni.

Reference: Ngunytju Tjitji Pirni Corporation & TICHR 1998

#### Contact

459 Hannan Street, Kalgoorlie, WA 6430  
(Postal address: PO Box 1404  
Kalgoorlie, WA 6433 AUSTRALIA)  
Tel: +61 8 9091 7862 / 9787  
Fax: +61 8 9091 7864  
Web: [www.ntp.org.au](http://www.ntp.org.au)

#### Situation before

- There was, and there remains, a major shortage in health workers, which is even more pronounced in remote and 'frontier' communities and has become a significant public health issue.
- Physician supply in these areas remains only slightly higher than it was in the 1940s.
- A 1997 study concluded that Alaska has a 30 per cent overall shortage of generalist physicians.

#### Development

- To address this problem, Alaska's tribal healthcare system has developed a unique program to ensure access to primary health services in its most remote communities.



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- In a collaborative effort between the federal government (IHS), local regional Native health corporations, individual villages and the State of Alaska, the CHA Program trains Community Health Aide Practitioners (CHA/Ps) to act as non-physician primary care providers in their communities.
- The program has become the backbone of Alaska's rural and remote health system.

### Provides

- CHA/Ps are local residents—mostly Alaska Native women—who are more likely to speak the native language, provide culturally sensitive services and be considered acceptable by the local community.
- The exact role played by each CHA/P depends on the village—both in terms of the local needs, local resources and the competence of the individual CHA/P.
- They are often the sole source of medical care in their communities.
- On-call and emergency services twenty-four hours a day, seven days a week, every day of the year.
- The CHA Program now consists of a network of approximately 550 CHA/Ps in over 170 rural Alaska villages.
- CHA/Ps are trained in patient assessment, and with the help of remotely located IHS/tribal physicians and standing orders found in the extensive CHAM Manual, they develop and implement patient care plans.
- Alaska Community Health Aide/Practitioner Manual (CHAM):
  - o CHA/Ps work within the guidelines of the CHAM, which outlines assessment and treatment protocols;
  - o this important resource encompasses a training manual, standing orders, a practical reference guide and protocols;
  - o developed specifically to meet the needs of the working CHA/P in the village and is written at the educational level of the average health aide;
  - o it is regarded as a key element in the success of the program.
- Two papers cite an unpublished review of clinic records from five villages over a six-month period in 1983 that found that CHA/Ps were able to independently handle approximately 85 per cent of the cases that presented to them using medical standing orders found in the CHAM, while the remaining 15 per cent required consultation with a physician.
- CHA/Ps are supervised by physicians, who have legal responsibility for the care provided and are located in a 'hub' rural community.
- This is a very important link, and the physicians have telephone contact with CHA/Ps on a systematic, scheduled basis—at least weekly and sometimes daily.
- There is an established referral relationship, which includes mid-level providers, physicians, regional hospitals and the Alaska Native Medical Center. In addition, providers such as public health nurses, physicians and dentists make visits to villages to see clients in collaboration with the CHA/Ps.
- There are also mid-level coordinator instructors who provide day-to-day supervision and support, field instructions, frequent scheduled visits, liaison and advocacy.



## Training

- CHAs are selected by their communities to receive training.
- Training centers are located in Anchorage, Bethel, Nome and Sitka.
- There are four sessions of CHA training; each lasts three to four weeks. Between sessions, the CHAs work in their clinics completing a skills list and practicum. Completion of the four-session training curriculum and successful completion of a clinical skills preceptorship and examination qualify the CHA as a Community Health Practitioner (CHP). CHA/Ps at any level of training may obtain certification by the CHA Program Certification Board.
- Training sessions are specifically designed to accommodate the unique needs of health aides.
- They are short in duration (three–four weeks) and the aides return to their villages to practice with limited scopes between sessions, and assume responsibilities in their positions prior to completion of training.
- Combination of didactic and clinical methods.
- Standardised state-wide curriculum.
- Geared towards patient assessment with special emphasis given to the diseases most prevalent in rural Alaska.
- Aides are taught to distinguish between routine and minor diseases and those that are more complex and require follow-up from a higher level provider.

