

Placing Aboriginal and Torres Strait Islander mortality in an international context

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According to the few published reports available, the mortality experience of Indigenous Australians (that is, Aboriginal people and Torres Strait Islanders) compares unfavourably with that of Indigenous groups in other countries such as New Zealand, the United States and Canada.¹⁻⁵ Estimated life expectancy for Indigenous Australians is similar to that of developing countries, such as Pakistan, Indonesia, Guatemala and Iran.⁶ However, in contrast to many developing countries, the low life expectancy of Indigenous Australians is the result of relatively high and early adult mortality, rather than high infant mortality.⁷

Although comparisons of population characteristics across and within countries are limited by the quality and availability of data, such investigations can highlight important similarities and differences. Patterns of mortality and life expectancy reflect a range of economic, social, cultural, environmental and political factors that vary from place to place and over time.

In order to identify countries or groups with mortality patterns similar to those of Indigenous Australians, we compared data for Indigenous Australians with corresponding figures for a number of countries and population groups from around the world.

Methods

We compared age-specific mortality rates and estimated life expectancy at birth for Indigenous Australians with corresponding measures for the populations and sub-populations of a number of other countries.

Australian data

Data on the mortality of Indigenous Australians were obtained from the Australian Bureau of Statistics (ABS, special tabulation request). To minimise the impact of year-to-year variation in the number of deaths and to maximise the accuracy of the Indigenous population estimates, we selected a three-year period (1995-97) centred on the date of the most recent Australian Census (1996).

The Indigenous population is a relatively small percentage of the total Australian population (2.1% in 1996).⁷ As in other countries with small minority populations, not all deaths of Indigenous people are identified as such. The analysis reported here is restricted to the three jurisdictions – Northern Territory (NT), Western Australia (WA), and South Australia (SA) – determined by the ABS to have the most complete identification of Indigenous deaths in 1995-97.⁷ Even in these jurisdictions, however, some under-ascertainment of deaths is likely.

The Indigenous population estimates used in the analysis were provided by the ABS (special tabulation request) and are derived from 1996 Census-based experimental estimates for the Aboriginal and Torres Strait Islander population in NT, WA and SA combined. Estimates for the Indigenous population are referred to as ‘experimental’ because of the volatility in the Census counts and the deficiencies in the quality of births, deaths and migration data for this population.⁴

Age-specific mortality data for the total Australian population were obtained from published reports.⁸ Estimates of Indigenous and total Australian life expectancy at birth

Abstract

Objective: To assess whether the patterns of mortality observed among Indigenous Australians were seen in other countries or sub-populations. Previous reports have indicated that the life expectancy of Indigenous Australians compares unfavourably with that of Indigenous groups in other developed countries, and is similar to that in some developing countries. However, in contrast to many developing countries, low life expectancy of Indigenous Australians is the result of relatively high and early adult mortality, rather than high infant mortality.

Methods: Using routinely available administrative data on age-specific mortality and estimated life expectancy at birth, we compared data for Indigenous Australians (from the Northern Territory, Western Australia and South Australia combined) with corresponding data for 200 countries world-wide, as well as for several population groups of interest, including African Americans, Native Americans, Canadian Natives and New Zealand Maori.

Results: Patterns of mortality among Indigenous Australians were markedly different to those of most other populations with available data, with the exception of the Russian Republic. The age-specific mortality rates for Russian males in 1990-95 were almost identical to those of Indigenous males in 1995-97. The similarities among females were less pronounced, but stronger than for any other country.

Conclusion and implications: The dramatic fall in Russian life expectancy has been studied extensively and several important social and contextual factors have been identified. These factors are also relevant for the Indigenous population, and this may help to explain the similar mortality patterns of the two groups.

