

The state of road safety for Aboriginal Australians: Interventions and post-crash needs

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Abstract

Introduction: Aboriginal car occupants are 2.9 times more likely to die than other Australians if involved in a car crash, and Aboriginal pedestrians are 5.5 more times at risk. These figures are most likely understated as Indigenous status is not always recorded at the time of an incident. The extended nature of Aboriginal families means that a large number of people are affected by the injury /fatal injury of an Aboriginal individual.

Methods: A range of methods have been used to develop this research. A literature review on what has been achieved in Aboriginal Road Safety and the issues that have been identified is presented. In a second part of the research, interviews with five Aboriginal men were conducted to investigate the needs of Aboriginal people for post-crash interventions. Participants were recruited using a snowballing technique and all worked in health or health related positions in Western Australia. Interviews were conducted using a semi structured process that allowed the respondents to provide their own views and experiences of road trauma.

Results: A range of initiatives in relation to road safety were identified across Australia and in particular in Western Australia where approximately 70% of Aboriginal residents live in remote communities. In response to the information provided by Aboriginal respondents a series of vignettes were developed to present the issues that can affect Aboriginal people as a result of road trauma.

Conclusion: More collaborative work needs to be undertaken within Aboriginal communities to develop an understanding of road trauma and to develop culturally appropriate interventions that reduce the effects of crashes on Aboriginal people. Aboriginal people also require culturally appropriate post-crash support.

Key words: Aboriginal Australians, road safety interventions, post crash needs.

1. Introduction

A range of sources indicate that Aboriginal Australians are more highly involved in road traffic crashes and are more likely to die or be seriously injured as a result¹. Nationally, road trauma is the second leading cause of fatal injury and the fourth leading cause of serious injury among Aboriginal Australians². Rates for fatal injury vary according to the nature of the crash, with Aboriginal car occupants 2.9 times more likely to die than other Australians and Aboriginal pedestrians 5.5 more times at risk². These figures are most likely understated as Aboriginal status is not always recorded².

The average cost of a death or serious injury is \$600,000³ or for serious injury \$425,000³, but this does not take into account the emotional toll on friends, family, and kin. Cercarelli (2011, p. 4)⁴ reported that in Western Australia Aboriginal people "were 3.6 times more likely to die, 2.9 times more likely to be hospitalised, and 2.8 times more likely to present to an emergency department compared to non-Aboriginal people". The most common cause of death for Aboriginal people according to Cercarelli was from road trauma at 33% with alcohol contributing to 24% of traffic deaths; suggesting that if the use of alcohol is addressed, there may be a reduction in road trauma. Additionally, people living in the most disadvantaged areas were 9.1 times more likely to die, and 3.1 times more likely to be hospitalised, than people living in areas of least disadvantage. Cercarelli (2011)⁴ suggested that for general injury prevention strategies, the demographics of Aboriginality, age, gender,

geographic location and alcohol use are risk factors that should be taken into consideration for the development of interventions.

The location of traffic crashes in rural and remote areas is one factor that contributes to the higher incident of Aboriginal death and injury, and this increases with the remoteness². Over one quarter of fatal and serious injuries was the result of single vehicle rollover crashes and this high rate may be due to overcrowding in vehicles². In metropolitan areas, rates of injury between Aboriginal and other Australians are similar²; indicating that factors in relation to remoteness affect the outcomes of road trauma. Road safety interventions and opportunities that are available in larger towns and metropolitan areas are often not applicable to rural and remote drivers in general and Aboriginal drivers in particular. Additionally, prior research indicates different issues occur in different regions⁵. These regional differences require different interventions based on the behaviours that are involved in serious crashes.

This research was funded by the Western Australian Department of Health in relation to a proposal that a Western Australian Road Trauma Support service be established in Western Australia. The main research was conducted by Lauren Breen at Curtin University⁶ and this adjunct research was conducted by the authors, the first of whom has been involved in road safety for a number of years and the second author who is the Executive Officer of the successful tenderer for the Aboriginal content of the work (ConnectGroups WA).

This paper reports on a literature review that was conducted in relation to Aboriginal involvement in road trauma and the interventions that are being conducted in an effort to reduce the number and effects of road trauma on Aboriginal people. In the second part of this paper, the information provided by Aboriginal respondents in relation to the post-crash trauma needs of Aboriginal people will be provided. The literature review included academic peer reviewed papers from a range of journals, peer reviewed conference papers in relation to road safety, and a range of reports that were accessed through internet searches. The focus was on Australian literature and examples.

