

ARC Discovery Project – Safeguarding Rural Australia: Addressing Masculinity and Violence in Rural Settings

Date report no. 1: Secondary data analysis regarding self-harm including suicide

K. Carrington¹, A. McIntosh¹ and J. Scott²
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1. Background to project:

Earlier research performed and reported by some members of this ARC Discovery Project team pointed to men living in All Regional and All Remote areas of Australia¹ experiencing higher mortality and morbidity rates for violence including interpersonal violence, alcohol-related violence, domestic violence, suicide, motor vehicle fatalities and serious workplace injuries than men living in the nation's Major Cities areas (Carrington and Scott, 2008).

This ARC funded project is in the process of investigating reasons for these patterns with the objective of developing more effective social policy responses aimed at preventing and controlling levels of violence in rural Australia. Potential reasons for statistically higher levels of some forms of violence for males living in mainstream communities in rural Australia in comparison to their counterparts living in metropolitan areas are also being explored.

The project is examining men's distinctive relationships with violence, both as perpetrators and as victims, in rural contexts. Specific types of violence being investigated include injury from self-harm; the use of motor vehicles, weapons, machinery; physical force or assault; farm and other workplace accidents; alcohol related violence; harassment; and risky behaviour resulting in preventable injuries and illnesses. Accordingly, existing national data bases have been interrogated to determine historical patterns of violent acts and incidents.

2. Current project status

This project is work-in-progress. We have undertaken an extensive literature review and have scrutinised secondary data; resulting reports are continuously updated with newly released material. We have also undertaken qualitative field research in communities in Western Australia, Queensland and New South Wales. Most primary data have been processed in some form. Selected preliminary analyses have occurred but it is as yet too early for our findings to have been published. Journal articles based on original research outcomes are imminent.

¹ Queensland University of Technology

² University of New England

3. Focus of this report

Data Report No. 1 focuses on our examination of extant data which have been sourced with respect to self-harm and suicide in Australia. Moreover, specific areas of concern regarding elevated rates of suicide for rural males and data anomalies which emerged during our examination of these data are discussed. These aspects of violence, particularly with respect to males living in regional and remote Australia, were central to a paper presented by the authors at the Cairns Institute of Australian Geographers 2009 Conference (McIntosh, Carrington and Scott 2009). Additional commentary resulting from exploration, examination and analyses of secondary data will be published online in subsequent data reports.

4. Limitations to existing secondary data

In the decade from 1997 to 2007, the Australian Bureau of Statistics (ABS) statistics indicated that the number of suicides recorded in Australia decreased by 30%, from 2,720 to 1,881. In 2007, 77% of all suicides were males; data for this year are subject to revision (ABS 2009, Cat. No. 3303.0). In spite of the decline in number of statistically recorded suicides, suicide rates remain alarmingly high in comparison with other ‘external causes’ⁱⁱⁱ of death. More people die annually in Australia as a result of suicide than through Motor Vehicle Traffic Accidents (MVTAs).

The ABS has now acknowledged what have been, for some time, widely recognised limitations in data quality with respect to published suicide statistics (ABS 2008, 2009, Cat. No. 3303.0). In fact, some researchers (for example, Mendoza 2009) have expressed a view that official figures for 2007 may be underestimated by as much as 45%. More conservative estimates in a recent Australian Institute of Health and Welfare (AIHW) report put the under-reporting at somewhere between 3% and 16% (Harrison et al. 2009). Lifeline Australia estimates the extent of under-reporting for 2007 at between 20% and 30% (O’Neil 2009). Further insights into limitations in data quality are contained in an examination of source material for the period 2004-05 by Henley and Harrison (2009). This exploration identified that there has been under-reporting of deaths in Australia as a result of not only suicides but also homicides and, in New South Wales in particular, fatal MVTAs. Concomitantly, over-reporting is suspected for unintentional injury by mechanisms that are common among suicides and homicides (for example, shootings and hangings).