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were calculated using Population Analysis Spreadsheet software, which constructs life tables from age-specific death rates.⁹

Other national-level and regional data

Age-specific death rates and estimated life expectancy at various ages for males and females are published annually in the United Nations' *Demographic Yearbook* for a large number of countries. The data are obtained from the relevant countries whenever possible, but many of the figures are based on the United Nations' own estimates. In the 1996 edition, life expectancy at birth was available for 200 countries.⁶ For the majority of these 200 countries, the latest available data were for a single year or group of years 1990-95 but for some countries the latest data were from the late 1980s. Age-specific death rates (in five-year age groups) were also available for 93 of the 200 countries, although some countries were missing data for some age groups.

Regional estimates of age-specific death rates for 1990 were available from the Global Burden of Disease project.¹⁰ The eight regions were described as: Established Market Economies (EME); Formerly Socialist Economies of Europe (FSE); India (IND); China (CHN); Other Asia and Islands (OAI); Sub-Saharan Africa (SSA); Latin America and the Caribbean (LAC); and Middle Eastern Crescent (MEC).

Other sub-populations of interest

For the African American and Native American populations of the United States, age-specific mortality rates by sex for 1996 were obtained from published reports of the US National Center for Health Statistics.¹¹ African American life expectancy at birth was also available for 1996.¹¹ Life expectancy for Native

Americans, adjusted for miscoding of ethnicity on death certificates, was published by the Indian Health Service.¹² These estimates refer to the period 1994-96 and are based on the IHS service area population, rather than the whole of the United States.

For the New Zealand Maori population, life expectancy at birth for the period 1995-97 was available on-line from Statistics New Zealand.¹³ Maori age-specific mortality rates were calculated using published age- and sex-specific death registrations for 1996¹⁴ and the 1996 estimated resident population by age and sex.¹⁵

Estimated life expectancy at birth for 1996 was available for the Canadian Registered Indian population (Indian and Northern Affairs Canada, unpublished data), but no age-specific death rates could be obtained.

Results

Life expectancy at birth

Figures 1 and 2 show the distribution of estimated life expectancy at birth for males and females, respectively, for all countries included in the analysis as well as for the sub-populations described above.

For males, life expectancy at birth ranged from 22.1 years in Rwanda (1990-95) to 76.5 years in Iceland (1994) (see Figure 1). Life expectancy at birth for Indigenous Australian males in 1995-97 was 60.0 years, approximately 16 years lower than the figure for all-Australian males in 1996 (76.2 years).

Female life expectancy at birth ranged from 23.1 years in Rwanda (1990-95) to 82.9 years in Japan (1995) (see Figure 2). For Indigenous females, the estimated life expectancy at birth in 1995-97 of 67.6 years was about 15 years lower than that for all-Australian females in 1996 (82.7 years).

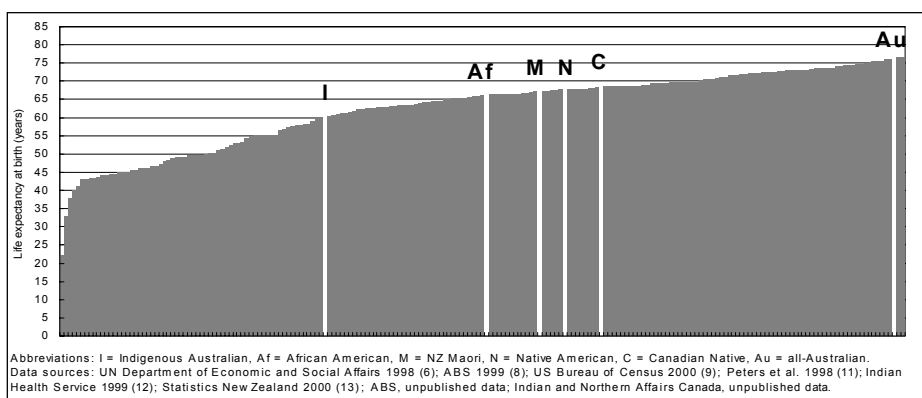


Figure 1: Estimated life expectancy at birth, countries with available data and selected population groups, males.