## Outcomes

- No rigorous studies measuring the overall effect of the program, but the available data indicates that CHA/Ps are accepted by the communities they serve and play a role in the improvement of the health status of rural Alaska Natives.
- Overall health for Alaska Natives has improved dramatically since the inception of the CHA Program.
- Neonatal infant mortality rate decreased by 27 per cent in the past decade.
- Accidental death decreased by 40 per cent.
- Significant improvements in infant mortality, life expectancy, hospitalisation rates and hospital length of stay.
- The few studies that have looked at specific, focused health outcomes from CHA/P interventions have found generally positive results (for example, pap smears, antenatal care).
- The CHA Program model is currently being used as a template to develop programs in the areas of dental care, behavioral health and elder care.

Reference: Hudson 2005; Patricoski 2004; US Dept Health & Human Services 2003

## Contact

Web: [www.akchap.org](http://www.akchap.org)



## United States of America

### Gathering of Native Americans (GONA)

Community Involvement to Renew Commitment, Leadership and Effectiveness (CIRCLE)

#### Objective

- To build true capacity among Indigenous communities through improving program design and community development.

#### Philosophy

- A four-step, cyclical, iterative process and philosophy for program design and community development for Indigenous people.
- Relationship building is an essential process.
- Its origins, priorities and intricate connections to traditional concepts of the cycles of Indigenous lives are essentially embraced and understood by Indigenous people.
- As personal and professional relationships develop, they lead to the development of individual and group skills.
- These skills lead to effective working partnerships.
- Promote a commitment to the issue, the group and the process.
- The process creates an interest in new relationships, need for new skills and new opportunities for collaboration and a long-term commitment to positive change.

#### Process

- **Step one—Building relationships**, honours the concept of ‘belonging’ and represents infancy and childhood focus on establishing open communication and identifying common ground and common goals.
- **Step two—Building skills**, honors the concept of ‘mastery’ and represents adolescence; focus on development of interpersonal skills and practical skills such as group decision making.
- **Step three—Working together**, honours the concept of ‘interdependence’ and represents adulthood with family, culture, environment and the social, political and historical framework of the community.
- **Step four—Promoting commitment**, concept of ‘generosity’ and represents elders, who give their knowledge and teaching to generations of the future. Participants examine their responsibility to give back to their families and communities as advocates and mentors.

#### Method

Significant time devoted to the first step and primary focus on the content of the second step.

- Incorporates Western concepts of capacity building and parallels the values of community-based participatory research.
- The philosophy and method go beyond the assumptions and methods of most mainstream approaches.

#### Contact

Web: <http://preventiontraining.samhsa.gov/cti05/manpm.htm>





## New Zealand

### Turanganui-a-kiwa Community Injury Prevention Project

#### Summary/objectives

- To address the high Māori injury statistics.
- Includes strategies focusing across the lifespan: road safety for children; alcohol-related harm for young people and adults; fire safety for older adults.
- An intervention for Māori, operating within a Māori framework which address Māori aspirations.

#### Situation before

- In New Zealand injuries are the leading cause of death for Māori aged one to thirty-four years (Langley & Broughton 2000).
- Injury has also been identified as the leading cause of admission to hospital for Māori aged five to forty-four years (Broughton & Langley 2000).

#### Development

- Community-based injury prevention project.
- Project located in a provincial town with a predominately Māori population.
- Recognised that those most able to solve community injury problems are those people who live in that particular community.
- In accordance with the holistic Māori framework, the project was constructed over the lifespan and included specific programs relevant to each age group.

#### Provides

- Specific programs targeting the major injury-related issues in the three age groups: child, young person and adult, and older adult.
- Child road safety including a child restraint loan scheme and a media campaign to highlight the number of Māori children travelling unrestrained in vehicles; training sessions to increase awareness of the importance of correct child restraint and seat belt use; the wearing of cycle helmets and safe pedestrian crossing; and linguistically appropriate (*te reo* Māori) road safety information for Māori children.
- Young people and adults alcohol-related injuries. Three strands are used to address alcohol-related injuries. Strand one: 'Drivewise', highlighting the relationship between alcohol and motor vehicle injuries; volunteers developing innovative initiatives to promote community awareness of safer alcohol use while driving. Strand two: promotion of safer alcohol use in all sporting environments. Strand three: promotion of safer alcohol use and awareness of domestic violence; development of many promotional initiatives including flyers, posters and bumper stickers; involvement of community groups in providing programs aimed at achieving societal change.
- Older adults and fire safety includes a media campaign; involvement of the fire service and development of a relationship between the *kaumatua* and the fire service; ongoing commitment to monitor the correct installation of smoke alarms and the life of batteries in *kaumatua*'s homes.