Under-reporting is in part due to the high number of cases with a status of ‘open’ on the National Coronial Information System at the time of ABS processing. The ABS (2008, Cat. No. 3303.0) has also noted reluctance by Coroners to make determinations of suicide have impacted on suicide data. Furthermore, cases which could potentially have been suicides (for example, some MVTAs, discharging of firearms, hangings, poisonings, drownings, electrocutions, and so on) but for which the intent was determined to be other than intentional self-harm cannot be separately identified from available data.

In Australia’s All Regional and All Remote regions, there is cause for even greater concern at suicide trends. The Department of Health and Ageing (DHA) (2008, Fact Sheet 18) states that suicide rates have risen substantially in these areas over the past three decades, especially among men. Males in All Regional/All Remote areas have substantially higher rates of suicide and self-inflicted injuries than males in Major Cities or than females in non-metropolitan areas (AIHW 2008, PHE 97; AIHW 2007, PHE 95). The risk of suicide is

further statistically compounded for men aged 20 to 44 years (ABS 2007, 3309.0); for older men (over 75); and for men undergoing traumatic life events (DHA 2008, Fact Sheet 17).

5. Elevated rates of suicide for rural males

In Australia, suicide is at least four times more common in men than women. Considerable publicity has been given in recent years to the comparatively high suicide rates among young rural men and men from Indigenous communities. Minimal attention has been given to statistics that tell us that men of all ages who live in regional or remote areas are also in the 'most at risk' category, even more so if they're older (over 75) or undergoing traumatic life events such as prolonged drought, relationship breakdowns and mental and physical health problems.

Our research has a national agenda and, accordingly, we have drawn upon a variety of national data bases in our analysis of secondary data. To further substantiate our claims of disparity between the city and the bush, key statistics for Australian males were extracted, examined and summarised. This has permitted us to make some direct comparisons between men living in All Regional and All Remote areas of Australia and their Major City counterpartsⁱⁱⁱ. As a consequence, we have found evidence that men living in rural or remote areas are among those Australians most at risk of death by suicide. Furthermore, types of accidents, risk factors and risky behaviour that are sometimes associated with self-harm are more evident in rural Australia than in our cities.

Using most recently available data, we have calculated Standardised Prevalence Ratios (SPRs) to more clearly illustrate the magnitude of the inequity in regional and remote areas vis-à-vis Major Cities. The rate of 1.0 was assigned to Major Cities areas. Accordingly a ratio of 0.5 for regional or remote areas would indicate half the occurrence rate of Major Cities and a ratio of 2.0 would indicate double that in Major Cities.

Using this approach, higher rates of a range of intentional and unintentional injuries and risky behaviour for men in the bush in comparison with their city counterparts can be illustrated (see Figure 1). These include higher rates of:

- Intentional external cause injuries including suicide (for Indigenous and non-Indigenous males) and homicide (data available only at aggregated level for All persons)
- Fatal Motor Vehicle Traffic Accidents (MVTA) (for Indigenous and non-Indigenous males)
- Other fatal external injuries (for Indigenous and non-Indigenous males)
- Personally risky behaviour (data available only at aggregated level for All males)
- Alcohol short- and long-term risk (data available only at aggregated level for All persons)

Results show that rates of male suicides increased according to the remoteness of areas of usual residence. Specifically, prevalence ratios for male suicides for the years 2002-04 ranged from 1.25 times greater in Inner Regional areas than in Major Cities areas to 2.57 times in Very Remote areas.