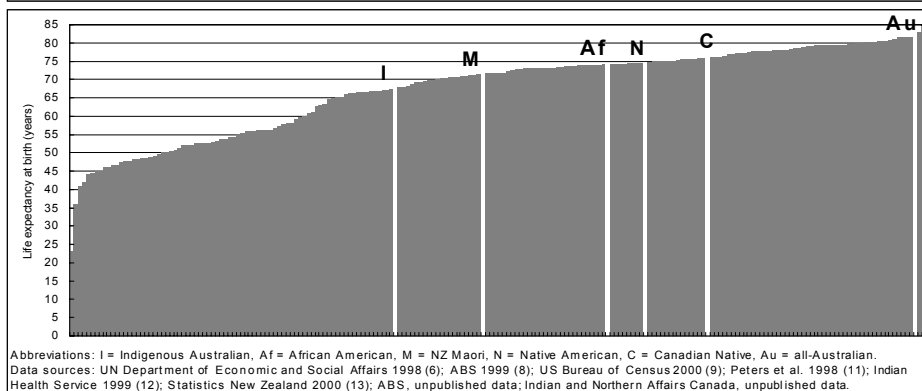


Figure 2: Estimated life expectancy at birth, countries with available data and selected population groups, females.

For both males and females, life expectancy was lower for Indigenous Australians than for New Zealand Maori, African Americans, Native Americans and Canadian Natives.

Age-specific mortality rates

Figures 3 and 4 show Indigenous age-specific mortality rates in comparison with figures for the eight world regions as defined by Murray and Lopez in the Global Burden of Disease Project.¹⁰ These graphs show the unusual mortality profile of the Indigenous Australian population. For both males and females, Indigenous mortality rates at younger ages are low by world standards but rise by middle age to be higher than any of the regional estimates.

To determine whether the Indigenous Australian pattern of relatively low infant and childhood mortality rates followed by high mortality in the young and middle adult years was present in other populations, we examined the age-specific mortality rates of all national and sub-populations with available data and compared them with the corresponding rates for Indigenous Australians.

Figures 5 and 6 present age-specific mortality rates for the Australian Indigenous, Native American, New Zealand Maori and

African American populations. While there were some similarities in the overall shapes of the mortality curves, the rates were considerably higher in adulthood for Indigenous Australians than for other Indigenous and non-Indigenous sub-populations in the US and New Zealand.

Of all the nations examined, the Newly Independent States of the former USSR were the most similar to Indigenous Australians in their age-specific mortality patterns. Among males the Russian age-specific mortality rates were the closest match to the Australian Indigenous rates and were, in fact, virtually identical (see Figure 7). The similarities were not as pronounced among females (see Figure 8), but the mortality pattern for Russian females matched that of Indigenous Australian females more closely than any other national population examined.

Discussion

There is an enormous gap in life expectancy between the Indigenous population of NT, WA, and SA and the total Australian population for both males and females. Life expectancy at birth for Indigenous Australians is also considerably lower than the

