

Premature mortality: variations over time by age, sex, cause of death, socioeconomic disadvantage and remoteness

Findings

Background

Although the gap in premature mortality between those living in the least disadvantaged areas, when compared with the most advantaged areas – referred to as an equity gap – is growing, the overall rate of premature mortality has slowed in some jurisdictions over the past few years. This Fact sheet describes changes in the equity gap, by age, sex and cause of death by state and territory, and as measured by socioeconomic disadvantage and remoteness.

Overall

Premature mortality rates from all causes in Australia have declined by 50.9% over the thirty years from 1987 to 2019; the rate for males declined at a greater rate than for females, down by 55.3% and 47.5% respectively.

The decrease in rates varied, from almost 60% in both the Australian Capital Territory (down by 58.3%) and Northern Territory (down by 58.1%) to just under 50% in South Australia (down by 47.7%) and Tasmania (48.5%).

At the chapter (broadest) level to which causes of death are coded, the largest decline was recorded for circulatory system diseases (down by 76.9%), followed by cancer (39.6%). Looking at individual causes of death, substantial decreases were also found for ischaemic heart disease (82.6%), cerebrovascular disease (75.5%) and road traffic injuries (72.9%).

Equity gap

All cause premature mortality rates declined in all socioeconomic groups, although declines were lower with each increase in socioeconomic disadvantage, leading to a widening equity gap. It is of note that a rate as high as that in the most disadvantaged quintile in 2019 (a rate of 285.2 premature deaths per 100,000 population) was last seen in the least disadvantaged quintile between 1992 and 1993. This statistic, and the current size of the difference in rates between the quintiles, provide a clear measure of the equity gap that exists in Australia. There is also an equity gap at the jurisdictional level, with slower reductions in some states and the Northern Territory.

The all cause premature mortality rates also declined across all remoteness categories, with the largest decrease recorded in Major Cities (38.1%) and the smallest in Outer Regional (29.7%), leading to a widening equity gap. As a result of these changes, the gap between the rates in the Very Remote and Major Cities areas has increased marginally, from twice (2.01) to just over twice the rate (2.12).

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Premature mortality: variations over time by age, sex, cause of death, socioeconomic disadvantage and remoteness

Background

Some 34% of all deaths over the years 2015 to 2019 occurred before 75 years of age, although the proportion varies by sex and by cause, as shown [here](#).

In this Fact sheet we offer comment on some findings from data of premature deaths, available in the Social Health Atlas, and highlight variations by age, sex, cause of death and geographical area (based on a person’s usual residence recorded in the death certificate), presented by, socioeconomic status and Remoteness Area.

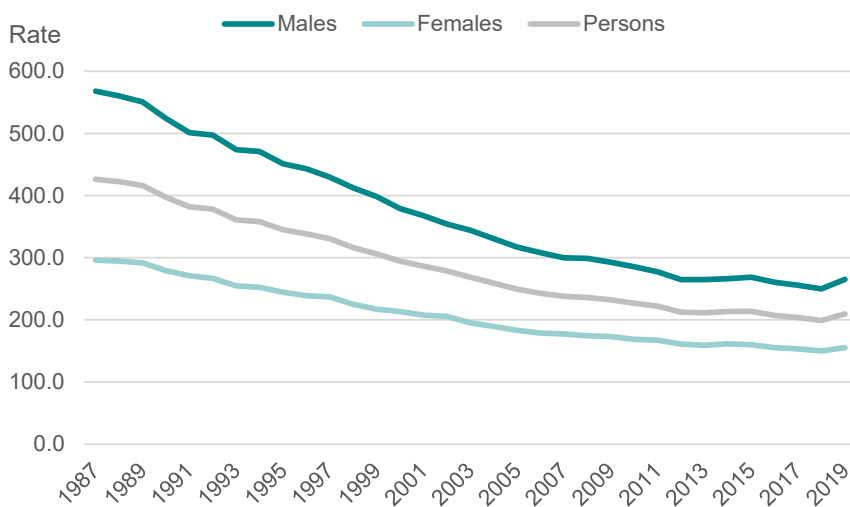
The data

Some notable variations seen in the data for the thirty-three years 1987 to 2019 are described below [1].

Overall

Premature mortality rates from all causes in Australia have declined by 50.9% over the thirty years from 1987 to 2019 (Figure 1). The rate for males declined at a greater rate than for females, down by 55.3% and 47.5% respectively: as a result, the difference in rates reduced from a rate 89.5% higher for males in 1987 to (a still substantial) 70.7% higher in 2019. As shown in the chart, the rate of decline has slowed over recent years.