2. The Literature Review

Australian road safety initiatives are driven at Federal Level by the National Road Safety Strategy, the current version of which was launched on 20th May 2011 (see http://infrastructure.gov.au/roads/safety/national_road_safety_strategy/index.aspx) and which covers the ten years 2011 to 2020. These strategies are supported for Aboriginal people through the work of The Aboriginal Road Safety Working Group which aims to improve road safety for Aboriginal people. Demonstrating a commitment to the issue of Aboriginal road safety, the fifth bi-annual conference was held in 2010. The National Road Safety Action Plan 2005 and 2006 reported that during 2003 and 2004, work commenced on the development of a national Internet-based system to share information on Aboriginal road safety, with the Western Australian Office of Road Safety as lead agency. This has been achieved through the use of a university based research centre for Aboriginal health (Health in fonet (<http://www.healthinfont.ecu.edu.au/>)). This site provides a range of up to date information and has a specific site for road safety.

The National Aboriginal and Torres Strait Islander Safety Promotion Strategy (2005)⁷ included information about Aboriginal road safety indicating the Aboriginal Road Safety Forum held in 2004 identified the following priority action areas which required attention:

- inconsistent and incomplete statistical data on Aboriginal fatality and injury rates;
- low levels of licensed driving;
- low seat belt wearing rates among Aboriginal and Torres Strait Islander drivers and passengers;
- unsafe consumption of alcohol by drivers and pedestrians;
- need to share information on Aboriginal and Torres Strait Islander road safety among key government bodies and stakeholders;

- need to involve local communities when developing countermeasure programmes; and
- inadequate road infrastructure (<http://www.nphp.gov.au/publications/sipp/atsi.pdf>)

The risk of death and injury from road crashes is estimated to be double in rural areas compared to metropolitan areas, with crash severity in rural and remote areas elevated for a variety of reasons such as higher speed limit, poorer roads and reduced seat belt usage⁸. Death and injury severity may also be a function of the time taken to provide medical care due to the distances involved⁸. Obviously the more remote the crash location, the longer it will take for medical services to arrive. Aboriginal road user hospitalization has been cited at three times that of non-Aboriginal⁹, suggesting that Aboriginal people are involved in more serious crashes, and/ or that remoteness impacts upon the seriousness of injuries. An analysis of the issues for rural road safety for all residents, indicate that increased risks may be attributed to a range of factors such as:

- Increased exposure as a result of greater travel distances
- Lack of transport alternatives (no public transport)
- Higher speeds
- Poorer road quality
- Diversity in vehicle
- Lower seat belt use
- Increased alcohol consumption
- Presence of livestock and wildlife
- Delays in emergency response times
- Increase in driver fatigue due to distances travelled and monotonous driving conditions¹⁰.

Focusing on the involvement of Aboriginal people in crashes, the following issues can be added:

- Single vehicle roll over crashes
- Overloading of passengers
- Road worthiness of vehicles (lack of)
- Pedestrian involvement in traffic incidents^{11,12}

These factors cross a range of issues for remote communities and several are related to infrastructure. It is also acknowledged that lower socio-economic status in rural and remote communities in particular may affect vehicle age and roadworthiness⁸. Older vehicles have less safety features than new; and the cost of maintaining a vehicle can place considerable pressure on the budget of low income earners⁸. These issues regarding vehicles interact with the poorer road conditions to increase crash risk¹³. Additionally, the diversity of vehicles on these poorer roads can affect the severity of crashes, particularly when large trucks interact with small vehicles and pedestrians. This issue was particularly highlighted in Tziotis et al. (2006)⁸.

Veitch et al. (2005)¹⁰ refer to the ‘fatal four’ (lack of restraint use, drink driving, driving tired, and speeding). These factors have been at the core of road safety research and interventions internationally for some considerable time. However, as Veitch et al. also intimate, urban targeted health promotion activities are often considered less relevant by rural drivers who are faced with a range of different factors impacting on their decisions to accept “driving risks” especially drink driving and driving tired.

Whereas the above factors can affect all residents in rural and remote communities, Aboriginal people are mostly located in such areas (70% in Western Australia)¹⁴ and therefore by virtue of location are more likely to be exposed to these increased risks for road trauma.