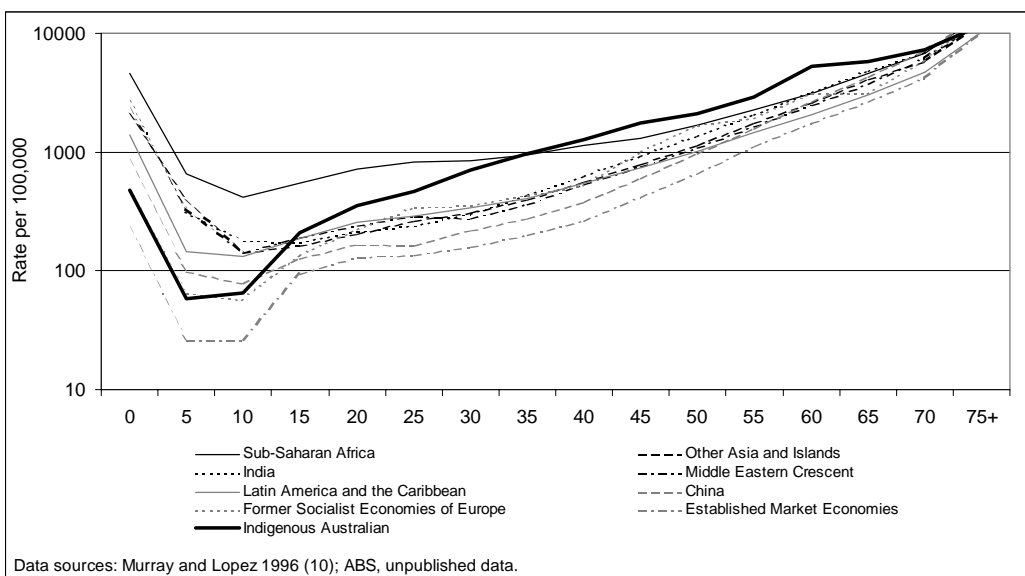


Figure 3: Age-specific mortality rates for males, by Global Burden of Disease region (1990)¹⁰ and for Indigenous Australians (1995-97).

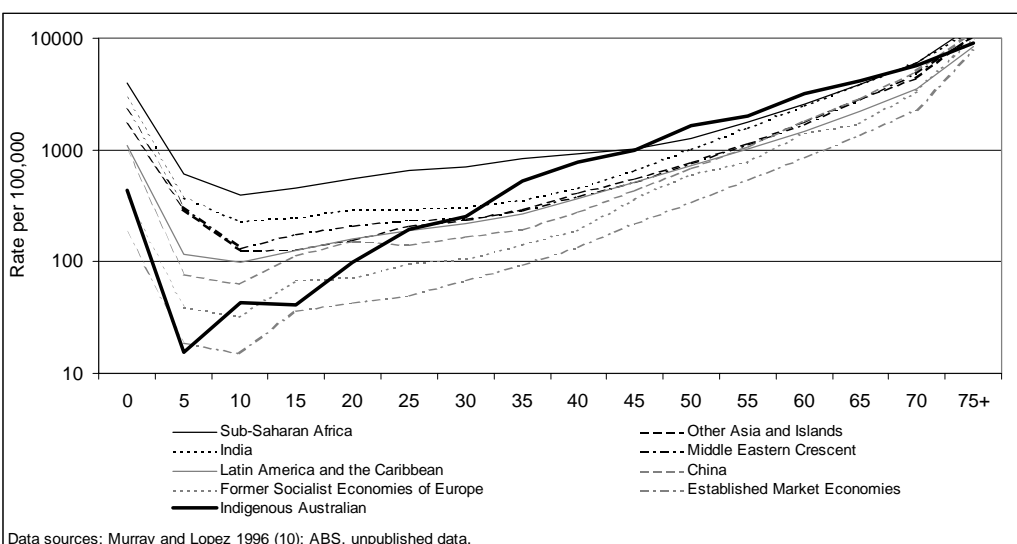


Figure 4: Age-specific mortality rates for females, by Global Burden of Disease region (1990)¹⁰ and for Indigenous Australians (1995-97).

corresponding figures for other Indigenous and non-Indigenous sub-populations in New Zealand, the United States and Canada.

The Australian Indigenous population has a mortality profile that is distinct from the profiles of most national populations worldwide and differs from the profiles of the eight regions defined for the Global Burden of Disease Project.¹⁰ Indigenous age-specific mortality was also higher than that of other Indigenous and non-Indigenous sub-populations of interest, especially in adulthood. However, there was a striking similarity between Indigenous and Russian mortality patterns, especially among males.

Any comparison of mortality patterns between and within countries is limited by the quality and availability of data. The completeness of coverage of death registrations is variable and there can be important differences in, for example, the definition and identification of population subgroups, the accuracy of population estimates, and the years for which data are available. Grouping of data across large regions may obscure variations in mortality patterns for individual countries and for smaller regions, and information is not available for some countries. Interpretations of comparative measures must therefore be made with caution.

Although the results described here should not be considered precise, it is unlikely that the broad trends observed in this analysis are explained by limitations in the quality and availability of data.