Figure 1: Premature mortality rates by sex, Australia, 1987 to 2019



¹ Rates are directly age-standardised per 100,000 population

The largest decline in premature death rates was recorded in the 0 to 14 year age group, with the rate dropping from 17.8 per 100,000 population in 1987 to 6.6 in 2019 (a decrease of 63.2%): at other ages, the decline was 56.3% at ages 65 to 74 years, 54.5% at ages 15 to 24, 47.2% at ages 45 to 64 and 31.6% at ages 25 to 44 years (Table 1).

Table 1: Premature mortality, rates¹ by age group, Australia, 1987 to 2019

Age group	1987	2019	Percentage change
0 - 14	17.8	6.6	-63.2
15 - 24	12.6	5.7	-54.5
25 - 44	38.5	26.3	-31.6
45 - 64	159.4	84.2	-47.2
65 - 74	197.9	86.5	-56.3
All ages, 0 - 74 years	422.2	209.3	-50.9

¹ Rates are directly age-standardised per 100,000 population

The drop in rates was more substantial for males than females across all age group, other than for those aged 25 to 44 years (Table 2)

Table 2: Change in premature mortality rates¹ by age group and sex, Australia, 1987 to 2019

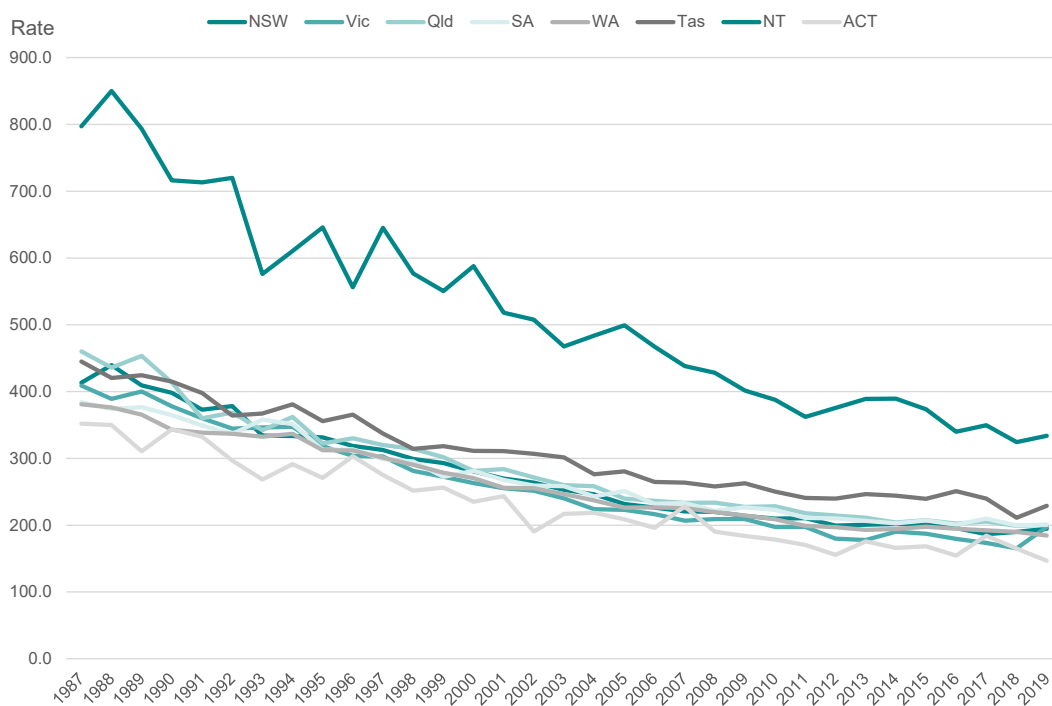
Age group	Percentage change - males	Percentage change - females
0 - 14	-65.0	-60.6
15 - 24	-56.2	-50.2
25 - 44	-30.8	-31.9
45 - 64	-48.4	-43.9
65 - 74	-60.3	-51.8
All ages, 0 - 74 years	-55.3	-47.5

¹ Rates are directly age-standardised per 100,000 population

State/ Territory

Rates decreased by almost 60% over the period from 1987 to 2019 in both the Australian Capital Territory (down by 58.3%) and Northern Territory (down by 58.1%, from the highest rate in 1987); a large decline was also recorded in Queensland (down by 56.4%). The smallest drop in rates was seen in South Australia (down by 47.7%), followed by Tasmania, where the rate declined by 48.5%.

