Underlying values and definitions

Aboriginal and Torres Strait Islander cultural values

This analysis has been undertaken within the context of Aboriginal and Torres Strait Islander cultural values around health and wellbeing (National Aboriginal and Torres Strait Islander Health Council, *National Aboriginal Health Strategy Working Party Report*, 1989: 28)

> 'health to Aboriginal peoples is a matter of determining all aspects of their life, including control over their physical environment, of dignity, of community self-esteem, and of justice …'

The National Consultancy Report on Aboriginal and Torres Strait Islander Mental Health, 'Ways Forward' (Swan & Raphael 1995) set out a number of values and principles that have been summarised by the consultation paper for development of the *National strategic framework for Aboriginal and Torres Strait Islander Mental Health and Social and Emotional Well Being 2004–2009* (Australian Government Department of Health and Ageing, Mental Health Branch 2003). These are equally applicable to injury prevention and safety promotion, and endorsed as a value framework for this analysis by the consultants:

1. Aboriginal and Torres Strait Islander health is holistic, encompassing mental health and physical, cultural and spiritual health. Land is central to wellbeing. Crucially, it must be understood that when the harmony of these interrelations is disrupted, Aboriginal and Torres Strait Islander ill health will persist.
2. Self-determination is central to the provision of Aboriginal and Torres Strait Islander health services.
3. Culturally valid understandings must shape the provision of services and must guide assessment, care and management of Aboriginal and Torres Strait Islander people's health problems
4. It must be recognised that the experiences of trauma and loss present since European invasion are a direct outcome of the disruption to cultural wellbeing. Trauma and loss of this magnitude continues to have inter-generational effects.
5. The human rights of Aboriginal and Torres Strait Islander peoples must be recognised and respected. Failure to respect these human rights constitutes continuous disruption to mental health. (vs mental ill health). Human rights relevant to mental illness must be specifically addressed.
6. Racism, stigma, environmental adversity and social disadvantage constitute ongoing stressors and have negative impacts on Aboriginal and Torres Strait Islander people's health and wellbeing.
7. The centrality of Aboriginal and Torres Strait Islander family and kinship must be recognised as well as the broader concepts of family and the bonds of reciprocal affection, responsibility and sharing.
8. There is no single Aboriginal or Torres Strait Islander culture or group but numerous groupings, languages, kinships, and tribes, as well as ways of living. Furthermore, Aboriginal or and Torres Strait Islander peoples may currently live in urban, rural or remote settings, in urbanised, traditional or other lifestyles, and frequently move between these ways of living.
9. It must be recognised that Aboriginal and Torres Strait Islander peoples have great strengths, creativity and endurance and a deep understanding of the relationships between human beings and their environment.

Adapted from Consultation paper for development of the National strategic framework for Aboriginal and Torres Strait Islander Mental Health and Social and Emotional Well Being 2004–2009*, p. 13.*

A commitment to action

The late National Aboriginal Community Controlled Health Organisation (NACCHO) Chair Dr Arnold Hunter said (July 2000):

> 'These things have to be implemented and until they do it's no good talking to us Aboriginals about another plan because they haven't actually implemented all these things along the way (Royal Commission, NAHS, etc) These Reviews and projects have to lead to action — there is no point in just looking at what the problems are if nothing is done about them. It's like a cancer patient — there's no point in opening up the patient unless you're going to remove the cancer.

The project team presents this report to generate positive action that will lead to reducing the incidence and severity of injury among Aboriginal and Torres Strait Islander people.

The scope of Injury

Broadly speaking, injury is physical harm or damage to the body (Christoffel and Gallagher, 1999; Ozanne-Smith & Williams, 1995). It may be intentional or unintentional. If intentional, the injury may be self-inflicted (for example, suicide) or inflicted by another (for example, assault, homicide, etc.). The harm can be as a result of an external force (for example, collision with a moving object or a moving person colliding with a stationary object) or energy (such as heat and electricity); external or internal contact with a harmful substance (for example, poisoning); or absence of essential elements (such as oxygen and heat). Normally, only harmful effects occurring over a short period of time are classified as injuries. For example, the harmful effects of smoking or alcohol are not classified as injury, but overuse injuries (such as sport or work-related injuries) are.

There is a variety of categorisations of injury, according to particular needs, but the underlying classifications are those of the World Health Organization, which codes events in terms of the nature and the external cause of the injury (World Health Organization, 1996). Most reporting of injury is in terms of the environmental events and circumstances as external causes of injury, poisoning and other adverse effects, the broad groups of which are:

- accidents — transport accidents (including motor vehicle accidents); and other external causes of accidental injury (including falls, burns and accidental poisoning);
- intentional self-harm (including suicide);
- assault (including homicide);
- event of undetermined intent;
- legal interventions and operations of war;
- complications of medical and surgical care;
- sequelae of external causes of morbidity and mortality; and
- supplementary factors related to causes of morbidity and mortality classified elsewhere.

These broad groups provide a useful starting point, but close analysis of specific aspects of injury needs to aggregate information in other ways. Examples are work-related injuries, injuries in the home and violence (including at least 'Intentional self-harm' and 'Assault', and, sometimes 'Legal interventions and operations of war'). Another typology groups injury according to the intention of the external cause: intentional (generally intentional self-harm and assault) and non-intentional.

Patterns of Injury among Aboriginal and Torres Strait Islander people

Overall incidence

The incidence of injury is commonly measured in terms of death and hospitalisation. This information is obtained through routine collections such as ABS deaths data and hospital separations collected at a State and Territory level. In some places emergency department attendance data are collected but are rarely suitable for incidence measurement due to inconsistent overall quality. Many injuries are not recorded in these formal data systems. The scope covered is also limited to certain types of physical injury, and there is no reliable data on the downstream impact of injury on Aboriginal and Torres Strait Islander individuals, families and communities. The broad social and spiritual injury that has occurred to Aboriginal and Torres Strait Islander people is not and possibly cannot be quantified.

Mass data systems consistently under-report injury to Aboriginal and Torres Strait Islander people

The available absolute measures of injury incidence must be treated with caution. Under-identification of Aboriginal and Torres Strait Islander status in both numerator and denominator has been noted (Harrison et al., 2001). The numbers, rates and differential are in most cases likely to be higher than those reported by the methods currently available. Rectifying this is not a simple technical problem. It is especially difficult for data that are based on treatment episodes.

Mass data will systematically underestimate the size of the injury problem among Aboriginal and Torres Strait Islander people regardless of technical improvements for recording Aboriginal and Torres Strait Islander status while:

- some Aboriginal and Torres Strait Islander people continue to be reluctant to identify their status;
- some Aboriginal and Torres Strait Islander people are reluctant to seek treatment for injury because of fear of repercussions from both their own people and government agencies (Streeter et al., 2003; Heslop at al 2001:1–53; Gladman et al., 1997; Commonwealth Department of Health and Aged Care, 2000e:p18); and
- access to treatment varies from place to place (Gladman et al., 1997).

Data quality will only improve when prevention and treatment services are trusted and accessible, and when staff are confident to ask if a person is Aboriginal and Torres Strait Islander, and the person is confident to answer.

Despite current limitations some useful estimates on injury incidence can be made and are discussed below.

Aboriginal and Torres Strait Islander injury rates are higher

All estimates of Aboriginal and Torres Strait Islander overall injury rates show that Aboriginal and Torres Strait Islander people are more likely to die or be hospitalised due to injury than their non-Aboriginal and Torres Strait Islander counterparts. Table 1, Table 2 and Table 3 illustrate differentials between Aboriginal and Torres Strait Islander populations and non-Aboriginal populations.

• Table 1 Cases of Aboriginal and Torres Strait Islander deaths from injury and SMRs, by sex: WA, SA and NT, 1997–2001

	Males		Females	
	Number	*SMR*	*Number*	*SMR*
All injury (V01–Y98)	531	3.2	243	6.4
Land transport (V01–V89)	172	3.3	78	6.7
Motor vehicle accidents (V10–V79)	90	2.3	35	3.8
Pedestrians (V01–V09)	62	8.0	33	32.5
Other land transport (V80–V89)	20	4.4	10	0.1
Intentional self-harm (X60–X84)	140	2.2	32	2.5
Assault (X85–Y09)	48	8.5	48	22.3
Other external causes (remainder of V01–Y98)	171	3.5	85	7.5

Source: Derived from data provided from the AIHW mortality database

Notes: 1 The SMRs (standardised mortality ratio) have been calculated by dividing the numbers of Aboriginal and Torres Strait Islander deaths for each sex by the numbers expected from the rates for non-Indigenous people of the same sex in WA, SA and the NT.