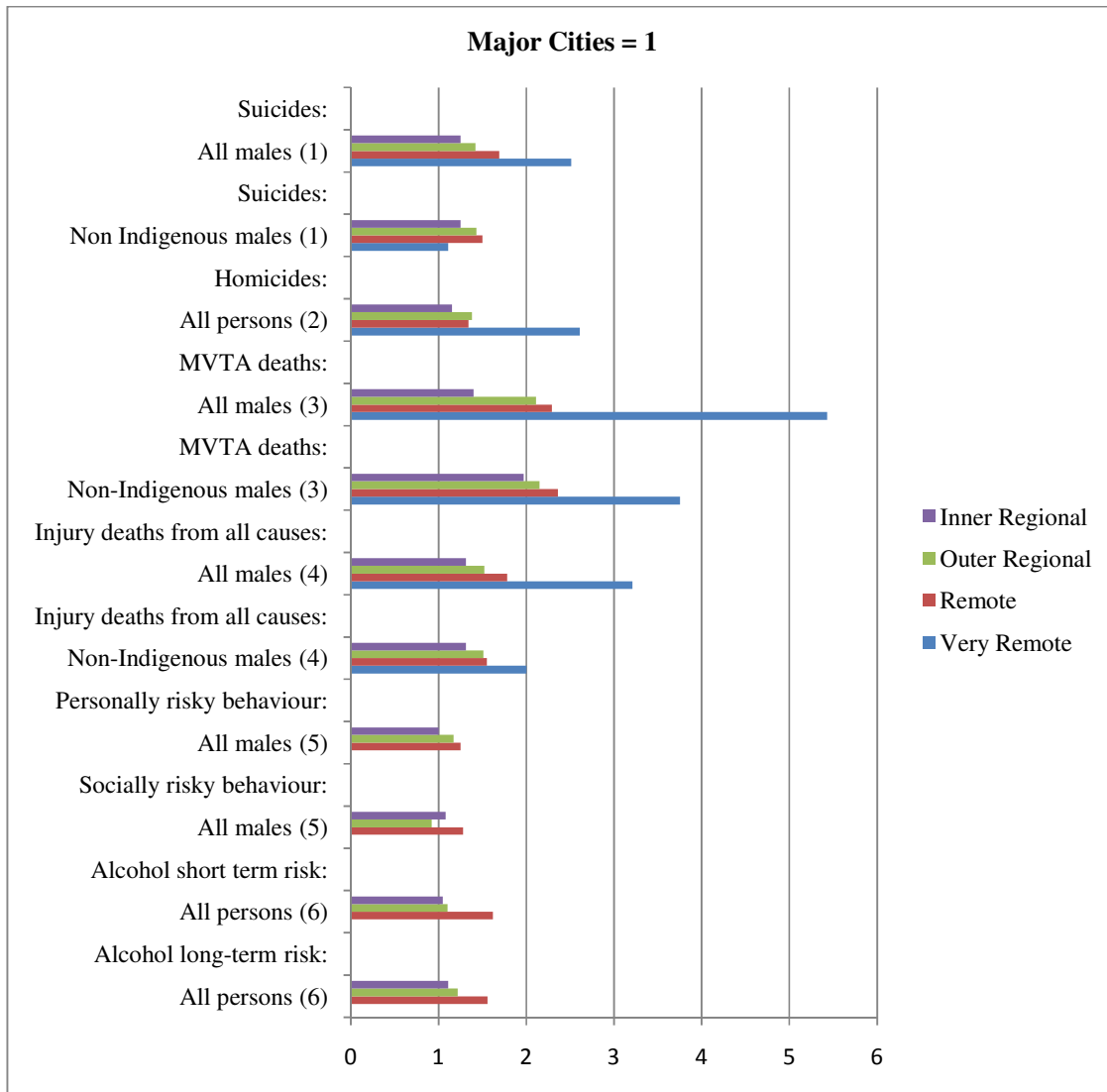


Figure 1: Selected SPRs for death from external causes, by Remoteness Area, Australia 2002-04