Figure 2: Premature mortality rates¹ by State and Territory, 1987 to 2019

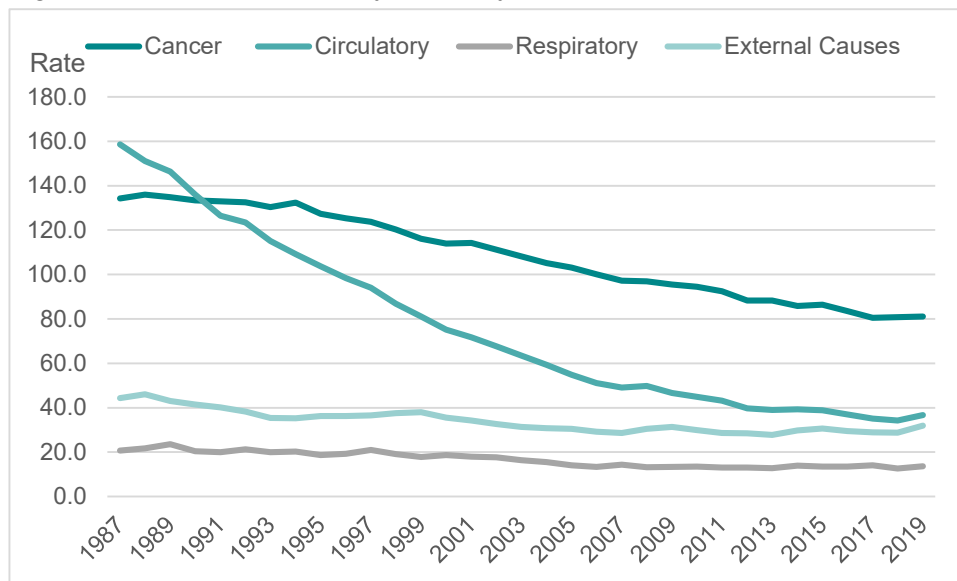


¹ Rates are directly age-standardised per 100,000 population

Cause of death: at the chapter (broadest) level to which the cause of death is coded

The greatest contribution to the overall decline came from deaths from circulatory system diseases, with a decrease in the rate from 168.7 deaths per 100,000 population to less than one quarter of that level in 2019, a rate of 36.7 deaths per 100,000 population (Figure 3). The rate of premature death from cancers decreased from 134.3 in 1987 to 81.2 in 2019; despite this decrease, of 39.6%, cancer had the highest rate of premature deaths at this broad level in 2019. While rates from respiratory system diseases and external causes fell by 34.2% and 28.0%, respectively.

Figure 3: Premature mortality rates¹ by cause of death, Australia, 1987 to 2019



¹ Rates are directly age-standardised per 100,000 population

Cause of death: by individual cause under the International Classification of Diseases

Looking at individual causes of premature death, ischaemic heart disease and cerebrovascular disease recorded the largest drop in rates, down by 82.6% and 75.5% respectively (Table 3), closely followed by deaths from road traffic injuries, down by 72.9%. Other declines of note for individual causes were the decline in death rates from chronic obstructive pulmonary disease (53.6% decrease), lung cancer (47.4% decrease) and breast cancer (45.1% decrease).

Notably, over the thirty-three-year period from 1987 to 2019, the rate of deaths from suicide only declined by 4.4%, down from 14.2 deaths per 100,000 population to 13.6 deaths per 100,000 population.

Table 3: Premature mortality from selected cause of death; rates¹ by age group and sex, Australia, 2015 to 2019

Cause of death	1987	2019	Percentage change
Lung cancer	29.8	15.7	-47.4
Breast cancer	23.8	13.1	-45.1
Ischaemic heart disease	107.0	18.6	-82.6
Cerebrovascular disease	27.0	6.6	-75.5
Chronic obstructive pulmonary disease	17.2	8.0	-53.6
Road traffic injuries	16.1	4.3	-72.9
Suicide	14.2	13.6	-4.4
Diabetes	6.9	5.5	-20.5

¹ Rates are directly age-standardised per 100,000 population

By Remoteness Area

Over the period from 1997 to 2019, all cause premature mortality rates also declined across all remoteness categories, with the largest decrease recorded in Major Cities (down by 38.1%) and the smallest in Outer Regional (down by 29.7%) (Table 4).

As a result of these changes, the gap between the rates in the Very Remote and Major Cities Remoteness Areas has increased marginally, from twice (2.01) to just over twice the rate (2.12).