• Table 2 Age-specific death rates for injury, by Aboriginal and Torres Strait Islander status and sex, and rate ratios: WA, SA and NT, 1997–2001

	Indigenous		Non-Indigenous		Rate ratios	
	Males	*Females*	*Males*	*Females*	*Males*	*Females*
0–4	50	58	18	9	2.8	6.5
5–14	25	23	7	3	3.8	6.7
15–24	213	75	75	21	2.8	3.5
25–34	295	83	90	21	3.3	3.9
35–44	260	129	72	22	3.6	5.8
45–54	155	104	53	16	3.0	6.5
55–64	178	45	44	19	4.1	2.3
65–74	187	85	63	31	3.0	2.8
75+	156	71	64	3	2.4	2.2

Source: Derived from data provided by the AIHW National Mortality Database and ABS low series population projections

Notes: 1 Rates are per 100,000 population

2 Rate ratios are the Indigenous rates divided by the same-sex non-Indigenous rates

• Table 3 Aboriginal and Torres Strait Islander hospitalisation for selected causes of injury/poisoning: numbers, age-standardised rates and rate ratios, by sex: Australia 1999–2000

Cause of injury/poisoning	Males			Females		
	Number	*Rate*	*Rate ratio*	*Number*	*Rate*	*Rate ratio*
Assault	1,949	10.7	7.9	2,103	10.5	36.5
Accidental falls	1,453	7.9	1.4	1,018	6.4	1.1
Exposure to inanimate mechanical forces	1,187	5.6	1.3	614	2.7	2.0
Transport accidents	858	4.0	1.1	394	1.8	1.0
Complications of medical/surgical care	635	5.0	1.4	844	6.2	2.0
Intentional self-harm	394	2.1	2.3	466	2.3	1.8
All causes	8,817	47.5	1.9	7,193	38.9	2.3

Source: Lehoczky et al., 2002

When Aboriginal and Torres Strait Islander injury rates are compared to other Australians:

- most estimates indicate two to three fold overall increases in injury mortality, with an even higher differential for hospitalisation in local areas once correction for under-identification is made;
- the differentials are higher for women than men;
- Aboriginal and Torres Strait Islander people have higher injury rates across most risk causes — these are much higher for some causes, with SMRs and hospital rate ratios of greater than thirty occurring for some cause, age and sex groups;
- the largest differentials occur in interpersonal violence-related injury to women;
- in the transport area, Aboriginal and Torres Strait Islander people are more likely to be injured or killed as passengers and pedestrians than as drivers; and
- among Aboriginal and Torres Strait Islander children, the distribution of injury causes across sex and age groups is quite different from that of non-Aboriginal and Torres Strait Islander children — this reflects different environments and different developmental patterns (Moller, Dolinis, & Cripps, 1996).

Analysis of the demography and geographical distribution of Aboriginal and Torres Strait Islander populations suggested that it may be important to consider differences between different types of area of usual residence.

Flinders University Research Centre for Injury Studies (FURCIS) has therefore prepared data drawn from states with the highest level of accuracy of identification of Aboriginal and Torres Strait Islander status (Harrison et al., 2001) and has considered the distribution of external causes in combined metropolitan and rural areas and compared them with remote areas (see Table 4 to Table 7, and Figure 1 and Figure 2). Medical misadventure causes have been excluded because there is considerable debate about the meaning of these data and their comparison with other external causes (Runciman & Moller, 2001:58).

While it is normal practice to present data as rates, there is some doubt about the accuracy of denominator populations (Australian Bureau of Statistics, 1998). In addition, one of the prime questions for this paper is the size of the problem, rather than the relative risk of different sub-segments such as sex or geographical area.

• Table 4 Cases of Aboriginal and Torres Strait Islander injury death in Australia

Deaths registered in Australia, 1997–2000 where the deceased person was recorded as being Aboriginal and/or Torres Strait Islander: SA, WA, NT, Qld

	Male	**Male**	**Female**	**Female**	**Total ATSI**
	Metro & Rural	*Remote*	*Metro & Rural*	*Remote*	*(includes RRMA not specified)*
Transportation	61	116	31	51	260
Drowning	11	14	2	14	42
Poisoning, pharmaceuticals	17	8	11	3	40
Poisoning, other substances	3	4	1	4	12
Falls	11	10	6	9	36
Fires/burns/scalds	3	5	2	8	20
Other unintentional	51	51	9	16	131
Intentional, self-inflicted	92	128	26	16	267
Intentional, inflicted by another	18	41	13	41	117
Undetermined intent	9	4	2	0	15
All Ext cause (ex Med Misadv)	**276**	**381**	**103**	**162**	**940**

Notes: 1 Row categories are "Major group ICD-10" adjusted for lack of E887 equivalent (majgp10r)
2 Source file: ATSI_mort_9700.sav which includes all cases in deaths_97_00.sav for which indig_2=2
3 These tables include cases where the item 'regions' = 2 (i.e. regstate=SA, WA, NT, Qld)
4 Note that the tables contain cases registered during the four years 1997 to 2000.
5 "Metro & rural"= RRMA 1 to 5; "Remote" = RRMA 6 and 7
6 ATSI = Aboriginal and/or Torres Strait Islander

Source: James Harrison, NISU, 17 January 2003

• Table 5 Percentages of Aboriginal and Torres Strait Islander injury death in Australia

Deaths registered in Australia, 1997–2000 where the deceased person was recorded as being Aboriginal and/or Torres Strait Islander: SA, WA, NT, Qld

	Male	**Male**	**Female**	**Female**	**Total ATSI**
	Metro & Rural	*Remote*	*Metro & Rural*	*Remote*	*(includes RRMA not specified)*
Transportation	22%	30%	30%	31%	28%
Drowning	4%	4%	2%	9%	4%
Poisoning, pharmaceuticals	6%	2%	11%	2%	4%
Poisoning, other substances	1%	1%	1%	2%	1%
Falls	4%	3%	6%	6%	4%
Fires/burns/scalds	1%	1%	2%	5%	2%
Other unintentional	18%	13%	9%	10%	14%
Intentional, self-inflicted	33%	34%	25%	10%	28%
Intentional, inflicted by another	7%	11%	13%	25%	12%
Undetermined intent	3%	1%	2%	0%	2%
All Ext cause (ex Med Misadv)	**100%**	**100%**	**100%**	**100%**	**100%**

Notes: See Table 4 Cases of Aboriginal and Torres Strait Islander injury death in Australia

• Table 6 Cases of Aboriginal and Torres Strait Islander injury hospitalisation in Australia

Episodes in hospital due to injury ending during financial year 2000–01 where the person was recorded as being Aboriginal and/or Torres Strait Islander: SA, WA, NT, Qld

	Male	Male	Female	Female	Total ATSI
	Metro & Rural	*Remote*	*Metro & Rural*	*Remote*	*(includes RRMA not specified)*
Transportation	320	414	171	178	1091
Drowning	6	6	7	3	22
Poisoning, pharmaceuticals	73	32	88	33	230
Poisoning, other substances	19	33	11	14	78
Falls	516	503	306	405	1741
Fires/burns/scalds	80	123	43	104	350
Other unintentional	804	983	346	657	2796
Intentional, self-inflicted	182	135	255	134	706
Intentional, inflicted by another	663	1211	619	1399	3910
Undetermined intent	29	54	19	33	136
All ext causes (ex Med Misadv)	2692	3494	1865	2960	11060

Notes: 1 'Injury' defined as principal diagnosis = S00-T98 (ICD10AM)
2 Row categories are "ICD-10-AM Major groups" (maj_t_gp)
3 Source file: Hosp_00-01_13Sep02_ATSI.sav which includes all cases in Hosp_00-01_13Sep02.sav for which indig=1, 2, 3, or 5
4 These tables include cases where the item 'regions' = 2 (i.e. state=SA, WA, NT, Qld)
5 "Metro & rural"= RRMA 1 to 5; "Remote" = RRMA 6 and 7

