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# Closing the Life Expectancy Gap

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Why is there a difference in the life expectancies of indigenous and non-indigenous Australians, and how can this life expectancy gap be eliminated?

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*Our challenge for the future is ... to embrace a new partnership between indigenous and non-indigenous Australians ... the core of this partnership for the future is to close the gap between indigenous and non-indigenous Australians on life expectancy, educational achievement and employment opportunities.*

The Hon. Kevin Michael Rudd, Prime Minister of the Commonwealth of Australia, Apology to Australia's indigenous Peoples, House of Representatives, Parliament House, Canberra, 13 February 2008

The health disadvantage faced by indigenous Australians, as typified by the gap in life expectancy, has long been evident to governments. Despite the policies, efforts and resources expended so far, little progress has been made in bridging the gap.

New hope has come with the change in federal government, but turning the words into reality will be a challenging task.

## The Life Expectancy Gap

The term *life expectancy* refers to the remaining years that an individual of a specific age in a given population is expected to live (see box). Most interest tends to be in life expectancy at birth, which represents the average lifespan of a newborn.

Life expectancy is an indicator of the overall health status of a population or a country. The

higher the life expectancy, the better the overall health of the population.

Life expectancy in Australia has improved progressively over recent decades, with 4 years being added to the expected lifespan of the average Australian female and 6 years to the average Australian male in the past 20 years. A boy born in Australia can expect to live for 78.5 years while a baby girl can expect to live for 83.3 years ([www.abs.gov.au](http://www.abs.gov.au)). These life expectancies place Australia among the top five nations in the world for life expectancy. The world's highest life expectancies are for Japan (79.0 years for males, 86.1 years for females), Iceland and Switzerland ([unstats.un.org](http://unstats.un.org)).

At a whole-of-population level, life expectancy in Australia is high. However, within the population, the life expectancy of indigenous Australians is much poorer than non-indigenous Australians. This poorer outcome reflects the much higher death rates of the indigenous population.

For example, the indigenous death rate in the Northern Territory (NT) is more than twice the national average. During the period 1996–2000, the life expectancy for NT indigenous males was 59.4 years compared with 76.1 years for NT non-indigenous males, a life expectancy gap of 16.6 years (Table 1). The life expectancy for NT indigenous females was 65.0 years compared with 84.0 years for NT non-indigenous females, a 19-year life expectancy

**Table 1. Male and female life expectancy gaps, 1981–2000.**

YEARS	LIFE EXPECTANCY AT BIRTH (YEARS)			LIFE EXPECTANCY GAP (YEARS)	
	NT Indigenous (1)	NT Non-indigenous (2)	Australia (3)	NT Non-indigenous (2 – 1)	Australia (3 – 1)
<b>MALE</b>					
1981–1985	57.9	70.4	72.3	12.6	14.4
1986–1990	56.2	71.8	73.8	15.6	17.6
1991–1995	58.6	72.7	75.6	14.1	17.0
1996–2000	59.4	76.1	77.3	16.6	17.8
<b>FEMALE</b>					
1981–1985	63.5	80.2	79.7	16.7	16.2
1986–1990	63.2	84.4	80.9	21.2	17.7
1991–1995	64.4	81.8	82.3	17.4	17.9
1996–2000	65.0	84.0	83.5	19.0	18.6

Source: [www.health.nt.gov.au](http://www.health.nt.gov.au)

gap. At the national level in the period 1996–2001, the indigenous life expectancies at birth were believed to be close to the NT results ([www.abs.gov.au](http://www.abs.gov.au)).

Indigenous life expectancy has improved significantly in the past 35 years ([www.blackwell-synergy.com/loi/azph](http://www.blackwell-synergy.com/loi/azph)). Improvements have come from reductions in infant mortality (death before age 1), which explain more than half of the indigenous life expectancy increase during the 1970s and early 1980s. From the late 1980s onwards, mortality declines at ages 45 and over were responsible for nearly three-quarters of life expectancy gains for the indigenous population.