Several reasons have been suggested for the higher mortality rates among Indigenous Australians compared with other Indigenous groups world-wide. These include social, economic, political and environmental factors such as the lack of a treaty in Australia, greater barriers to accessing health services, the lack of community-controlled health services in many areas, inadequate resources and infrastructure, poor environmental health and the relative lack of a skilled Indigenous workforce.^{2,3,16} It should be noted that the analysis of Australian Indigenous mortality was limited to NT, WA, and SA because of concerns about data quality in other jurisdictions during the time period of interest. These three jurisdictions accounted for about 34% of the Indigenous population in 1996 but 62% of all deaths identified as Indigenous in 1995-97.⁴ The mortality experience among those identified as Indigenous in death records appears to be similar across all jurisdictions⁴ but the extent to which deaths identified as Indigenous reflect the overall mortality experience of Indigenous people is

Figure 5: Age-specific mortality rates for selected population groups, males.

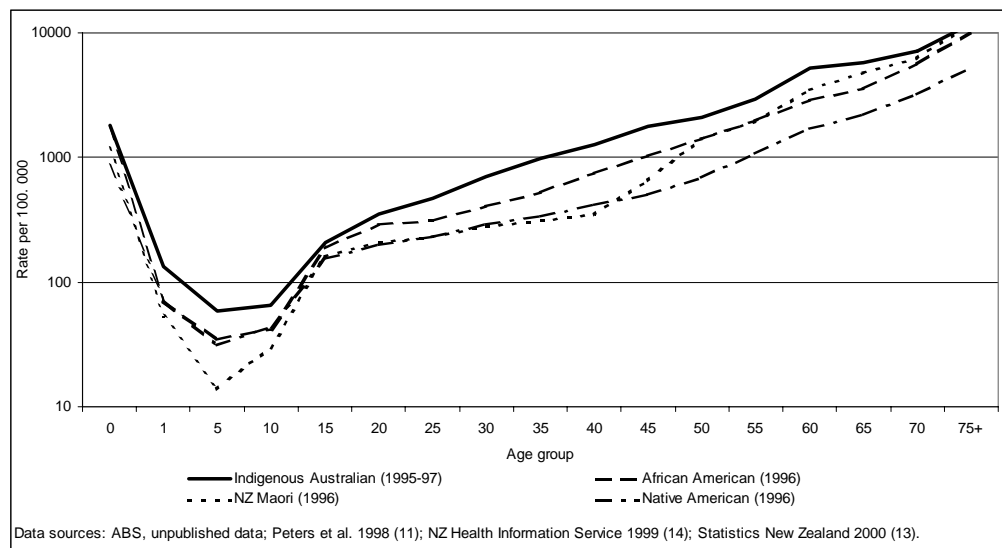
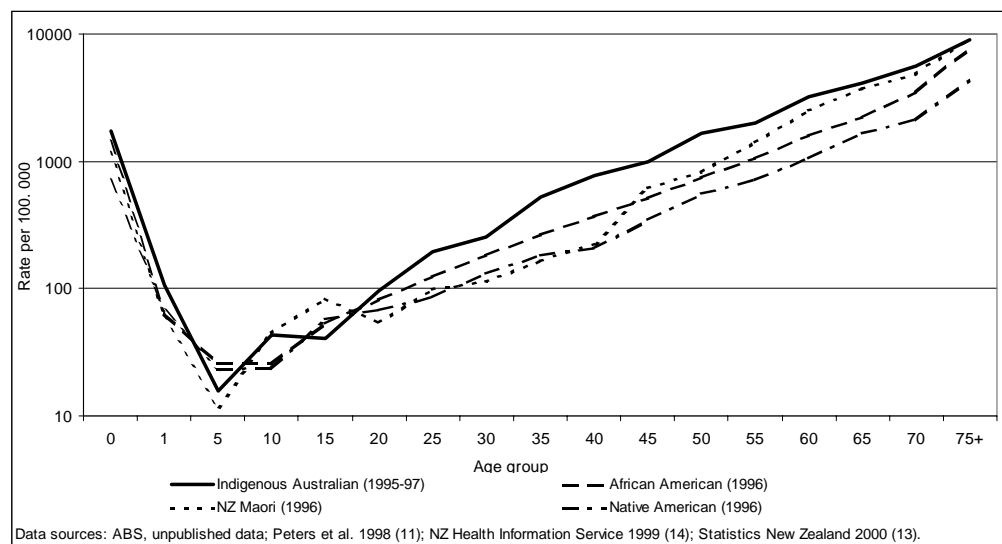