1. SPRs for average annual male deaths from suicide, 2002-04; after AIHW 2008, PHE 97.
2. SPRs for deaths from homicide, 2004-05; after Henley and Harrison (2009). As numbers are not large (national total of 215 in the 2004-05 financial year according to Henley and Harrison’s reporting), significant fluctuations in homicide deaths between years can occur.
3. Average annual MTVA deaths for males, 2002-04; after AIHW 2008, PHE 97.
4. Average annual male injury ‘deaths from all causes, 2002-04; after AIHW 2008, PHE 97; AIHW 2007, PHE 95.
5. SPRs (data for Remote and Very Remote combined) for risky behaviour while intoxicated, persons aged 12 and over, 2004; after AIHW 2008: PHE 97. The AIHW defines personally risky behaviour as working, swimming, boating, driving or operating hazardous machinery while intoxicated with alcohol or an illicit drug. Socially risky behaviour is defined as creating a public disturbance, damaging property, stealing or verbally or physically abusing someone while intoxicated with alcohol or an illicit drug.
6. SPRs (data for Remote and Very Remote areas combined) for all persons aged 14 years or more by short- and long-term alcohol risk status, 2007; after AIHW 2008: PHE 107

Where data could be separately distinguished for All males and Non-Indigenous males (that is, for suicides, MVTAs and external causes deaths), minimal variations in SPRs between the different classifications of males were apparent in Inner Regional, Outer Regional and Remote areas. Thus, by default, overall mortality rates for suicide, MVTAs and for all external injuries for Indigenous and non-Indigenous males in other than Very Remote areas are similar. Alarming higher SPRs for Indigenous males in Very Remote areas in comparison with All males in those areas are cause for even greater concern.

Recent Australian research by Judd et al. (2006) has found that the elevated rate of suicide in rural areas and more specifically among farmers does not seem to be simply explained by an elevated rate of mental health problems. Individual personality, gender and community attitudes that limit people's abilities to acknowledge or express mental health problems and seek help for these may be significant risk factors for suicide in farmers. This potentially supports earlier research which showed that Australian farmers reflect values of autonomy, independence, and survival (Tanewski et al. 2000; Voyce 1997). Thus farmers might find compassion towards themselves or others for perceived failure difficult to manage.

6. Data anomalies

Using statistical data to map patterns of change over time is an important tool for providing sound foundations for understanding and explaining influential factors and, where appropriate, affecting change. Unfortunately, producing a historical record often proves to be an arduous if not impossible task for researchers due to lack of continuity in data strings and differences in the way data are collected and reported over time. In spite of this, we have teased out some data anomalies with respect to firearms fatalities and MVTAs which beg explanation in the light of contradictory published trends. These are discussed in the following section.

6.1 Firearm fatalities

Statistics for firearm fatalities over the past decade show, on the one hand, declining numbers of suicide through use of firearms (ABS 2009: Cat. No. 3303.0; ABS 2008, 2006, Cat. No. 4510.0; Mouzos and Rushforth 2003). The number of accidental and 'other' deaths from firearms, on the other hand, has increased at an astonishing rate.

Specifically, for the two-year period 2006-07, the annual average number of reported firearm suicides decreased by 33% (to 161) when compared with the five-year annual average of 241 during the period 1998-2002. Over the same time span, accidental and 'other' (legal intervention and undetermined) firearm fatalities increased by a factor of more than four from a five-year annual average of 37 to an annual average of 166 for 2006 and 2007. Figure 2 illustrates the potential magnitude of the problem. Comparative data for 2003-05 are not available (n.a.) in that it could not be sourced.