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### Canada

**Outcomes** (identified through key-informant interviews)

- Highly significant changes in awareness of injury prevention were found among Turanganui-a-kiwa *whanau*.
- Significant increase in attendance at meeting for Community Injury Prevention Project meetings.
- Large increase in take-up of child restraints among Māori with young children.
- Some improvement in road safety behaviors among young adults.
- Improvement in reported alcohol use associated with driving.
- Increase in number of people wearing protective equipment for sports.
- Prior to the project none of the *kaumatua* homes had smoke alarms fitted. After the campaign all 120 of the *kaumatua* homes had smoke alarms.
- A fire safety booklet in Māori and English was developed and distributed to all *kaumatua* homes.
- Related increase in awareness raising of falls prevention strategies such as hand rails and slip mats and accessibility to health services.

#### Contact

Web: [www.ingentaconnect.com](http://www.ingentaconnect.com)

Aboriginal Peoples Survey (APS) and Aboriginal Children's Survey (ACS)

#### Community

Inuit communities in Nunatsiavut (Labrador), Nunavik (Quebec), Nunavut and Inuvialuit Region (Northwest Territories).

#### Brief description

The APS/ACS surveys are part of a post-census effort on the part of Statistics Canada to gather detailed information about the Aboriginal People in Canada (First Nations, Inuit and Métis) on topics including, but not limited to, the following: education, employment, language, economics, health and family-dynamics among other topics.

Inuit regions have been involved in the design of the survey at the national and regional level through direct discussion or in committee work. Some community employment and capacity building through training will result from the delivery of the two surveys. Data sharing with the regional Inuit Organisations and the Territorial and Provincial governments will be arranged through a Memorandum of Understanding involving all parties.

#### Partnerships

Statistics Canada, Inuit Tapiriit Kanatami (ITK), Regional Inuit Organisations.



### **Funding bodies**

Treasury Board will direct funding for the surveys to Statistics Canada. Contribution agreements to ITK and/or the Land Claims Organisations are put in place to action the communications and dissemination strategies.

### **Current status of the project**

The first APS was carried out in 1996 and was repeated in 2001. The third round of surveying was scheduled to begin in October 2006.

### **Community engagement**

For the 2006 APS and ACS, engagement is primarily at the regional rather than community level. For the APS a component of the survey will be delivered by Inuit organisations and the Laval University will be involved. An Inuit advisory body played an active role in the development of the ACS. For both surveys, local people will be hired as survey interviewers and translators. Regions will be funded to develop community strategies. Inuit organisations will also be involved in determining what data products should come for the survey. For the APS, community-level data packages will be sent to a number of Inuit communities.

### **Benefits**

Benefits of the project include Inuit-specific data in area of health, harvesting etc. at a national, regional and, for the APS, community levels. Inuit organisations have free access to the database held at Statistics Canada. Memorandums of Understanding

will clearly outline how short, medium and long-term data capacity at the national and regional data can be built through the project.

### **Building capability**

From the 2001 survey, there has been limited capacity built at the community level through the project. For the 2006 surveys, the aim was to ensure training and resources are provided to communities and regions to enable them to collect and analyse their own data and critically evaluated data and data reports prepared by others.

### **Priority and significance**

The project was a high priority for ITK and regions, because of a lack of relevant, Inuit-specific data. Although much data was collected, it was difficult for Inuit organisations to take full advantage of this information because of insufficient data capacity and resources at the regional level.

### **Outcomes**

The 2001 survey did close some data gaps between the Inuit and other Canadians, and Inuit organisations were able to make some, although limited, uses of the survey data. However, for future surveys there needs to be a greater commitment to building data skills within Inuit organisations. Because of limited resources, Inuit organisations and communities could not fully benefit from the project.

### **Contact**

Web: [www.statcan.ca/english/aboriginal/acs/acs-en.htm](http://www.statcan.ca/english/aboriginal/acs/acs-en.htm)



## Appendix I: Case Studies

### Aboriginal Academic Achievement Grant— Manitoba Education, Citizenship and Youth

#### Community

Manitoba

#### Brief description

The Aboriginal Academic Achievement (AAA) Grant assists school divisions with current programming and implementations of new programs that target success for Aboriginal students. Approximately 25 per cent of the school divisions are implementing aspects of health, physical educational, cultural and spiritual programming. The programs implemented through the AAA Grant facilitates the holistic learning needs of the Aboriginal student population.