Figure 6: Age-specific mortality rates for selected population groups, females.



unknown. Efforts to improve the quality of Indigenous mortality data throughout Australia are under way and progress is being made.⁷ This should allow the inclusion of other jurisdictions in future analyses.

The similarity in mortality rates for Indigenous males in 1995-97 and Russian males in 1995 warrants further consideration. Former Soviet Union countries including Russia have undergone a great deal of turmoil and change since the early 1990s. These changes in the social, economic and political arenas have been accompanied by marked changes in health status. In the four-year period 1990-94, for example, Russian life expectancy at birth fell by a massive five years.¹⁷ Mortality rates rose for every age group, but the largest increases were in the middle-aged groups. More than 75% of the total decline in life expectancy resulted from increased mortality rates among persons ages 25 to 64 years.¹⁷

Many factors appeared to be operating simultaneously to produce this sudden change in mortality in Russia, including economic and social instability, low employment and reduced income, high rates of tobacco and alcohol consumption, poor nutrition, stress, and deterioration of the health care system.¹⁷⁻¹⁹

The reduction in life expectancy and increase in mortality rates were not as dramatic for Russian women compared with men, and it has been suggested that traditional gender roles provided some protection for women.^{20,21} Leon et al. have concluded that data quality problems, such as deterioration in completeness of death reporting or under-estimation of the population at risk, were not significant contributing factors to the apparent mortality increase.²²

Indigenous Australians are exposed to many of the same factors that appear to have contributed to the decline in health and increased mortality in Russia, and this may explain in part the similarity of their mortality patterns. Indigenous Australians are disadvantaged relative to other Australians with respect to education, employment, and income and are more likely to be exposed to poor living conditions, poor nutrition, tobacco, excessive alcohol consumption, other drugs and harmful substances, and violence.⁷ They also experience high levels of stress due to factors such as separation (especially of children), trauma, grief, loss of culture, and ongoing effects of poverty, discrimination and racism.^{7,23}

According to Cockerham, health lifestyles in the Soviet Union

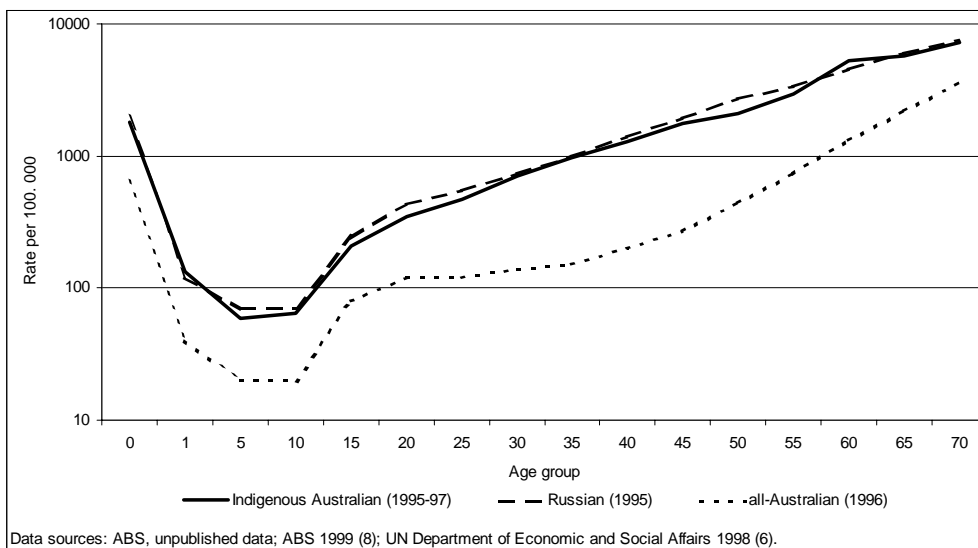


Figure 7: Age-specific mortality rates for Russian, Indigenous and all-Australian males.