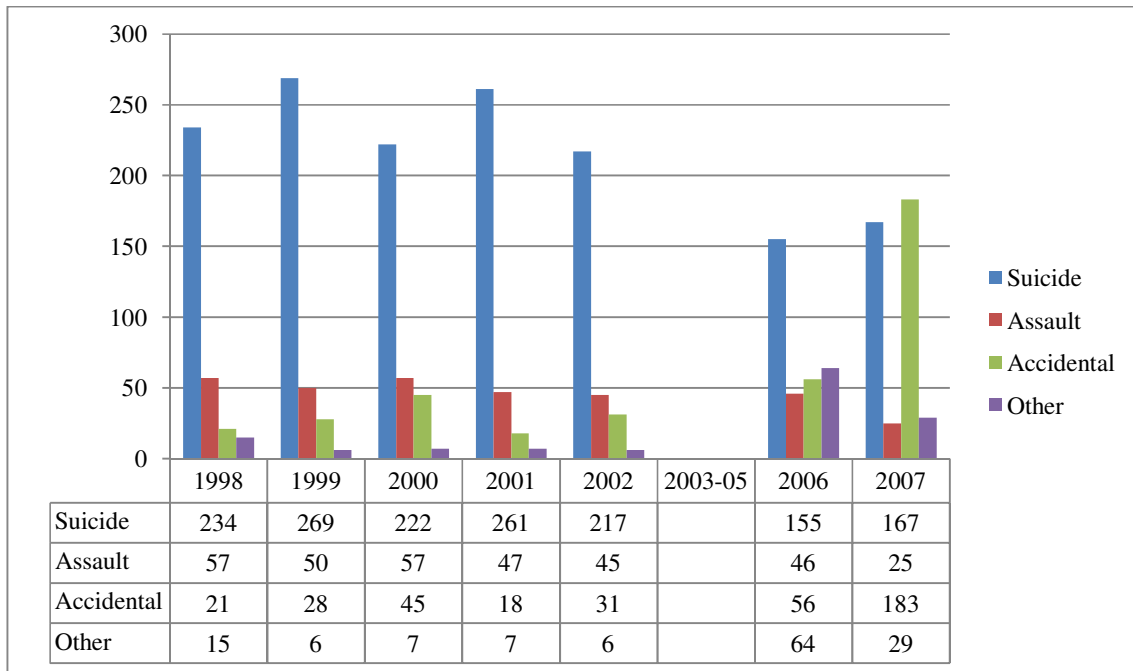


Figure 2: Firearm fatalities, Australia, 1998-2007 (2003-05 n.a.)

(Source: after ABS 2009, Cat. No.3303.0; ABS 2008, 2006, Cat. No. 4510.0; Mouzos & Rushforth 2003)

Farmers and their associates are arguably more likely than others to use firearms to self harm due to the availability of weapons. Even when firearms are correctly registered and securely stored by licenced owners, many other persons (including family members, friends, employees) are often aware of their existence and location and may legitimately have access. Unfortunately, we’ve not been able to tease out firearms data relevant to people who live and/or work on the land or, for that matter, in rural Australia.

6.2 MVTAs

Statistics for road traffic fatalities have illustrated a continuing overall downward trend since about 1970 (ABS 2008, 2007, 2006, Cat. No. 1301.0). For example the road toll in 2006 of 1,601 was less than half the 1970 figure of 3,798 (Australian Transport Safety Bureau 2007). Number of road fatalities per 10,000 registered vehicles has similarly decreased from 8.0 in 2007 to 1.1 by 2006 (ABS 2008, Cat. No. 1301.0).

Despite these overall downward trends, the number of single vehicle crashes in recent years has increased from 584 in 1999 to 685 in 2006, the latest year for which we could source national data (Figure 3). Similarly, the proportion of fatal crashes involving single vehicle crashes has increasing from 37.6% of total fatal crashes in 1999 to 47.0% in 2006 with this characteristic having become the most common fatal crash type (Figure 3). Comparative data for 2002-03 could not be sourced.