Source: James Harrison, NISU, 17 January 2003

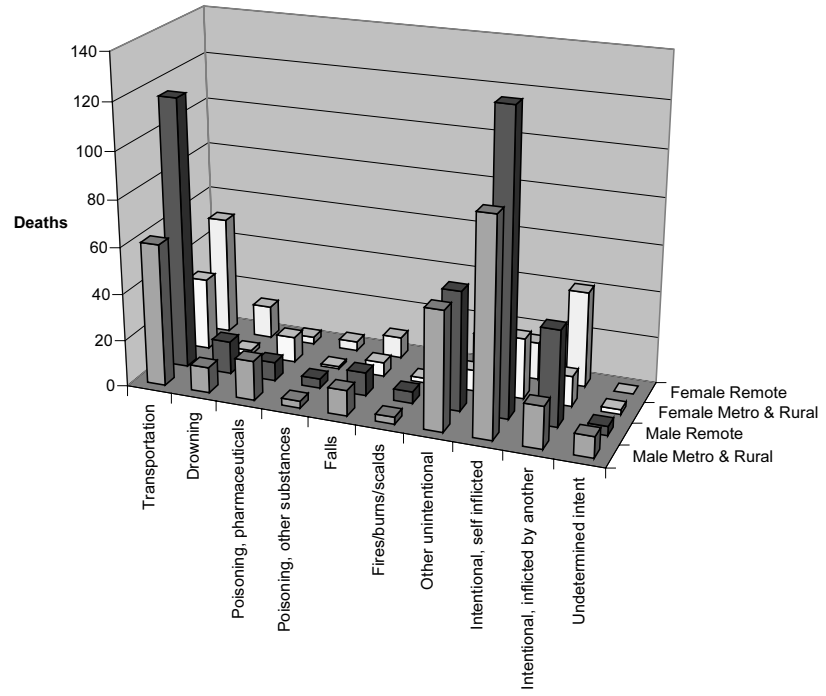
• Table 7 Percentages of Aboriginal and Torres Strait Islander injury hospitalisation in Australia

Episodes in hospital due to injury ending during financial year 2000–01 where the person was recorded as being Aboriginal and/or Torres Strait Islander: SA, WA, NT, Qld

	Male	Male	Female	Female	Total ATSI
	Metro & rural	*Remote*	*Metro & rural*	*Remote*	*(includes RRMA not specified)*
Transportation	12%	12%	9%	6%	10%
Drowning	<1%	<1%	<1%	<1%	<1%
Poisoning, pharmaceuticals	3%	1%	5%	1%	2%
Poisoning, other substances	1%	1%	1%	0%	1%
Falls	19%	14%	16%	14%	16%
Fires/burns/scalds	3%	4%	2%	4%	3%
Other unintentional	30%	28%	19%	22%	25%
Intentional, self-inflicted	7%	4%	14%	5%	6%
Intentional, inflicted by another	25%	35%	33%	47%	35%
Undetermined intent	1%	2%	1%	1%	1%
All ext causes (ex Med Misadv)	100%	100%	100%	100%	100%

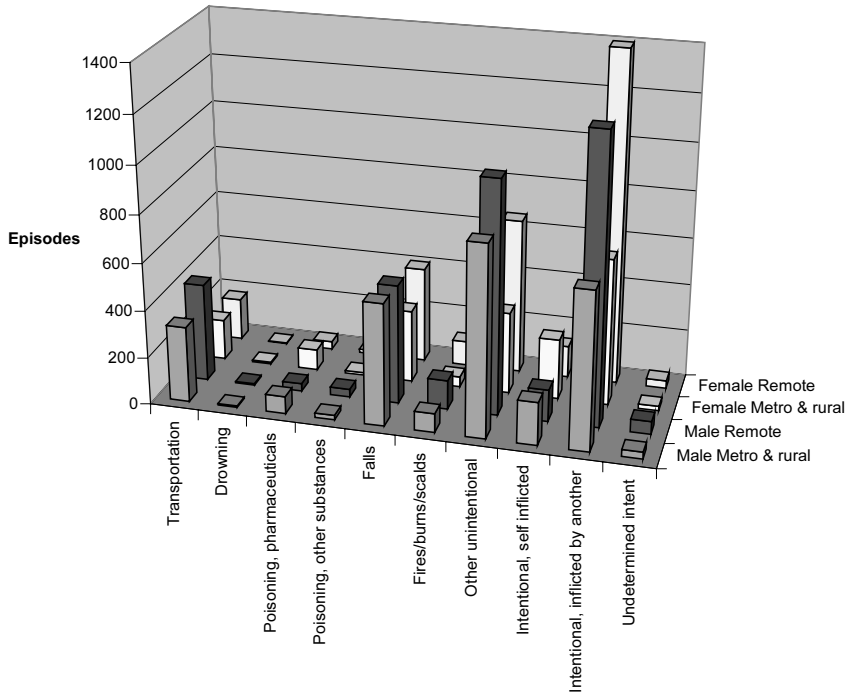
Notes: See Table 6 Cases of Aboriginal and Torres Strait Islander injury hospitalisation in Australia

- Figure 1 Deaths registered in Australia, 1997–2000 where the deceased person was recorded as being Aboriginal and/or Torres Strait Islander: column percentages



Source: James Harrison, NISU, 17 January 2003

- Figure 2 Episodes in hospital due to injury ending during financial year 2000–01 where the person was recorded as being Aboriginal and/or Torres Strait Islander: cases



Source: James Harrison, NISU, 17 January 2003

Comparison of rates is difficult due to the errors in the data, but it is useful to consider estimates of relative risk for urban and remote areas at a crude level. Crude relative risks have been estimated for the data above. The Atlas of Health Related Infrastructure in Discrete Indigenous Communities shows that in the states included in the injury incidence data, 40% of the Aboriginal and Torres Strait Islander population live in remote areas (Bailie et al., 2002:2). This population ratio has been used to generate the relative risk estimates in Table 8.

- Table 8 Estimated relative risk of injury among Aboriginal and Torres Strait Islander people (SA, NT, WA, Qld) in remote areas compared with other areas (other areas r=1.0)

	Deaths	**Deaths**	**Hospitalisation**	**Hospitalisation**
	Male	*Female*	*Male*	*Female*
Transportation	2.9	2.5	1.9	1.6
Drowning	1.9	10.5	1.5	1.3
Poisoning, pharmaceuticals	0.7	0.4	0.7	1.1
Poisoning, other substances	2.0	6.0	2.6	3.8
Falls	1.4	2.3	1.5	4.0
Fires/burns/scalds	2.5	6.0	2.3	7.3
Other unintentional	1.5	2.7	1.8	5.7
Intentional, self-inflicted	2.1	0.9	1.1	1.6
Intentional, inflicted by another	3.4	4.7	2.7	6.8
Undetermined intent	0.7	0.0	2.8	5.2
All Ext cause (excl. Medical Misadventure)	2.1	2.4	1.9	4.8

Source: Calculated from data in Table 6 and Bailie et al., 2002

Aboriginal and Torres Strait Islander people in remote areas have a much higher risk of death from injury and are more likely to be hospitalised. Female Aboriginal and Torres Strait Islander people have about a five times greater risk of being hospitalised in remote areas than Aboriginal and Torres Strait Islander females who live in other areas. A range of causes drives this. For example, assault death and hospitalisation are higher in remote areas for both men and women, with the hospitalisation of women being almost seven times as prevalent in these areas.[1]

Summary

Despite the limitations of the data, the relative risk estimates provide a basis for considering possible priorities for action and demonstrate clearly the multiple-cause nature of Aboriginal and Torres Strait Islander injury.

The priorities will vary from locality to locality according to population shape, and environmental and lifestyle differences. There is need to assess local needs and risk patterns, and to provide a national Aboriginal and Torres Strait Islander Injury prevention approach that negotiates a balanced approach which ensures that all causes and contributing factors are considered.

[1] Care is needed in interpreting this information because a high relative risk can be based on relatively low risk and low numbers in non-remote areas. A notable case is fatal drowning where the relative risk for females in remote areas is greater then 10 but for males only about 2. When the incidence data are studied this can be seen to be based on equal number of male and female drowning cases in remote areas and a low number of drowning deaths among females in non-remote areas. In statistical terms the low numbers suggest that the difference in not statistically significant. However in practical terms, it suggests that the difference between remote and other areas is worthy of attention.

Influences on the rate and mix of injuries among Aboriginal and Torres Strait Islander people

Influences identified from an international perspective

The United Nations estimates there are more than 300 million Indigenous people living in over 70 countries. Among them are the estimated 600,000 Indigenous peoples of New Zealand and Australia and 3.5 million native peoples of North America (including tribes in the United States, the First Nations of Canada, and the Inuit peoples of the Arctic) (Berger, 2002).

There are numerous commonalities among Indigenous peoples including (Berger, 2002):

> 'cultures extending for thousands of years; experiences of exploitation, attempts at forced assimilation, and large scale neglect of human rights, health problems, and social needs; deeply held spiritual beliefs and practices; and increasing efforts to obtain international recognition and protection for their peoples and cultures'.

Equally as important as the commonalities is the enormous diversity within individual countries, because there can be profound differences in lifestyle within individual groups. To address the rising motor vehicle injury rate among Aboriginal and Torres Strait Islander people in Western Australia, for example, we need to know much more about the varied lifestyles of both the urban and rural populations.

Intentional and unintentional injuries represent around 11% of the global mortality and 13% of all disability adjusted life years lost every year (Krug, Butchart, & Peden, 2001). Recognising the magnitude of the problem, the World Health Organization (WHO) has recently taken important steps to increase its injury prevention activities. In March 2000, a Department for Injuries and Violence Prevention was created.