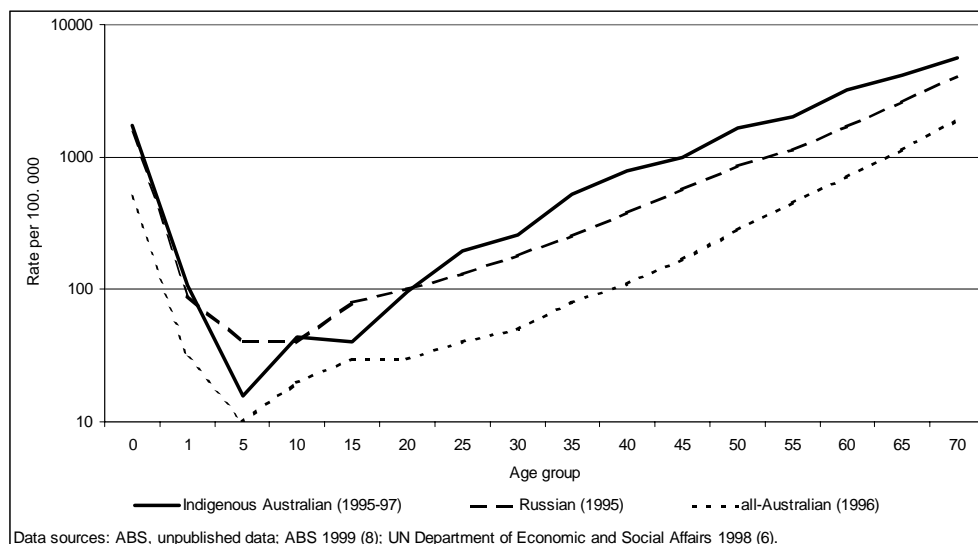


Figure 8: Age-specific mortality rates for Russian, Indigenous and all-Australian females.

were influenced more by 'life chances' (e.g. income, education and other structural factors) than by 'life choices'.¹⁸ The socialist system created an environment in which primary responsibility for the health of the people was vested in the central government. Individuals were not encouraged to take responsibility for their own health and were passive recipients of largely curative health care services, rather than active participants in preventing ill-health. People were effectively disempowered, and when the system collapsed, a void was created.

In Australia, so-called welfare dependency has been associated with continuing loss of roles, loss of mastery and hopelessness among Indigenous people,²⁴ and disempowerment has been explicitly recognised by some health practitioners as the fundamental cause of the poor health of Indigenous Australians.²⁵ These factors, and those identified in Russia, are consistent with the growing literature on the social determinants of health.²⁶

There is recent evidence that the decreases in life expectancy in Russia in the late 1980s and early 1990s were largely erased in the middle part of the 1990s. Shkolnikov and others have reported that life expectancy in 1998 was back to what it had been in 1984.²⁷ This suggests that large positive as well as large negative changes in life expectancy are possible over relatively short periods of time. Recent data suggest that mortality is on the rise again, however, with female and male life expectancy decreasing by one and two years respectively between 1998 and 2000.^{27,28}

The implications of the Russian experience for Indigenous Australians remain somewhat uncertain. It seems likely that fundamental social change will ultimately be required to achieve significant long-term and sustainable improvements in the health and longevity of Indigenous Australians. This may seem on the surface to be an insurmountable task, but it need not be so. As one author has noted, 'Social problems seldom get solved, because people define these problems in ways that overwhelm their ability to do anything about them'.²⁹ The alternative is to redefine a large problem into a series of smaller, more manageable problems and to aim for 'small wins' that eventually add up. According to Weick, this approach can help to increase optimism, stimulate innovation, attract allies and resources, and produce a climate conducive to generating additional small wins,²⁹ all of which are sorely needed if we are to achieve lasting improvement in the health and well-being of Indigenous Australians.

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