#### Funding body

Manitoba Education, Citizenship and Youth.

#### Current status of the project

- School divisions provide appropriate programming and incorporate the recognition of culturally diverse community through art/dance/music/games through the school curriculum. Activities are provided through other pow wows, square dance participation, traditional games and other cultural activities.

- School divisions establish and strengthen community involvement through parental involvement, Aboriginal elders and Aboriginal liaisons. The involvement strengthens the aspect of holistic wellbeing and the education of the Aboriginal students at all grade levels.
- School divisions offer education to promote knowledge and the understanding of the Aboriginal culture through cultural awareness activities and the practice of traditional lifestyle and culture. Cultural awareness provided to students, educators and administrators and communities is ongoing.

#### Community engagement

- A reference group was established within the staff of Manitoba Education.
- The school divisions and their established communities and/or service providers are able to collect data and manage the AAA Grant to meet their educational requirements.

#### Benefits

- The school divisions are able to offer appropriate educational programming to the Aboriginal student population.
- The Aboriginal student population benefits from the AAA Grant. A yearly reporting period is mandatory and measures the growth and success of each school division.



## References

### Building capacity

- Community partnerships are engaged through means of workshops, presentations, training, committee involvement, events and volunteering. The community partnership is established by school divisions and their communities.
- The partnerships are established within a community and follow criteria of the promotion of a lifelong learning and culture of the Aboriginal children.

### Priority and significance

The AAA Grant addresses and meets the need for the educational support of the Aboriginal community within the province of Manitoba.

### Evaluation

An evaluation is overseen by the Manitoba Education, Citizenship and Youth branch and staff members on an annual basis.

### Outcomes

The yearly reports received by the school divisions show a positive impact within the divisions. Aboriginal student successes identified are the health benefits, holistic wellbeing, a healthy sense of community and an increase in the attendance/graduation rates.

### Contact

Manitoba Education, Citizenship and Youth  
E-140 1970 Ness Avenue, Winnipeg,  
Manitoba R3J-OY9 CANADA

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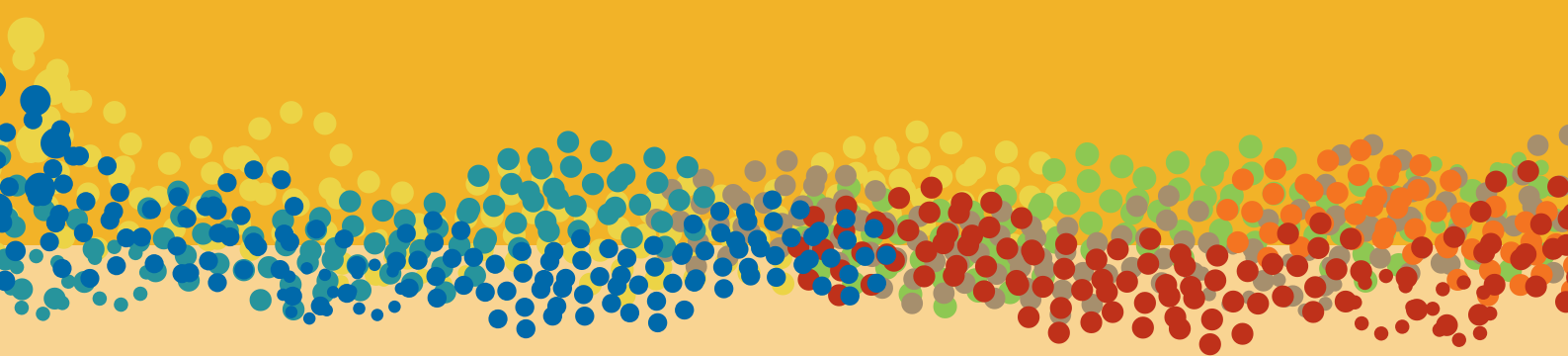


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Cooperative Research Centre for  
**Aboriginal Health**

**Cooperative Research Centre for Aboriginal Health**

PO Box 41096, Casuarina, NT 0811 AUSTRALIA

**T:** +61 8 8922 8396 **F:** +61 8 8922 7797

**E:** [admin@crcah.org.au](mailto:admin@crcah.org.au) **W:** [www.crcah.org.au](http://www.crcah.org.au)