For certain mechanisms of injury, Aboriginal and Torres Strait Islander peoples often have dramatically higher injury rates compared with the non-Indigenous population in their countries. New Zealand, North America, Canada and Australia are known to have some of the highest rates of injuries among their Indigenous peoples (Johnson, Sullivan, & Grossman, 1999).

The 1995 age-adjusted motor vehicle related death rate for the US Navajos was more than five times that of the white population in the United States (sited in Cercarelli, 1999). For Aboriginal and Torres Strait Islander people in Western Australia, the road injury hospitalisation rate was nearly twice that of the non-Aboriginal population (Cercarelli, 1999). In Northern Saskatchewan, Canada, where two-thirds of the population is Native (Woodland Cree, Dene, and Métis), suicide and homicide rates among 15- to 24-year-olds were three to five times greater than the remainder of the provincial population (Feather, Irvine, & Belanger, 1993). In the United States, the rate of fire-related deaths in one Indian Health Service (IHS) area was six times greater than the national average (Kuklinski, Berger, & Weaver, 1996). All of the above reports suggest that poverty is an important factor in the majority of reported injury statistics.

Indigenous peoples in Australia, New Zealand, and the United States each have a different heritage and culture, but they share common experiences in their history. They are 'minority cultures in affluent nations dispossessed of their country and marginalised' (Ring & Firman, 1998). Maoris and Native Americans have made rapid gains in health and life expectancy over the past two decades, but Australian Indigenous mortality shows little or no evidence of these gains for any of the major causes of excess deaths (including injury) (Ring & Firman, 1998).

Death rates for injury and poisoning among Native Americans and Alaskan Natives were one-and-a-half times the Australian Indigenous rates in the early 1970s, but US rates have now fallen to below the current Australian level (Ring & Firman, 1998). The decline in death rates from injury and poisoning in Native Americans has been attributed to changes in transport accidents and changes in homicide and suicide rates (Ring & Firman, 1998). For Australian Indigenous people in WA and the NT, there appear to have been some relatively small recent falls in homicides and transport accident deaths, but there is some evidence that suicide rates are rising (Ring & Firman, 1998).

The role of alcohol misuse as a contributing factor to high rates of injury among Indigenous peoples throughout the world is a complicated yet pervasive one. Among Navajo victims of pedestrian and hypothermia deaths, alcohol intoxication has been reported as frequent and severe (Gallaher, Fleming, & Berger, 1992). A national survey in Australia of Aboriginal peoples and Torres Strait Islanders found that over half identified alcohol abuse as the main health problem in their community (Condon & Cunningham, 1997).

Several of the challenges in conducting studies concerning Indigenous peoples worldwide are illustrated by the articles of Phelan and colleagues (Phelan et al., 2002) and by Cercarelli and Knuiman (2002) and by Berger (2002). One challenge is obtaining reliable numerator data by Indigenous status. Also, changes in access to medical care can alter hospitalisation rates:

> 'members of the Navajo Nation can be treated not only at United States IHS facilities, but private, self pay, and governmental health insurance options allow many individuals access to health care facilities outside the IHS hospital discharge database'.

Another difficulty seen throughout the literature is obtaining accurate denominator data:

> 'The Census Bureau in the United States has acknowledged that minority populations, including Native Americans, are routinely under-counted. It has proposed statistical corrections to make more accurate estimates, but political forces have prevented any such adjustment'.

An Australian perspective

The international context shows that it is important to see Aboriginal and Torres Strait Islander injury as a function of the social disruption and cultural clashes that have occurred. The range of causes is complex and interacts, and there is a danger that single-cause race-specific analysis creates a climate where blame is placed on Aboriginal and Torres Strait Islander people.

The recent WHO report on Violence (Krug, E.G., Dahlberg, L.L., Mercy, J.A., Zwi, A.B., & Lozano, R., 2002:190) recognises the broad set of influences on violence injury and self-harm:

> 'In Australia, aboriginal groups were the object of stringent racial laws and discrimination as late as the 1960s. When these laws, including the restrictions on alcohol sales, were lifted within a short period in the 1970s, the rapid social changes in the previously oppressed Indigenous peoples gave rise to instability in community and family life. This instability has continued ever since, with high rates of crime, delinquency and imprisonment, violence and accidents, alcohol dependence and substance abuse, and a homicide rate that is tenfold that among the general population.'

Krug et al argue that (2002:14):

> 'Societies with already high levels of inequality, which experience a further widening of the gap between rich and poor as a result of globalisation, are likely to witness an increase in interpersonal violence'.

As with many other areas of epidemiology, injury epidemiology has started to realise that single-cause explanations of injury events are 'incomplete and misleading' (Christoffel & Gallagher, 1999:24), and that what is needed is a broader examination of the physical and social environment in which the injury occurred.

Despite the issues surrounding the identification of factors contributing to injury among Indigenous people, the available literature suggests an interrelationship of cultural, environmental and lifestyle variables as main causes for the high incidence of injury. The following factors, collectively or through a multiplicity of variables, appear from the literature to account for the higher incidence of injury:

- marginalisation and disruption to traditional values, kinship and culture;
- loss of self-esteem and purpose, leading to alcohol abuse/interpersonal violence;
- exposure to hazardous environment(s);
- at-risk home environment;
- risks associated with living in rural, remote or isolated communities;
- dependence on road transport for long distances;
- alcohol and substance abuse;
- violence;
- social and familial dysfunction;
- increased falls risks in the young and the elderly;
- risk behaviour, isolation and self-harm;
- low socioeconomic status;
- unemployment, poverty and dependence;
- inadequate equity and intervention levels; and
- reduced or limited access to health, community and social support services.

The Australian literature is generally weak on detailed discussion of the factors as they apply to injury and its prevention. Analyses are however starting to emerge. They often remain focused on a narrow range of issues rather than presenting a full systems analysis.

Most studies that have sought to identify risk factors have failed to explore the interplay of risk factors (for example, young males and alcohol, risk-taking, and exposures to hazardous environments). In order to explore how these factors influence each other, more longitudinal, in-depth multidisciplinary research is required. Such research, with greater collaboration between fields of study, should also shed light upon a point in the chain of events that can offer the greatest opportunity for intervention (Harrison et. al., 2001).

In view of the main thrusts of the literature, it is important to examine the major issues of poverty, social dislocation and alcohol misuse in more detail. This however should not be taken as inferring that these are the only important issues, but rather that these are areas where more complete information is available.

Poverty and social dislocation

• Table 9 Distribution of household weekly income by Aboriginal and Torres Strait Islander status

WEEKLY HOUSEHOLD INCOME BY INDIGENOUS STATUS OF HOUSEHOLD(a)

Occupied private dwellings containing family or lone person households

	Indigenous households	*Other households(b)*	*Total households*
Negative/Nil income	715	44,923	45,638
$1–$119	1,142	34,918	36,060
$120–$199	6,703	230,992	237,695
$200–$299	7,101	498,527	505,628
$300–$399	13,328	565,282	578,610
$400–$499	9,807	471,253	481,060
$500–$599	8,331	344,167	352,498
$600–$699	8,278	392,556	400,834
$700–$799	6,741	302,071	308,812
$800–$999	10,806	590,206	601,012
$1,000–$1,199	7,808	516,167	523,975
$1,200–$1,499	7,853	505,060	512,913
$1,500–$1,999	6,798	639,905	646,703
$2,000 or more	3,745	517,722	521,467
Partial income stated(c)	10,364	491,303	501,667
All incomes not stated(d)	5,839	221,833	227,672
Total	**115,359**	**6,366,885**	**6,482,244**

Notes: (a) Households where any family in the household is defined as an Indigenous family or a lone person household where the lone person is of Aboriginal/Torres Strait Islander origin.

(b) Includes households where the reference person and/or spouse/partner did not state their Indigenous status.