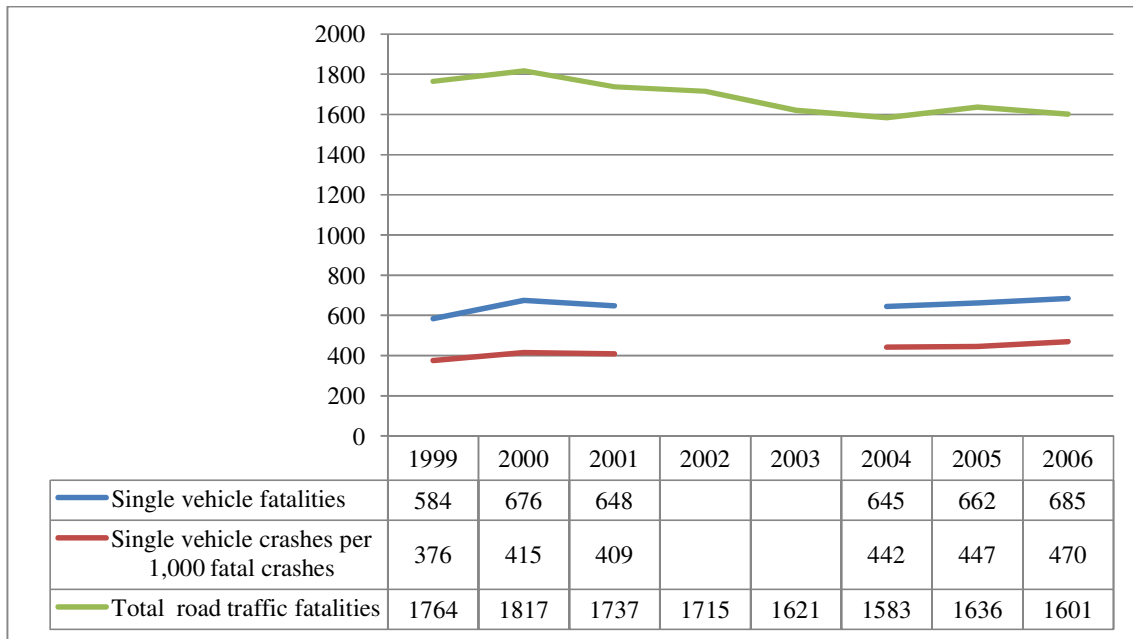


Figure 3: Motor vehicle fatalities and fatal crashes, Australia, 1999-2006 (2002-03 n.a.)
 (Source: after ABS 2008, 2007, 2006, Cat. No. 1301.0; Australian Transport Safety Bureau 2007)

There are several potential reasons for these patterns in single vehicle fatalities going against the overall downward trend including, unfortunately, motor vehicles used as mechanisms for intentional harm. In other words, MVTAs may sometimes be undeclared suicides or even homicides.

Perhaps more so than with the discharge of firearms, such cases are impossible to accurately determine. When coroners have good reasons to suspect harm was intended rather than accidental, a supplementary reporting classification would permit ‘grey’ cases to be identified. This would help to further inform the structuring of programs and resource allocations.

7. ‘Excess deaths’ from suicides in All Regional and All Remote Australia

Concern about the magnitude of the inequity between Major Cities area and rural Australia has been such that, for leading causes of death during the years 2002-04, the AIHW (2008, PHE 97) reported ‘excess deaths’ in All Regional/All Remote areas by comparison with the Major Cities area. Excess deaths represent the difference between the number of deaths observed in each ASGC Remoteness Area and the number expected if Major Cities age-specific death rates had been applied in each area.

Injury as an external cause of death stood out as being of particular importance in the AIHW (2007, PHE 95) study of mortality due to the large number of excess deaths. For males living outside Major Cities areas, 23% of the total number of excess deaths from all causes was as a result of acute injury.

Given the recognised under-reporting of suicides since around 2002 (Henley and Harrison 2009), a more accurate representation of injury death categories in Figures 4 and 5 might show an increase in the suicide excess deaths sector and a concomitant reduction in the Other

external injuries category. Reductions might also be anticipated in some non-injury related categories. The potential impact of more accurate reporting of MVTA fatalities is unclear given that, on the one hand, some MVTA fatalities, particularly single vehicle accidents, might well have been suicides. On the other hand, under-reporting of MVTA deaths in New South Wales in particular could ameliorate this factor.

