

Use of Improved Evidence on Aboriginal Road Trauma to Develop and Deliver the NSW Aboriginal Road Safety Action Plan

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Abstract

This paper details the development of the NSW Aboriginal Road Safety Action Plan and the crash data evidence underpinning its development and delivery.

In 2014 the Centre for Road Safety released the whole-of-Government NSW Aboriginal Road Safety Action Plan. The Action Plan identifies opportunities to harness efforts across Government to reduce Aboriginal road trauma and to achieve other positive outcomes including safer community roads and transport to access social, economic and cultural opportunities. This will be done through improved collaborative action using the Safe Systems approach; a stronger evidence base; promotion of safe and legal driving; providing safe alternative transport options; and improved post-crash response and treatment.

The Action Plan is based on crash and casualty data, practical evidence (accounts from those across Government who work with Aboriginal people) and policy opportunities (mutual interests to improving road safety).

The crash and casualty research evidence has been greatly enhanced by ongoing research to better quantify casualty severities using linked NSW Police and Health records. The linkage study allowed the opportunity to use Aboriginality identifier variables in the Health data, thus better quantifying the extent and characteristics of Aboriginal trauma in road traffic crashes in NSW. Several of the key results from this data linkage are presented in this paper.

In implementing the Action Plan, the enhanced data will help target initiatives to tackle key crash factors, road user groups, locations and demographics to reduce Aboriginal road trauma.

Introduction

This paper will discuss the development of the NSW Aboriginal Road Safety Action Plan 2014-2017 and the concurrent development of crash data evidence that will underpin the focus of its delivery.

In 2014, the NSW Centre for Road Safety (CRS) released the whole-of-Government NSW Aboriginal Road Safety Action Plan. The Action Plan identifies opportunities to harness efforts across Government to reduce Aboriginal road trauma and to achieve other positive outcomes including safer community roads and transport to access social, economic and cultural opportunities. This will be done through improved collaborative action using the Safe Systems approach; a stronger evidence base; promotion of safe and legal driving; providing safe alternative transport options; and improved post-crash response and treatment.

Evidence to develop Action Plan

The Centre for Road Safety's general approach to strategic policy development is to build on the evidence base of crash data. However in 2013, when the Centre for Road Safety commenced development of the NSW Aboriginal Road Safety Action Plan, detailed crash data evidence involving Aboriginal people was not available.

There was limited evidence of Aboriginal road trauma in NSW. Preliminary analysis of coronial records from 2000 to 2009 found that a greater proportion of fatal crashes in NSW involving Aboriginal fatalities on NSW roads involved pedestrians, intoxication, no-restraint use and unlicensed drivers (Roads and Traffic Authority 2010). However, the report noted the possibility of underreporting of Aboriginal status in the coronial and crash records.

Further, a report by the Australian Institute of Health and Welfare found that national fatality rates of car occupants and pedestrians were much higher for Indigenous people compared to non-Indigenous Australians (AIHW 2013).

The Centre for Road Safety recognised that improved data on Aboriginal serious injuries and fatalities is important to enable better targeted policies and programs to reduce road trauma involving Aboriginal people. The development of that knowledge is explained in more detail later in this paper.

However, in the initial absence of detailed crash data, other forms of evidence was sought to inform the early development of the Action Plan. Care was taken to provide some flexibility in the commitments of the Action Plan to enable the serious injury and fatality data, when it became available, to guide policy and program developments.

According to Head (2008) in the contemporary open network approach to policy making, scientific (research) knowledge is only one of three evidence types, with political knowledge and practical implementation knowledge being the others. While the preferred scientific evidence of crash data was being developed, the Centre for Road Safety consulted with representatives from other NSW Government agencies and other Transport for NSW business units with responsibility for Aboriginal policies and programs to understand what they identified were major road safety issues.

Consultation with policy practitioners not only helped provide the practical evidence to guide identification of road safety issues, it provided information about existing programs and resources that could be tapped into, to deliver Aboriginal road safety programs.