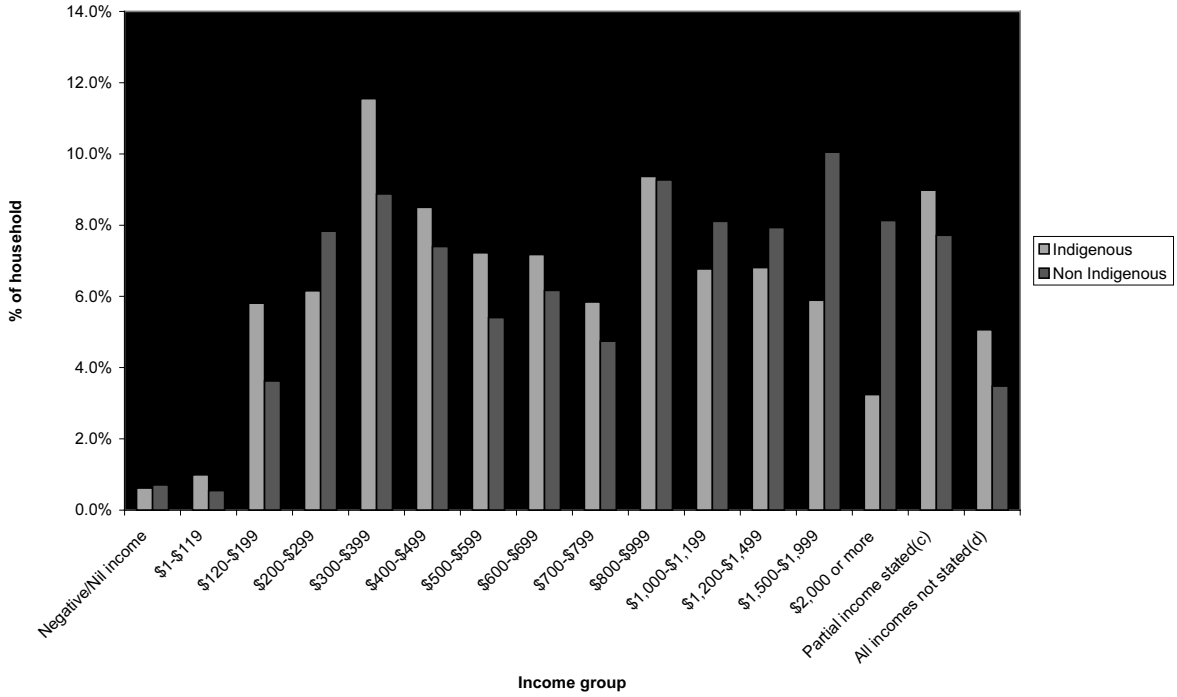
(c) Includes households where at least one, but not all, members aged 15 years and over did not state an income and/or at least one member of the household was temporarily absent.

(d) Includes households where no members present stated an income.

Source: Australian Bureau of Statistics 2001a Census of Population and Housing

The 2001 Census shows (see Table 9 and Figure 3) that Aboriginal and Torres Strait Islander households continue to be over-represented in the low income categories, with marked over-representation among households earning less that $200 per week. Data showing the income distribution according to regional and remote classifications and local area are not yet available from the 2001 Census, so it is difficult to describe accurately the current distribution of income among Aboriginal households. Housing costs vary from region to region and the availability of Aboriginal housing also varies (Australian Bureau of Statistics 2002a:5–11). It is estimated that 13% of Aboriginal and Torres Strait Islander people living in remote communities live in temporary dwellings (Baillie et al., 2002:14). The reports cited above provide strong evidence that many Aboriginal and Torres Strait Islander people in discrete communities live under adverse conditions and in environments that increase the likelihood of injury and disease. Data about urban and rural-dwelling Aboriginal and Torres Strait Islander people are less readily accessible but the influence of poverty on safety choices has been noted in all of the local area studies in NSW and Queensland (Gladman et al., 1997; Royal, 2000; Heslop, 2002).

• Figure 3 Distribution of household weekly income by Aboriginal and Torres Strait Islander status



Source: Australian Bureau of Statistics 2001a Census of Population and Housing

Day-to-day stress

The recent Western Sydney Area Study of Injury (Streeter at al., 2003) strongly identifies social disruption and dislocation as a primary underlying factor in many types of accidents, self-harm and violence. In particular they noted that many of the responses aimed at reducing the frequency and impact of safety problems were undermined by a continuous need to deal with problems of surviving from day to day, criminal justice systems that did not have a rehabilitative focus, and agencies and leaders overwhelmed by the inertia generated by poverty and racism.

Stressors include:

- chronic unemployment;
- poor housing;
- run-down neighbourhoods;
- physical harm suffered at the hands of law enforcement/corrections agencies; and
- fringe-dwelling in big cities.

Alcohol use and misuse

Alcohol is widely accepted to be the key risk factor for many types of injury, including road injuries, falls, fire injuries, drowning, machine injuries, suicide, assault and child abuse (English et al., 1995; Steenkamp, Harrison, & Allsop, 2002). This phenomenon is repeated in all Indigenous societies that have been disrupted by the imposition of western economies and belief systems (Krug et al., 2002). The actual contribution of alcohol use to the various types of injuries varies, but the best international and national data suggests that unsafe alcohol use is responsible for: 37% of road injuries sustained by males and for 18% of those sustained by females; 34% of fall injuries; 44% of fire injuries; 34% of drownings; 7% of machine injuries; 12% of suicides among males and 8% among females; 47% of assaults; and 16% of cases of child abuse (English et al., 1995).

The likely theoretical contribution of alcohol to Aboriginal and Torres Strait Islander injury has not been quantified but, in view of the higher proportions of harmful and hazardous alcohol use among Aboriginal and Torres Strait Islander people (Australian Bureau of Statistics, 1999a; Australian Bureau of Statistics & Australian Institute of Health and Welfare, 1999; Commonwealth Department of Human Services and Health, 1996), these are likely to be conservative estimates of the actual contribution of unsafe alcohol use to injury.

Many reports have identified alcohol as a major contributor to Aboriginal and Torres Strait Islander injury. See, for example, the reports of the Royal Commission into Aboriginal Deaths in Custody (Royal Commission into Aboriginal Deaths in Custody, 1991) and the recent Gordon inquiry into family violence and child abuse in Aboriginal communities in Western Australia (Gordon, Hallahan, & Henry, 2002). However, few studies have attempted to focus on the actual impact.

Overall, the reliability of information on alcohol involvement in injury is uncertain, being complicated by numerous factors. These factors include lack of reliable and accurate measurement of alcohol in the system of the individual at the actual time of the injury, and the fact that the person injured due to the effects of alcohol may not be the person who actually consumed the alcohol (Harrison et al., 2001). Partly as a result of these problems, the major health-related data collections in Australia, death registrations and the hospital in-patient collections provide few insights into the role of alcohol in injury — for either the Aboriginal and Torres Strait Islander or non-Indigenous populations.

One study of injury in remote Aboriginal and Torres Strait Islander communities in far north Queensland found that, of injuries requiring attendance at the clinic in one community, 65% sustained by males and 35% sustained by females were associated with alcohol consumption (the person injured had consumed alcohol) (Gladman et al., 1997). The inclusion of injuries for which the alcohol use of another person contributed meant that 57% of injuries sustained by females were alcohol-related.

A comparison of this community (Community A, with legal alcohol access) with a community with no local canteen (Community D) found that alcohol-related injury rates were substantially higher in Community A, with rates higher for virtually all age-sex groups (the exception was males aged 50+ years) (Gladman et al., 1997).

An earlier survey of urban Aboriginal and Torres Strait Islander people found that almost two-thirds of respondents reported alcohol and alcohol-related violence as the most serious issue confronting the Aboriginal and Torres Strait Islander community (Commonwealth Department of Human Services and Health, 1996). More than 25% of respondents reported having been physically abused by someone who had consumed alcohol.

Despite the lack of comprehensive data, the impact of alcohol on Aboriginal and Torres Strait Islander injury has been recognised as substantial, and reducing this impact is seen as imperative to addressing the issue of injury prevention (Harrison et al., 2001).

The recently released second stage consultation draft of the *National Drug Strategy: Complementary Action Plan for Aboriginal and Torres Strait Islander Peoples* (National Drug Strategy Unit, 2003) proposes a comprehensive response to the impacts of alcohol and other substance misuse. The strategy clearly recognises the importance of alcohol and other drugs as contributing factors to accidental injury, violence and self-harm. The following selected excerpts show the clear linkages with this report.

Objective 1.4 (p10)

Support and resource communities to implement harm reduction as a strategy that aims to protect the health of communities, families and the user from the harms associated with alcohol, tobacco and other drug use. This includes injury prevention projects.

- expand alternatives to incarceration to deal with intoxication, such as sobering-up shelters, night patrols, and injury prevention projects;
- establish youth committees and councils to give young people a voice in community affairs and sharing resources; and
- alcohol and other drug service providers will develop strong working relationships with services that target domestic and sexual violence.

Objective 2.4 (p15)

Improve and establish linkages among agencies involved in reducing harm from use of alcohol, tobacco and other drugs and those involved with related strategies such as mental health, prevention of self-harm, suicide and injury, and sexual health.

Government and non-government sectors collaborate to provide a forum for young Aboriginal and Torres Strait Islander people to come together to discuss alcohol, tobacco and other drugs issues. This includes:

- collaboratively implement programs to support development of parenting and life skills programs for children and young people;
- ensure that out-stations developed to address petrol sniffing have community support, are resourced appropriately, have links with other relevant local services, and are of high quality; and
- build infrastructure support for youth workers dealing with young people at risk of inhalation of volatile substances.