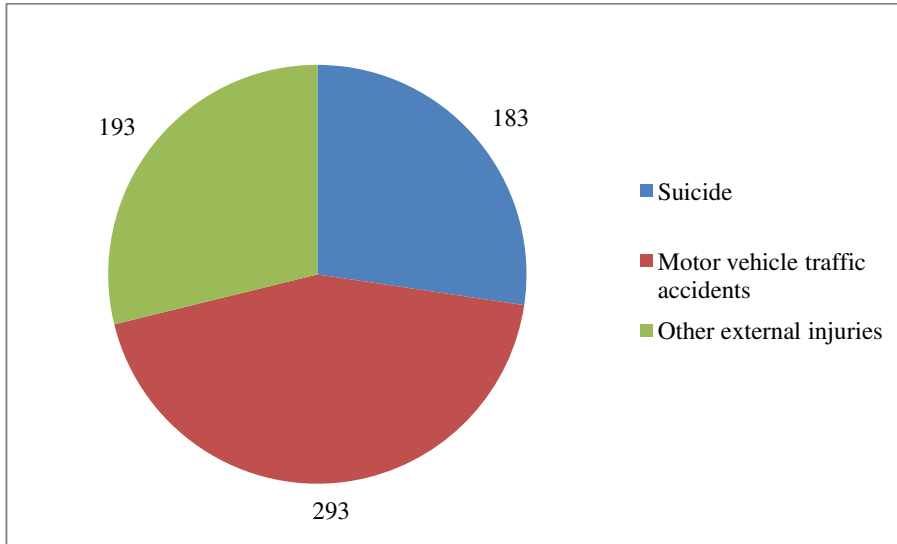


Figure 4: Annual average All male 'excess' injury deaths: Regional and Remote Australia 2002-04

(Source: after AIHW 2008, PHE 97)

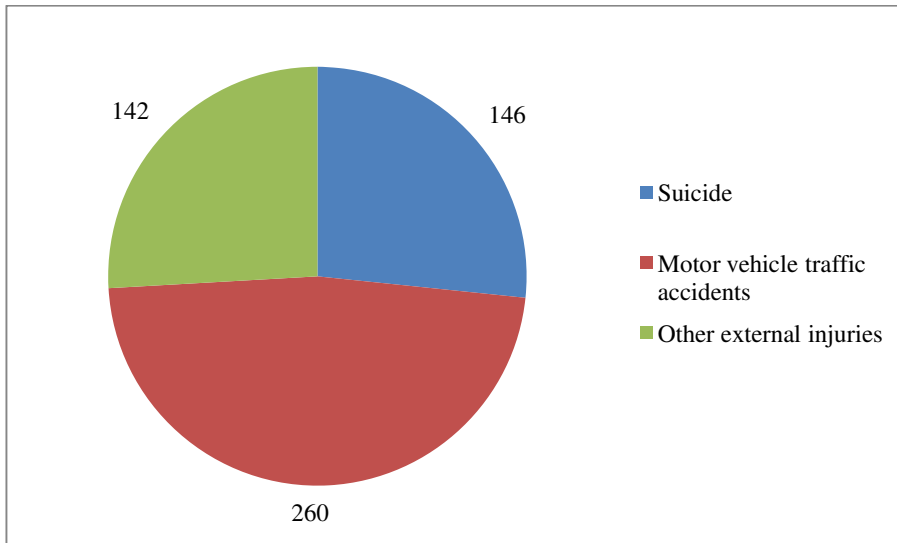


Figure 5: Annual average non-Indigenous male 'excess' injury deaths: Regional and Remote Australia 2002-04

(Source: after AIHW 2008, PHE 97)

Excess deaths provide an absolute measure of magnitude and hence a clear understanding of the absolute size of disadvantage in ASGC RAs for particular causes of death in terms of human lives lost. This is evident in Figure 6 which illustrates that 143 more males in All Regional areas committed suicide on average each year during the period 2002-04 than if the same suicide rate for Major Cities areas applied. The annual average excess deaths in All Remote areas during the same period totaled 40 males. For non-Indigenous males, All Regional and All Remote excess deaths were, respectively, 134 and 12.