The improvement in indigenous life expectancy at birth from the late 1960s to the early 2000s was almost parallel with gains for the Australian population as a whole. The gap, however, between indigenous and Australian life expectancy did not narrow and continues to be around 17 years.

## What Is the Gap and What Causes It?

Although the life expectancy gap has persisted over time, research has shown a shift in the causes of death that cause the gap. Causes of death can be coded into one of three broad groups:

- group I – communicable diseases, maternal causes, conditions arising in the perinatal period and nutritional deficiencies;
- group II – non-communicable diseases; and
- group III – unintentional and intentional injuries.

The contribution of group I (predominantly communicable diseases) halved during the 20 years to 2000 (Fig. 1). More specifically, in 1981–1985 group I diseases and conditions were collectively responsible for 36% of the life expectancy gap between indigenous and non-

## Calculating Life Expectancy

Life expectancy is calculated from age- and sex-specific death rates for a population of interest over a period of time using abridged life tables, which calculate probabilities of death for each age group for each sex. The resulting probabilities of death are then applied to a hypothetical birth cohort of 100,000 people to estimate total person-years survived for the age interval and life expectancy.

As death rates change, life expectancy will change. Life expectancy can fall as a result of events such as natural or man-made disasters, or because of injuries and diseases. It can increase with improvements in health care and social support, which improve people's longevity and quality of life.

Life expectancy has long been used as a summary measure of population health. Such information enables us to predict needs, evaluate health programs and identify inequalities.

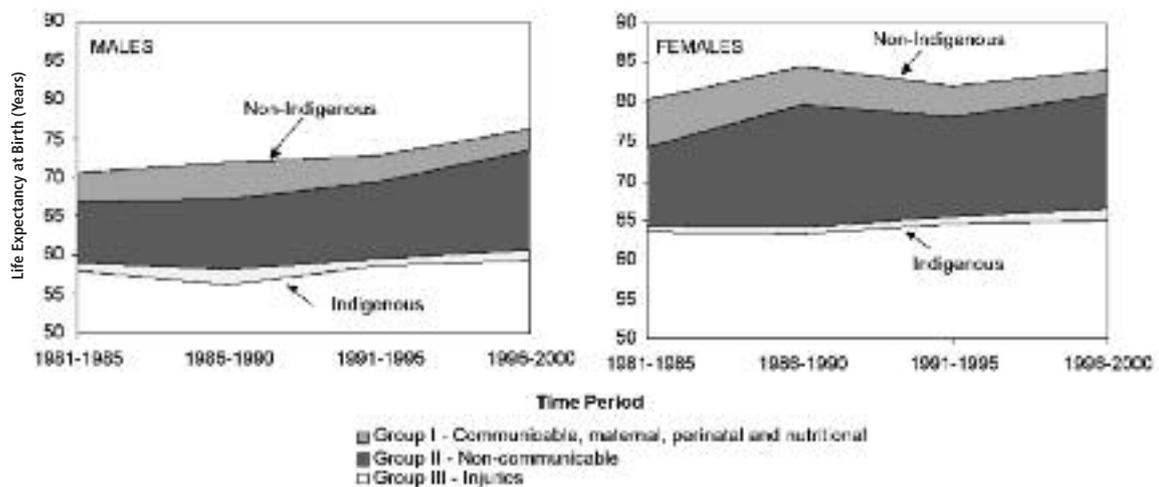


Figure 1. Trends in the causes of the life expectancy gap between Indigenous and non-Indigenous people in the Northern Territory, 1981–2000. Source: Zhao Y, Dempsey K. *MJA* 2006, 184, 490–4 (www.mja.com.au). Reproduced with permission.



Figure 2. Causal pathways of poor life expectancy of Indigenous Australians.