Objective 4.3 (p28)

Ensure that measures that aim to reduce harm are included as part of a range of approaches to address the impact of the use of alcohol, tobacco and other drugs. This includes: promote injury, mental health and sexual health prevention projects relevant to regional and community locations that target alcohol-related harm.

The orientation of these strategies is entirely in harmony with those proposed in this report.

Conclusion

The high injury rate experienced by Aboriginal and Torres Strait Islander people arises from a wide and complex range of causes. The experience of Indigenous people around the world suggests that the many individual factors identified in studies link back to the failure of western social and political systems to meet their responsibilities adequately (Krug et al 2002 :190). While the research has identified a number of contributing factors and possible points for intervention, these should not be pursued in isolation from each other and from the overall political and social context that has had such negative impact on the health and wellbeing of the Aboriginal and Torres Strait Islander peoples.

Important characteristics of the Aboriginal and Torres Strait Islander population that influence the planning and implementation of injury prevention and safety initiatives

History and social position

The impact of the last 200 years on Aboriginal health has been well-documented. The reports of the Royal Commission into Aboriginal Deaths in Custody (1991) and *Bringing them home* (National Inquiry into the Separation of Aboriginal and Torres Strait Islander Children from their Families Australia, 1997) identified the significance of the history of colonisation in explaining the high level of violence, drug and alcohol use and despair in Aboriginal and Torres Strait Islander communities. It identified a lack of appropriate housing, and discrimination in the health, legal and education systems as contributing to the high rate of incarceration and the poor state of health and wellbeing among Indigenous people in Australia.

Devaluation of Indigenous culture by European culture eroded society and language. Like other Indigenous peoples across the world, Aboriginal and Torres Strait Islander peoples suffered rapid population decline, leaving the markers of insensitive and sometimes brutal colonisation that have been noted in the literature. These markers include:

- loss of culture and language;
- poverty;
- alienation;
- marginalisation from the mainstream economy, with consequent lack of status;
- alcohol and substance misuse;
- violence;
- high rates of 'lifestyle diseases' such as cardiovascular disease and diabetes;
- high rates of accidental injury; and
- high rates of self-harm.

Most of the devastating changes occurred in the first 100 years following European settlement, but much has occurred since — even in the last 50 years — that has created a continuing negative impact on Aboriginal and Torres Strait Islander society.

Demographic composition

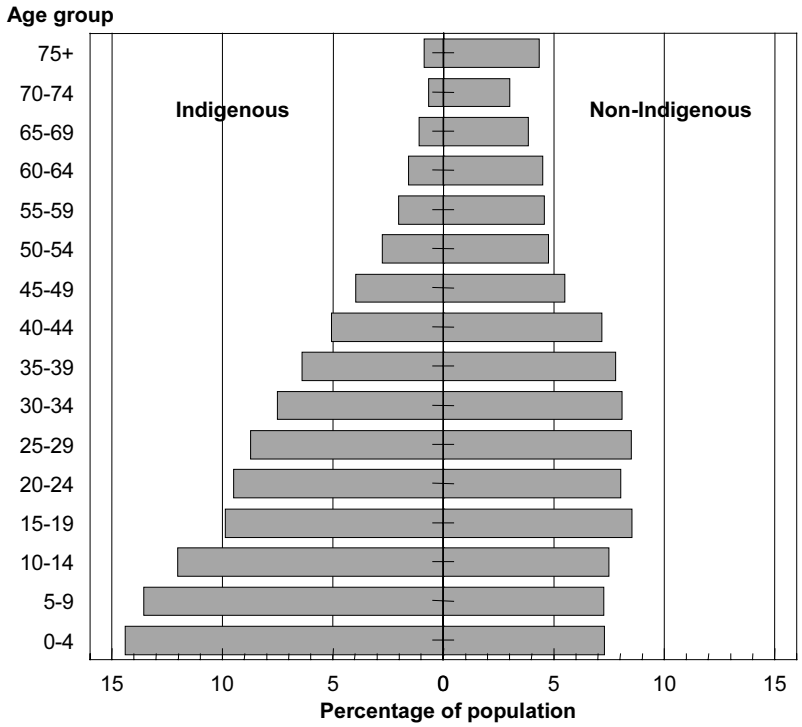
In the 2001 Census, 410,003 persons were counted as being of Aboriginal and/or Torres Strait Islander descent.(Australian Bureau of Statistics 2001a) This is likely to be an underestimate, which will be corrected, once usual place-of-residence data are produced and under-enumeration factors have been applied. Based on the estimated resident Aboriginal and Torres Strait Islander population in 1996, the Australian Bureau of Statistics projected the total Aboriginal and Torres Strait Islander population to between 435,381 (low series projection) and 528,981 (high series projection) at 30 June 2002 (2.2–2.5% of the total Australian population).[2] Based on the low series

[2] The Australian Bureau of Statistics has not yet updated their estimates of the Indigenous population using the numbers of Indigenous people counted in the 2001 Australian Census of Population and Housing. Around 410,000 Indigenous people were counted in the 2001 Census, which is 16% more than counted in the 1996 Census. According to the 2001 Census, the population distribution by jurisdiction was virtually the same as in 1996. It is likely that each of the figures based on projections from the 1996 census will be increased by around 4% after adjustments are made for the under-count that occurs with Censuses.

projection (which assumes change only as a result of natural increase), New South Wales (NSW) has the largest Aboriginal and Torres Strait Islander population with 123,405, followed by Queensland with 121,601, Western Australia (WA) with 62,577, and the Northern Territory (NT) with 57,236. The NT has the highest proportion of Aboriginal and Torres Strait Islander people (29%) among its population, and Victoria the lowest (0.5%).

Figure 4 and Table 10 show that Aboriginal and Torres Strait Islander Australia has a comparatively high proportion of adolescents and young adults.

- Figure 4 Age distribution pyramid of Aboriginal and Torres Strait Islander and non-Indigenous population of Australia



Source: Australian Bureau of Statistics, 2001a

Almost one-quarter (114,000) of the population was currently attending an educational institution. Education networks may form an important vehicle for injury prevention and safety strategies. Overall, achieved levels of education among adults are low. Only 26% of Aboriginal and Torres Strait Islander people aged 15 years and over had completed Year 11, compared with 49% of the non-Indigenous population (Australian Bureau of Statistics, 2001a).

• Table 10 The Aboriginal and Torres Strait Islander population of Australia: 2001

	INDIGENOUS		
	Males	*Females*	*Persons*
Total persons	201,988	208,015	410,003
0–4 years	26,743	26,118	52,861
5–14 years	55,717	52,352	108,069
15–24 years	37,491	37,729	75,220
25–44 years	53,878	60,158	114,036
45–64 years	23,196	25,184	48,380
65 years and over	4,963	6,474	11,437
Speaks Australian Aboriginal or Torres Strait Islander language	24,420	25,344	49,764
Speaks English only	159,861	167,181	327,042
Australian Aboriginal Traditional Religion	2,619	2,374	4,993
Attending an educational institution:(a)			
Aged 5–14 years	48,574	45,784	94,358
Aged 15–19 years	9,357	10,137	19,494
Highest level of schooling completed:			
Year 10 or below	70,422	72,968	143,390
Year 11 to 12	28,875	35,885	64,760
Still at school	6,100	6,561	12,661
Never attended school	3,638	3,761	7,399
Enumerated in private dwellings:			
Separate house	164,851	172,312	337,163
Improvised home, sleepers out, tent(b)	1,358	1,081	2,439
Other private dwelling	26,153	27,927	54,080
Total	**192,362**	**201,320**	**393,682**
Enumerated in non-private dwellings	9,503	6,632	16,135

Notes: (a) Includes 'full-time student', 'part-time student' and persons who did not state their full-time/part-time status but did state the type of educational institution attending.

(b) Includes persons enumerated in tents, sheds, humpies, persons sleeping 'rough' and other improvised dwellings.

Source: Australian Bureau of Statistics, 2003[3]

[3] The Australian Bureau of Statistics has not yet updated their estimates of the Indigenous population using the numbers of Indigenous people counted in the 2001 Australian Census of Population and Housing. Around 410,000 Indigenous people were counted in the 2001 Census, which is 16% more than counted in the 1996 Census. According to the 2001 Census, the population distribution by jurisdiction was virtually the same as in 1996. It is likely that each of the figures based on projections from the 1996 census will be increased by around 4% after adjustments are made for the under count that occurs with censuses.