Table 4: Premature mortality rates¹ by Remoteness Area², Australia, 2015 to 2019

Remoteness category	1997	2019	Percentage change
Major Cities	306.7	190.0	-38.1
Inner Regional	338.2	232.9	-31.1
Outer Regional	367.5	258.4	-29.7
Remote	405.8	276.1	-32.0
Very Remote	617.2	403.4	-34.6

¹ Rates are directly age-standardised per 100,000 population

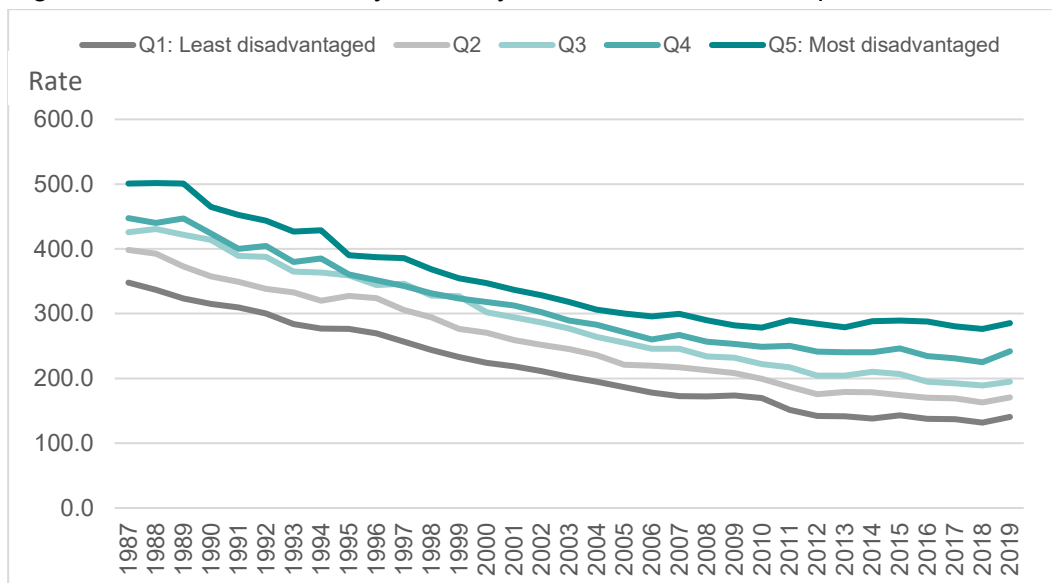
² Details of Remoteness Areas can be found here <https://phidu.torrens.edu.au/help-and-information/about-our-data/geographical-structures#remoteness-areas>

By socioeconomic disadvantage

All cause premature mortality rates declined in all socioeconomic groups, although declines were lower with each increase in socioeconomic disadvantage. For example, the decline in the Least disadvantaged areas was 59.6%, compared with a lower 43.1% in the Most disadvantaged areas; proportions in the middle quintiles were 57.2% (Quintile 2), 54.3% (Quintile 3) and 46.0% (Quintile 4).

It is of note that a rate as high as that in the Most disadvantaged quintile in 2019 (a rate of 285.2 premature deaths per 100,000 population) was last seen in the Least disadvantaged quintile between 1992 and 1993. This statistic, and the current size of the difference in rates between the quintiles, provide a clear measure of the equity gap that exists in Australia.

Figure 4: Premature mortality rates¹ by socioeconomic status quintiles², Australia, 1987 to 2019