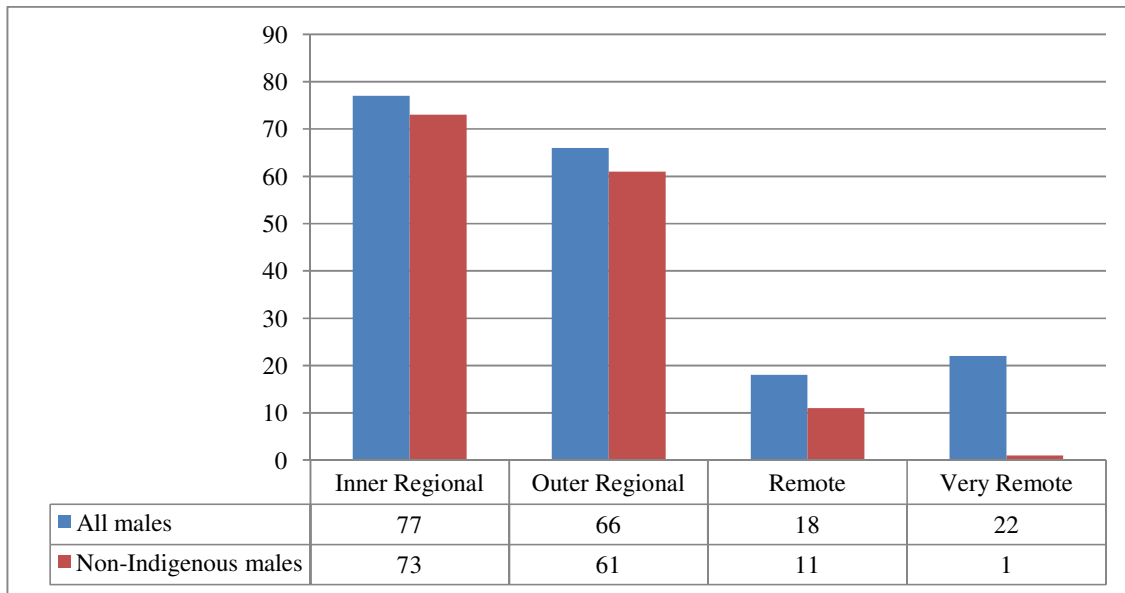


Figure 6: Male suicide excess deaths by Remoteness Area: Annual average, Regional and Remote Australia, 2002-04

(Source: after AIHW 2008, PHE 97)

8. Conclusion

Some results from our extensive and thorough analysis of secondary data illustrate that men in All Regional and All Remote areas of Australia have alarmingly elevated national patterns of deaths as a result of acute external causes, particularly through suicides, compared with Major City dwellers. Additionally, specific areas of statistical reporting which may require further investigation and clarification have been highlighted. These data also generally support the contention that some suicide cases may have been determined to be other than intentional self-harm with firearms and motor vehicles among the mechanisms used.

More accurate representations of suicide cases are essential to better inform not only research but also resource allocation, procedures, policies and programs that address relevant issues with the view to ameliorating human suffering. Results can be used to target proactive and preventative programs of risk management for threatened populations, especially men living in rural Australia. Compassion or concern for the wellbeing of surviving family members, friends and/or communities may be reasoned as justification for the private or public masking of individual occurrences of suicide. Unfortunately, the cumulative effect of under-reporting only serves to diminish the extent of the problem, arguably to the long-term detriment of many.

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Endnotes

ⁱ The ABS ASGC Remoteness classification (ABS 2003: Census Paper 03/01) was developed in response to the demand for a statistical geography that allowed quantitative comparisons between 'city' and 'country' Australia where the defining difference between 'city' and 'country' is physical remoteness from goods and services. No such categorisation existed in the ASGC prior to 2001. The delimitation criteria for Remoteness Areas (RAs) are based on the Accessibility / Remoteness Index of Australia (ARIA). ARIA measures the remoteness of a point based on the physical road distance to one of five size classes of population centres. RAs are classified as Major Cities, Inner Regional, Outer Regional, Remote and Very Remote. Inner Regional and Outer Regional areas are referred to as 'All Regional'; Remote and Very Remote together become 'All Remote'.

ⁱⁱ External causes of death relate to cases where the underlying cause of death is external to the body.

ⁱⁱⁱ Some administrative and survey sources have not used the ASGC RA classifications.