Geographic distribution

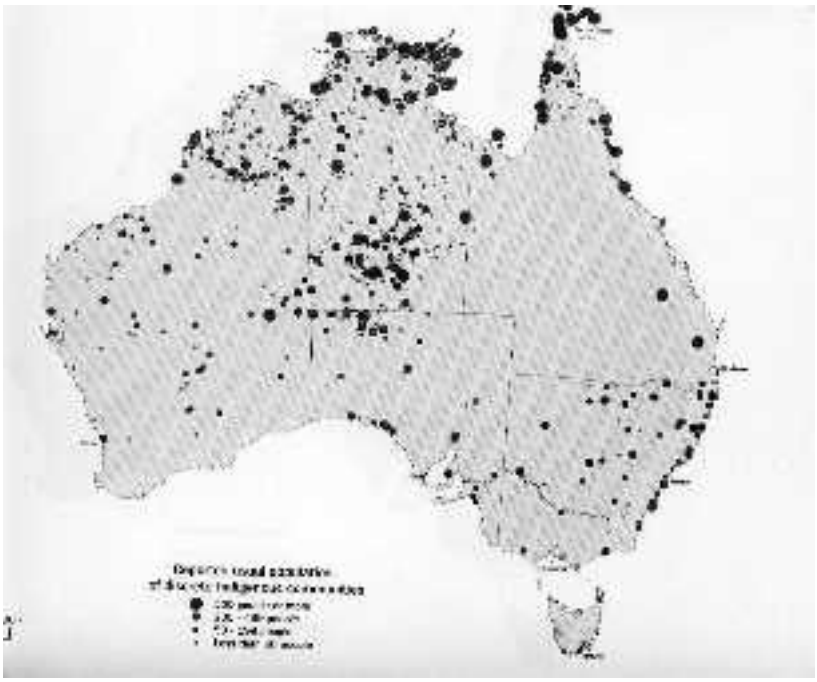
The ABS Report on infrastructure and housing for discrete Aboriginal Communities (see Table 11) indicated that about one quarter (110,000) of Aboriginal and Torres Strait Islander people lived in discrete communities (Australian Bureau of Statistics, 2002a:4).

> 'The Australian Indigenous population is becoming increasingly urbanised. ('Urban' is defined as a population centre of 1,000 or more people.) At the 1991 Census, 67.6% of Indigenous people lived in urban areas; by the time of the 1996 Census this had increased to 72.6%'.

This provides a very varied set of environments, and a need for wide distribution of preventive strategies.

Discrete Aboriginal and Torres Strait Islander communities are spread widely across Australia. Some are associated with large urban centres, while others consist of small communities of 50 or less people in the most remote regions of Australia. The mix of communities varies significantly from state to state, creating the need for flexibility in national programs. (See Figure 5)

• Figure 5 Discrete Aboriginal communities by usual population: Australia 2001



Source: Australian Bureau of Statistics, 2002:95

Many Aboriginal people who do not live in identified discrete communities live in areas where housing costs are low. High concentrations of Aboriginal people can therefore be found in places like the western suburbs of Sydney, where the largest concentration of urban dwelling Aborigines may be found in parts of the Blacktown Shire. The mix of lifestyles and residential settings varies a great deal from state to state and region to region.

• Table 11 Reported usual population, all discrete communities: 2001

	Communities with a population of:					
	Less than 20	**20—49**	**50—99**	**100–199**	**200 or more**	**All communities**
New South Wales	4	7	18	13	18	60
Victoria			1		1	2
Queensland	79	19	6	5	33	142
South Australia	60	10	9	6	11	96
Western Australia	132	70	28	30	23	283
Tasmania			1			1
Northern Territory	341	167	39	26	59	632
Australian Capital Territory						
Australia	**616**	**273**	**102**	**80**	**145**	**1216**
Reported usual population	5682	8889	6765	12779	75879	109994

Source: Australian Bureau of Statistics, 2002:14

This distribution pattern must be considered when analysing injury data and in designing prevention and intervention strategies.

Participation in work

Approximately one-quarter of the Aboriginal and Torres Strait Islander population is active in the work force (Table 11, Table 12). There is no systematic data on work-related injury among Aboriginal and Torres Strait Islander people, but some understanding of the risk of work-related injury can be made by considering work exposures. Table 12 shows that Aboriginal males tend to be employed in the highest risk industry sectors: agriculture, mining, manufacturing and transport. A similar pattern is seen in the distribution of occupations (Table 13). Occupations with higher than average work-related injury patterns are over-represented (Driscoll et al., 1998:24–30). As approximately 60% of employed Aboriginal males are in high-risk occupations such as labouring, trades, and production and transport workers, work-related injury patterns are therefore likely to be high. There is, however, no reliable data on Aboriginal and Torres Strait Islander work-related injury in Australia. Trompf (1995:250) argues cogently:

> that the occupational health and safety of Aboriginal and Torres Strait Islanders is a case for special consideration on several grounds. The colonial experience has historically grounded Aboriginal workers in positions of powerlessness and disadvantage which, in many cases, has resulted in their working conditions being inferior to that of non-Indigenous workers. In addition, the poor health status in which many Aborigines enter the workforce needs to he considered, as well as the dominant culture's definition of 'employment' which is not necessarily the most appropriate to Aboriginal communities. There is also a lack of culturally specific education and training packages and programs. State and Federal governments have not been in the vanguard of Aboriginal health and safety issues, a fact highlighted by the 1994 draft report of the Industry Commission into Occupational Health and Safety in Australia which made no mention of Aboriginal workers. It appears that there are no studies dealing specifically with the issue of occupational health and safety and Aboriginal workers, though there are numerous texts and articles in the industrial relations and industrial sociological literature which occasionally touch on the subject.

A review of 404 studies on Aboriginal health research from 1982–92 cited none on occupational health [emphasis added] (Lake, 1992) it is suggested here that an historical approach to the examination of health and safety in the Indigenous context will provide a better understanding of the needs of the communities and the better development of policies and practices to support the delivery of safer and healthier working environments.'

• Table 12 Industry sector of employed Aboriginal and Torres Strait Islander persons: Australia 2001

Employed persons

	INDIGENOUS		
	Males	*Females*	*Persons*
Agriculture, Forestry and Fishing	3,249	944	4,193
Mining	1,234	156	1,390
Manufacturing	5,657	1,530	7,187
Electricity, Gas and Water Supply	385	92	477
Construction	4,949	510	5,459
Wholesale Trade	2,300	905	3,205
Retail Trade	4,061	5,082	9,143
Accommodation, Cafes and Restaurants	1,506	2,599	4,105
Transport and Storage	2,757	627	3,384
Communication Services	862	487	1,349
Finance and Insurance	294	697	991
Property and Business Services	3,027	3,544	6,571
Government Administration and Defence	11,248	8,615	19,863
Education	2,165	6,095	8,260
Health and Community Services:			
Health and Community Services, Undefined	288	571	859
Health Services	1,416	4,098	5,514
Community Services	1,707	3,625	5,332
Total	*3,411*	*8,294*	*11,705*
Cultural and Recreational Services	1,331	1,032	2,363
Personal and Other Services	3,567	2,357	5,924
Non-classifiable economic units	620	377	997
Not stated	2,127	1,700	3,827
Total	**54,750**	**45,643**	**100,393**

Source: Australian Bureau of Statistics, 2003

• Table 13 Occupations of Aboriginal and Torres Strait Islander persons: Australia 2001

Employed persons (Includes CDEP employees)

	INDIGENOUS		
	Males	*Females*	*Persons*
Managers and Administrators	2,431	1,375	3,806
Professionals	4,361	6,741	11,102
Associate Professionals	4,083	4,498	8,581
Tradespersons and Related Workers	8,829	1,372	10,201
Advanced Clerical and Service Workers	226	1,626	1,852
Intermediate Clerical, Sales and Service Workers	4,406	13,740	18,146
Intermediate Production and Transport Workers	8,421	1,235	9,656
Elementary Clerical, Sales and Service Workers	2,924	5,684	8,608
Labourers and Related Workers	16,166	7,445	23,611
Inadequately described	1,302	691	1,993
Not stated	1,601	1,236	2,837
Total	**54,750**	**45,643**	**100,393**

Source: Australian Bureau of Statistics, 2003

In addition to government and other sources of employment, the Community Development Employment Program (CDEP) schemes provide employment and training opportunities. There were 10,769 males and 7,036 females employed in these schemes at the 2001 Census. Community responses in the community injury prevention studies in Queensland and NSW have raised questions about the attention paid to workplace and worker safety on some of the CDEP programs (Royal, 2000). Occupational Health and Safety managers recognise that injury risks are very high when people are learning a new job and extra care is needed to prevent injury in the first months of undertaking a new task. While there is no reliable data on work-related injury occurring on CDEP schemes, sufficient concern has been expressed in the NSW and Queensland surveillance studies and consultations for the NSW Aboriginal Safety Strategy, about the circumstances of employment in CDEP schemes to suggest that increased attention to worker safety is likely to be needed.