The practical evidence also extended to how programs could be designed to be more effective, taking into account the cultural considerations of NSW Aboriginal communities. For example, this process identified the importance of working with Aboriginal community organisations and the potential to use local and regional community road safety champions to help improve road user behaviour.

Inter and intra-agency consultation also identified political insights to align road safety to other strategic directions and commitments of other agencies. Actions to improve Aboriginal road safety have the potential to deliver positive outcomes for other policy objectives. For example, improved roads into Aboriginal communities can make it easier for children to get to school. Also, helping disadvantaged Aboriginal people to get a driver's licence may not only create safer drivers, it could improve access to economic, social and cultural opportunities. It may also reduce prevalence of unlicensed driving and reduce the associated costs for the justice system. The Action Plan identifies partnerships to take advantage of the shared desire to improve road safety, even though the motives for taking action may differ.

Finally, the stakeholder feedback identified the need for better crash data and other scientific evidence. The Action Plan identifies the need to develop improved evidence. Critical to that is the development of fatality and serious injury data which will be used to develop programs better targeted at crash risks and key demographics.

Improving understanding of Aboriginal serious injury in NSW

At the start of this decade the National Road Safety Strategy 2011 to 2020 was developed with the target of reducing fatalities and serious injuries by 30 per cent. Shortly afterwards the NSW Road Safety Strategy 2012 to 2021 was released with the same target of reducing fatalities and serious injuries by 30 per cent. Immediately it became apparent there was a need to identify and report reliable measures of serious injuries in the NSW crash data. A study commissioned by the Centre for Road Safety demonstrated that this information could be obtained through data linkage techniques.

In late 2013 the Centre for Road Safety commenced a project to link CRS crash data with NSW Health data to improve the granularity of the injury data held in the NSW crash database, CrashLink.

One of the first steps in the project was to obtain Ethics and data custodians' approval for the data linkage process and the research questions to be addressed from these data. In mid 2013 a formal application was made to NSW and ACT Health Data Custodians and relevant ethics committees (NSW Population and Health Services Research Ethics Committee, Aboriginal Health and Medical Council Ethics Committee, ACT Health – Human Research Ethics Committee) to request approval for ongoing quarterly data linkage of crash data with the following datasets:

- NSW Admitted Patient Data Collection (APDC)
- NSW Emergency Department Collection (EDDC)
- Mortality data
 - NSW Registry of Births, Deaths and Marriages – Death registrations (RBDM)
 - Australian Bureau of Statistics – NSW deaths (ABS)
- ACT Admitted Patient care (ACT APC) data
- ACT Emergency Department Information System (ACT ED)

The application process was completed in early 2014 and over the course of the next 12 months the data linkage methodology and dataset preparation was developed and refined. Record linkage was carried out by the Centre for Health Record Linkage (CHeReL). Currently crash records in CrashLink from 2005 to 2014 reporting years have been linked to Health data records.

The injury severities derived from the data linkage process were established and defined as follows:

- Fatality – a person who dies within thirty days from injuries received in a road traffic crash
- Serious injury – a person identified in CrashLink (casualty or traffic unit controller) who is matched to hospital admission record on the same day or on the day after a crash and did not die within 30 days of the crash
- Moderate injury – a person identified in CrashLink (casualty or traffic unit controller) who is matched to emergency department presentation record on the same day or on the day after a crash (but not subsequently admitted to hospital)

- Minor / Other injury - a person identified as an injury in CrashLink who is not matched to a hospital admission record or emergency department presentation record within two days of the crash.

An important outcome of the data linkage was the ability to identify and quantify the number of Aboriginal and Torres Strait Islander people involved in road crashes in NSW. To identify Aboriginality among CRS CrashLink records an 'Ever' algorithm was applied. If a person identifies as Aboriginal and/or Torres Islander origin in any records within the APDC or EDDC datasets whether the hospital visit(s) were related to the road trauma or not, they are flagged as being Aboriginal in the linked database.

With the data linkage project being fully operational, CRS is now concentrating on addressing the proposed research questions raised as part of its data linkage application process. Recently CRS conducted an analysis of Aboriginal people involved in NSW road crashes between 2005 and 2013 using the new linked dataset. Some of the key findings of this analysis follow.