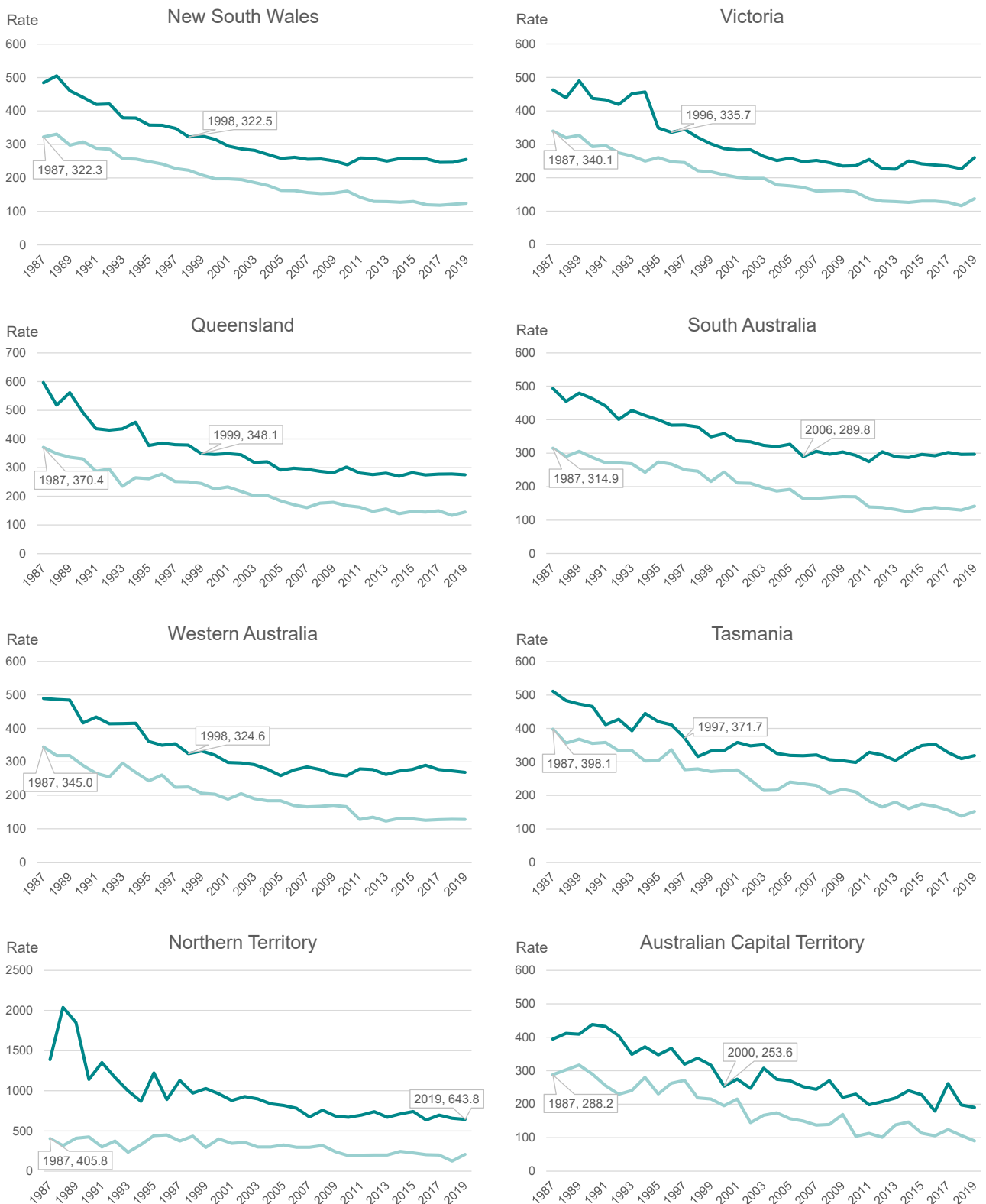
¹ Rates are directly age-standardised per 100,000 population

² Quintiles compiled from data by Population Health Area using the Index of Relative Socio-economic Disadvantage: further details can be found here <https://phidu.torrens.edu.au/help-and-information/about-our-data/geographical-structures#quintiles-of-socioeconomic-disadvantage-of-area>

As noted above, premature mortality rates have declined across all socioeconomic groups. However, it has taken many years for the rate in Quintile 5 (the Most disadvantaged areas) to fall below the rate that existed in Quintile 1 (the Least disadvantaged areas) in 1987. In Australia, the rate of deaths for people aged less than 75 years in the Most disadvantaged areas did not fall below the level in 1987 in Quintile 1 until the year 2000, with variable results across the jurisdictions. For example, Victoria achieved this within nine years; Tasmania in ten years; and New South Wales and Western Australia did so in eleven years (Figure 5). In South Australia, however, the rate in Quintile 5 took nineteen years to drop below the rate in

Quintile 1. Although the rate in the Most disadvantaged areas of the Northern Territory continues to decline, it remains 60% above the level recorded thirty years earlier for the most advantage areas.

Figure 5: Premature mortality rates¹ in the Most disadvantaged and Least disadvantaged areas, by State and Territory, 1987 to 2019



¹ Rates are directly age-standardised per 100,000 population

Key: — Least disadvantaged areas (Quintile 1)
 — Most disadvantaged areas (Quintile 5)

As discussed, the rate of decline varies between jurisdictions and by quintile of socioeconomic disadvantage of area. The slowing of the decline in recent years also varies, with a distinct uptick in rates in 2019 in some states, although again not consistently in the Most or Least disadvantage quintile.

References and data source

1. PHIDU, based on Cause of Death Unit Record Files supplied by the Australian Bureau of Statistics, on behalf of the Registries of Births, Deaths and Marriages, 1987 to 2011; and the Australian Coordinating Registry and the Victorian Department of Justice, on behalf of the Registries of Births, Deaths and Marriages and the National Coronial Information System, 2012 to 2019.