Source: Modified from Mathews J.D. *MJA* 1998, 169, 626 (www.mja.com.au). Reproduced with permission.

indigenous males and 34% of the gap between indigenous and non-indigenous females. By the last 5-year period (1996–2000), this group was only contributing to 15% of the life expectancy gap for males and 16% for females.

In contrast to group I, the contribution of group II (non-communicable diseases and conditions) to the life expectancy gap increased markedly. In 1981–85 group II was collectively responsible for 58% of the life expectancy gap between indigenous and non-indigenous males and 60% of the gap between indigenous and non-indigenous females. By the last 5-year period

(1996–2000), the contribution of this group had increased to 77% for both males and females. Thus, gains from a reduction in deaths from group I diseases and conditions – in particular infectious diseases, respiratory infections and respiratory disease – were offset by increases in cardiovascular diseases and diabetes for indigenous women and cardiovascular diseases, cancers and digestive diseases for indigenous men.

The collective contribution of group III (injuries) to the life expectancy gap was considerably less than that of the other two groups for both males and females. Over time the change in the contribution of this group to the female life expectancy gap was negligible, increasing from 5% to 8%. For males the trend was a negligible decline from 11% to 7%.

The causal pathways of poor indigenous health, and thus lower life expectancy, can be traced back to European colonisation around the 1850s. Although it is difficult to judge the health state of indigenous people before first contact, for several reasons they would have been relatively healthy compared with indigenous Australians today. First, they were free of infectious diseases. Second, they had full control of and access to their land and resources. Third, they had their own traditional medicine.

With colonisation came several deadly infectious diseases including tuberculosis, leprosy and smallpox. The immediate effect was a rapid fall in the indigenous population.

Beyond this direct health impact, present

social, economic and health disadvantages can be tracked down to colonisation (Fig. 2). The high incidence and prevalence of disease, injury, malnutrition and substance abuse stem from the poor access to health services, lower levels of education, high unemployment and poor living conditions that have arisen from their dislocation from lands and lifestyle and their inability to access services that are available to other Australians.

## Closing the Gap

Although Australians may be divided by where and how they live, there is a clear national consensus that the gap in life expectancy between indigenous and non-indigenous people in this country needs to be closed. The underlying causes of the gap are multifaceted and the solution must be equally comprehensive. Current approaches have not worked and more fundamental changes are needed to make a difference.

To close the gap in life expectancy, we must address not only health issues but also other inequalities such as education levels, living conditions, employment and social opportunities. Key areas of intervention are discussed below.

## Primary Health Care and Prevention

Access to quality health care is critical to good health. This means being able to access health services including acute hospitals, primary health care (Medicare), mental health care, rehabilitation and palliative care, and health promotion and education. Subsets of the population have been targeted, such as those requiring maternal and child health services, and this has contributed to an increase in life expectancy, but to obtain further benefits issues across the whole indigenous population need attention. One of the most pressing of these is primary health care for adults with chronic diseases.

Accordingly, a comprehensive primary health care service in remote indigenous communities is very important, but Medicare data show that indigenous people are not accessing this care at a level commensurate with need. Indigenous Australians are using primary care services at much lower levels than non-indigenous Australians despite having a greater burden of ill health. This gap is also widening over time.

For example, between 1994–95 and 2003–04 Medicare per capita payments for services to indigenous people grew from \$63 to \$108 (a 71% increase), whereas payments for services to non-indigenous people went from \$147 to \$254 (a 73% increase). Thus, the gap widened from \$84 to \$146 per person ([www.health.nt.gov.au](http://www.health.nt.gov.au)).

In recognition of this issue, the Australian government recently provided an additional \$100 million over 2 years for the Northern Territory government to provide primary health care services in remote communities. This funding will put additional resources in communities and allow services to be provided in new locations.

The funding is, however, only based on what would be required to provide services at the national average. An average level of service is likely to perpetuate rather than overcome the life expectancy gap. More funding will be required to achieve a better life expectancy outcome.