Major features of the theory that underpins policy and practice in the health sector

A number of different agencies and authors have developed theoretical approaches that are relevant to assessing what needs to be done and how to work effectively. Selective examples of these are presented below with a view to showing the complementary conceptualisation that can form a basis for future directions.

Australian Aboriginal and Torres Strait Islander health approaches

A great deal of work has been undertaken to establish core theory and practice relating to Aboriginal and Torres Strait Islander Health. NACCHO, for example, has incorporated the Ottawa Charters' model of public health in the development of its approach to Aboriginal and Torres Strait Islander Health (NACCHO Submission to the National Strategic Plan for Injury Prevention and Control Strategic Framework, draft letter to National Injury Prevention Advisory Council Acting Chair, Mr Ian Scott, December 8th 1998).

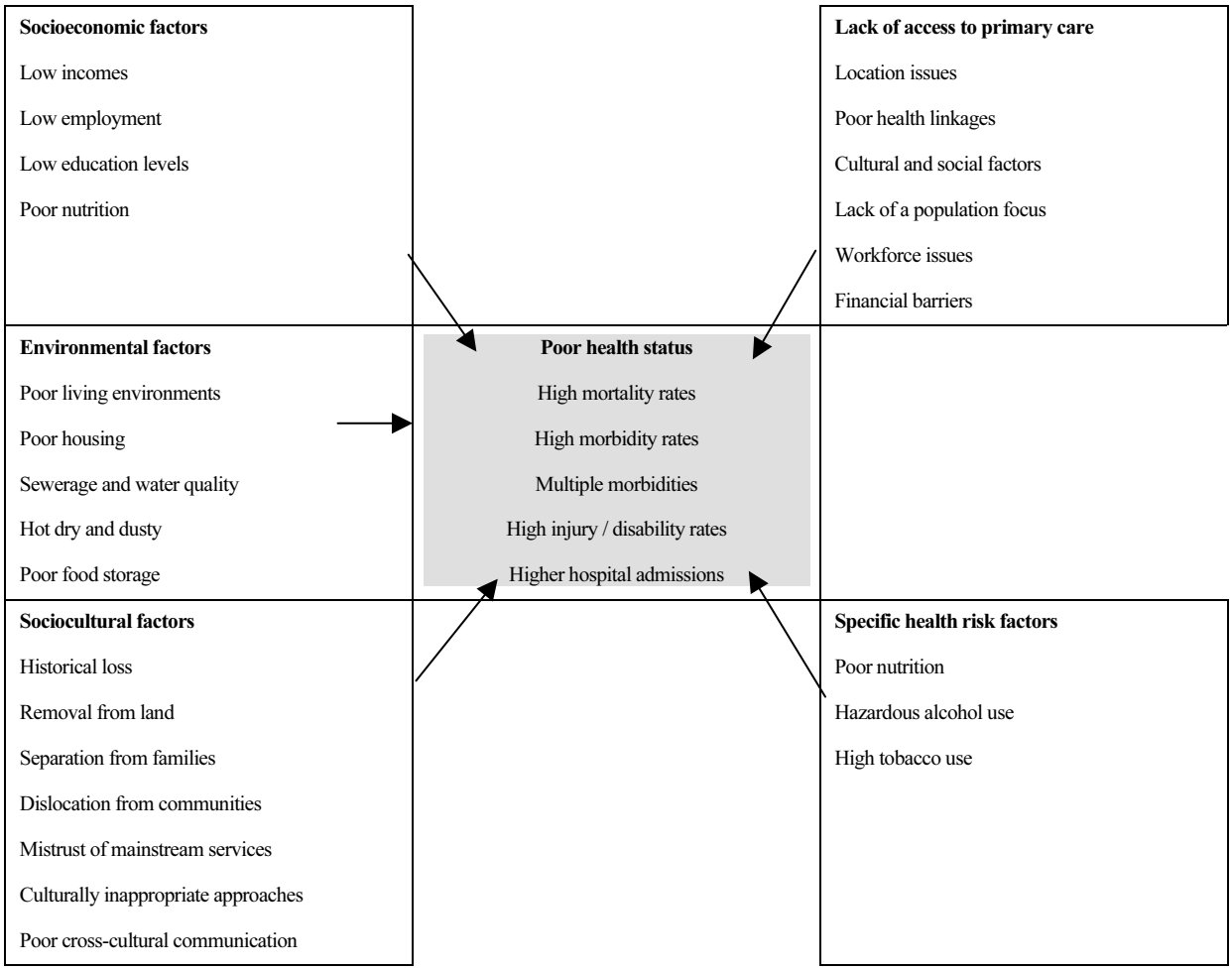
A health promotion approach to primary health care distinguishes types or layers of intervention in terms of prevention, early intervention, treatment and continuing care. This is seen in the diagram below that describes mental health promotion.

• Figure 6 Health promotion approach to primary health care

Source: Commonwealth Department of Health and Aged Care, 2001a:7 adapted from Mrazek & Heggerty, 1994

The National Aboriginal and Torres Strait Islander Health Strategy consultation draft, (National Aboriginal and Torres Strait Islander Health Council, 2000: 24) presents a detailed model of causation of health status shown inFigure 7.

- Figure 7 Factors impacting on Aboriginal and Torres Strait Islander health status: interactions of social and physiological determinants of health



Source: National Aboriginal and Torres Strait Islander Health Council, 2000: 24

Australian Government Department of Health and Ageing

This is in line with the approach taken by the Australian Government Department of Health and Ageing in the development of the population health approach in 1998 (Commonwealth Department of Health and Aged Care, 2001a: 3)[4]:

What is Population Health?

Population Health is characterised by a focus on:

- the health of the population and groups within it, as opposed to the individual, as the starting point for planning and intervening;
- the determinants of health and causes of illness rather than symptoms;
- the promotion of health and prevention of illness rather than treatment;
- the public as an active partner in planning and action rather than the passive recipient of services; and
- the treatment and care of population groups who are already ill, but whose poor health represents a significant risk to other groups in the community.

The Case for Population Health

Population Health is an important end in itself. People have a right to optimal health and wellbeing.

Population Health is also a means to an end. Effective Population Health strategies produce:

- social stability through the reduction of disparities;
- economic growth through a healthy workforce;
- safe and clean environments which promote investment and development;
- more appropriate and cost effective use of the health system as a result of reduced treatment; and
- episodes and admissions to hospital for otherwise preventable illness, injury and disability.

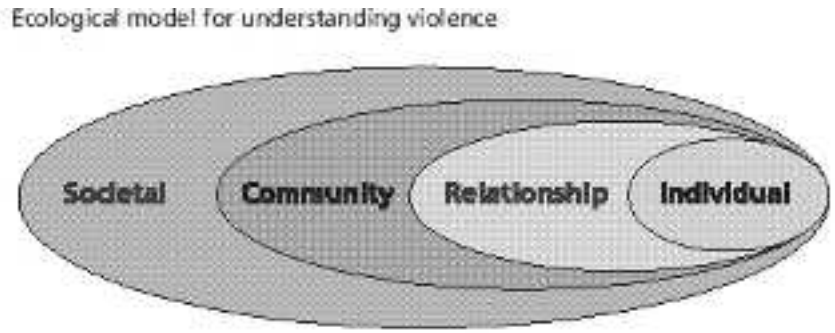
Source: Commonwealth Department of Health and Aged Care, 2001a: 3

[4] the WHO term used is generally 'public health'

The WHO initiative on violence

The WHO has undertaken a major world wide analysis of violence. It proposes an ecological model for understanding violence (see Figure 8). This suggests that interlinked interventions need to occur at a number of different levels and in a number of different sectors.

• Figure 8 The close interrelationship between society, community and violence



Source: Krug et al., 2002:12

While the WHO analysis focuses solely on violence including self harm, the model is equally applicable to unintentional injury. The model sees a range of societal, community, relationships and individual factors underpinning the state of wellbeing of all people.

Common issues and views identified in underpinning theory

While all of these models are different in their detail, they operate from a number of core values and approaches that could form the basis of the theoretical framework for the public health contribution to Aboriginal and Torres Strait Islander Injury Prevention and Safety Promotion.

Key features, adapted from the models cited above and the summary by Krug et al (2002:4), of this framework are:

- the right of the community to make informed choices in setting priorities for action;
- uncovering as much basic knowledge as possible about all the aspects of injury and safety through systematically collecting and sharing data on magnitude, scope, characteristics and consequences;
- determining the full range of causes, and the factors that increase and decrease risk;
- determining which factors may be modified by intervention and developing, testing and evaluating appropriate interventions;
- determining which approaches are suitable in different settings and providing support for the selection of these strategies and their implementation;
- providing rehabilitation of both those who suffer damage and of those who cause injury or erode safety; and
- providing resources so that interventions can be implemented at a level that makes a difference and so increases the viability and sustainability of the people and their communities.