During the nine year period 2005 and 2013, there were 3,737 fatalities and 64,249 serious injuries involving road trauma recorded in CrashLink. Of these, 119 involved fatalities of Aboriginal people (3.2%) and 2,681 involved serious injuries (4.2%).

Over this period, both the number of fatalities and serious injuries of Aboriginal people involved in road trauma increased. As the figure 1 shows, the number of fatalities has doubled from 8 in 2005 to 16 in 2013 while the number of serious injuries increased by 34 per cent from 274 in 2005 to 366 in 2013.

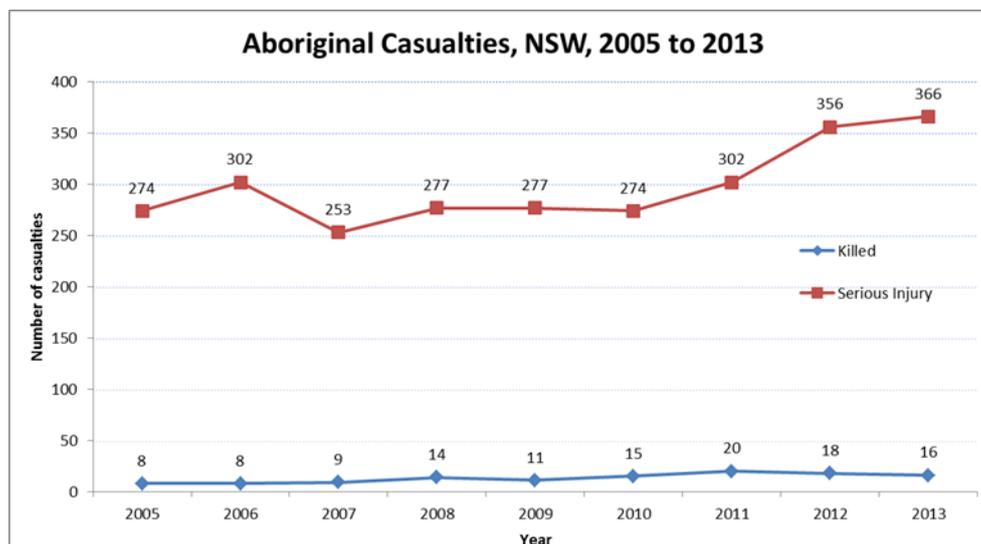


Figure 1: Number of Aboriginal people killed and seriously injured on NSW roads, 2005 to 2013

Aboriginal people are over represented in road trauma in NSW. Over the three year period between 2011 and 2013, Aboriginal people made up five per cent of all those killed and seriously injured, despite only making up 2.9 per cent of the NSW population. Aboriginal fatal injury and serious injury rates (per 100,000 population) are 1.5 times higher than those for non-Aboriginal people.

Further analysis of Aboriginal people killed, seriously injured and moderately injured over the three year period 2011 to 2013 revealed the following:

- over two-thirds (68%) of the casualties occurred in country NSW (that is, outside the Sydney, Newcastle and Wollongong greater conurbation area)

- more than half (57%) of the casualties were males, however the proportion was higher for fatal injuries (72%) and serious injuries (63%). Half the Aboriginal population in NSW is male.
- Aboriginal people aged 15 to 40 years make up 65% of the casualties, yet only represent 38% of the NSW Aboriginal population
- the majority of Aboriginal casualties were drivers (54%) and passengers (22%). Motorcyclists (9%), pedestrians (11%) and pedal cyclists (4%) make up the remainder.
- the most common types of crashes Aboriginal casualties arose from were off-path on straight crashes (24%), off-path on curve crashes (19%) and rear-end crashes (12%).

Enhanced crash data will inform ongoing policy and program development and delivery

The new Aboriginal casualty data is being analysed and will help shape the direction of road safety programs and policies under the Aboriginal Road Safety Action Plan. It is anticipated that the casualty data will be shared with Aboriginal communities and stakeholders, who have the practical implementation and political knowledge, to work together with government to find measures to deliver lasting improvements to Aboriginal road safety.

References

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