Primary health care also needs to focus on prevention and treatment of non-infectious chronic diseases in middle-aged adults. Only when primary health care services in indigenous communities are established and adequately staffed and funded will potential gains in indigenous health be realised.

## Good Hygiene, Food, Housing, Sanitation and Water

Many daily activities and situations are essential to achieving and maintaining good health: what you eat, what you drink, and if you live in a clean and safe environment. The connections between health and the social and physical environment have been well established, yet in some indigenous communities there is a lack of environmental health infrastructure. In the NT, 6% of indigenous households on outstations do not have running water and 20% of remote indigenous communities and outstations are without sewage disposal systems ([www.health.nt.gov.au](http://www.health.nt.gov.au)). As a consequence of poor environmental conditions, diseases such as water-borne infectious diseases, respiratory diseases, and ear and skin infections are common in indigenous communities. Unless living conditions in indigenous communities – housing, utilities (water, electricity, sewerage), policing, food and other basic supplies – are improved it will be impossible to close the gap in life expectancy.

## Smoking, Alcohol and Drug Abuse

Tobacco smoking, alcohol abuse and other substance abuses such as petrol sniffing are harmful to health. Among indigenous people, smoking prevalence is more than double that of their non-indigenous peers. In 2004–05, one in six (15%) indigenous adults reported consuming alcohol at risky or high-risk levels ([www.abs.gov.au](http://www.abs.gov.au)). In total, tobacco smoking and alcohol consumption are responsible for about 23% of indigenous deaths ([www.mja.com.au](http://www.mja.com.au)).

Smoking elevates the risk of cancer, cardiovascular disease, respiratory disease and a variety of other conditions. Harmful levels of alcohol consumption can cause liver disease, pancreatitis, diabetes, epilepsy, traffic accident injuries, haemorrhagic stroke and specific cancers. Changing these behaviours requires a mix of interventions such as restrictions on supply, counselling, withdrawal management education, health promotion and legislation.

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## Good Education and Employment

With a large population in their youth, indigenous Australians could be an important labour resource. Education is the key to this gate of opportunity. At present, however, educational outcomes for indigenous children in the NT are poor. Further, indigenous communities are heavily dependent on non-indigenous teachers, nurses, doctors and other skilled workers. Labour shortages in these areas are increasing so it is important that indigenous people are educated and able to fill these gaps. This will require not only indigenous children to attend schools, but also schools to cater to the cultural and linguistic needs of indigenous students so that they can successfully acquire the skills and knowledge needed to progress to skilled jobs.

Education should not be limited to children, however. To address the wider educational deficit, basic literacy and numeracy training for

adults should also be available. Without equal education outcomes, indigenous people will not have an equal opportunity to obtain work.

There are also wider societal benefits from a better-educated workforce including reduced crime, improved social cohesion and increased economic and technological productivity.

## Marginalisation and Discrimination

Marginalisation and discrimination can be traced to European colonisation. Australia prides itself on being a democracy and being a place where every individual can reach his or her full potential – a “fair go for everyone”. We are now seeing indigenous representatives in government, consultation with indigenous communities and positive measures to assist indigenous people to enter the workplace. Challenges still remain in bridging the social and geographical isolation of indigenous communities in remote communities.

## Broader Benefits

Addressing the life expectancy gap is a moral imperative, but doing so is in the nation’s interest for other reasons too. If the gap did not exist now there would be another 480,000 indigenous Australians, of whom 350,000 would be of working age. At the average wage and national participation rates, they could potentially increase annual household earnings by \$16 billion. There would also be annual savings in health-related public expenditures of \$360 million.

These benefits will not be achieved by a piecemeal approach to indigenous disadvantage. Addressing the inequalities in health, education, housing and employment requires a holistic approach, with investments and changes synchronised to harness synergies.

Governments, the community and individuals all have a role in such an approach. When these disadvantages are addressed, indigenous people will be able to realise their full potential within the broader economy.