Cercarelli, Ryan, Knuiman and Donovan (2000)¹⁴ investigated the issue of road safety issues in remote Aboriginal communities and reported that Aboriginal leaders varied in their responses to what they believed were the main causes of road trauma. However, infrastructure issues in relation to road conditions were the most commonly cited problem, with variations in weather from flooding to dust storms also being considered an issue. There appeared to be less concern with speeding, drink driving (some communities are 'dry' and do not allow alcohol use), and use of seat belts. Only three of the thirteen individuals interviewed considered the issues of young drivers, alcohol and speeding. The issue of pedestrian death and injury was also raised with a tendency of some people to fall asleep on roads and be subsequently hit by a vehicle. Cercarelli et al.¹⁴ suggested that raising awareness of road safety is the first stage in addressing road safety issues in Aboriginal communities who often have other basic unmet needs.

Considerable literature now exists on how to best engage with and design interventions to address Aboriginal road safety issues. Strategies include the involvement of Aboriginal people at all levels and a 'bottom up' rather than 'top down' approach. Additionally, an understanding of Aboriginal culture especially in relation to perspectives on health and injury, and the acquisition of knowledge in these domains is required by researchers and health promotion officers working in this area^{11,15} and is supported in the international literature on undertaking research with Aboriginal populations¹⁶. An example of this in road safety is the interstate produced video "*Corrugations to Highways*" that recorded scenes using only Aboriginal people, with no police, and recording 'true to life' scenarios that culturally reflected Aboriginal life¹⁷.

Considerable work appears to have been undertaken and continues to be promoted across Australian States and Territories. In Queensland's Road Safety Action Plan, 2008 – 2009¹⁸ a range of initiatives were cited for the reduction of the involvement of Aboriginal road users in road trauma. Additionally, a further range of initiatives were cited to reduce the involvement of rural and remote road users in crashes. These latter initiatives should also be targeted towards Aboriginal road users, in particular the issues of pedestrian safety.

2.1 Interventions

There appear to have been a range of attempts to engage Aboriginal remote communities in road safety activities with trials occurring in 'hot spots' or communities with high road trauma statistics and if considered successful extended to other communities¹⁹. Although this work was initially fragmented and driven by the needs and interests of specific communities, commonalities were evident and this has resulted in a more focussed approach with Aboriginal communities meeting regularly to share information¹⁹. Two issues that appear to be important for these communities are licensing and safe vehicles, with a range of licensing interventions being undertaken across Australia. The importance of these issues might be related to the numbers of Aboriginal people imprisoned for driving without a licence, and or driving an unsafe vehicle¹⁹.

In the Northern Territory, the police have developed an educational training program and public awareness campaign for delivery in a range of Aboriginal communities²⁰. The main messages for this program are drink and drug driving, wearing of seatbelts, and pedestrian deaths. The program was developed by Aboriginal Community Police Officers who deliver it at schools and community events and use road safety promotional giveaways to support the delivery. Other activities to support road safety reported by Fuller (2011)²⁰ include the Barunga Road Safety Song Competition which has been run annually for several years and offers a prize of \$1,500. AFL footballers have also been used to deliver road safety messages with posters and audio messages being used to deliver a range of messages, some quite personal involving the death of close family members in both car crashes and as pedestrians. These posters and their audio message have been translated into 26 different

Aboriginal languages which facilitates understanding in communities where English is not the first language. The Muttacar Sorry Business is a free performance and workshop package that tackles the issues of drink driving, risk taking behaviours, non-wearing of seatbelts, and overcrowding in vehicles. Muttacar is designed to be performed in the bush by Aboriginal people for Aboriginal people and has been conducted in both Western Australia and the Northern Territory.

In addition to culturally specific interventions there is evidence that formal road safety interventions can be successfully applied in Aboriginal communities. A 'safe systems' approach was adopted in Bidyadanga in Western Australia²¹ and the Shire of Yalgoo²² demonstrating that road safety interventions based in non-Aboriginal culture may be successfully applied in Aboriginal communities when appropriate consultation is conducted. In the Bidyadanga project a range of issues were considered and a comprehensive road infrastructure audit was conducted. In the Yalgoo project, a range of stakeholders took actions to increase pedestrian safety on a road upon which large vehicles were driven.

Therefore, the review of the literature uncovered the range of road safety issues that affect Aboriginal Australians, in particular those living in remote and rural communities. It is evident that a range of interventions are being undertaken to address these issues, however there appears to be still a considerable amount of work to be undertaken. An important aspect is that the application of standard road safety interventions using the 'safe systems' approach can be successful in remote and rural communities and assist in addressing issues for Aboriginal people.

3. Interviews with Aboriginal people regarding post-crash needs

As the research was directed in relation to the proposed establishment of a road trauma support service in Western Australia, the focus in this part of the research was on post-crash services. All interviews were conducted in Perth, Western Australia and were with Aboriginal people working in health related positions. However several of the respondents had also worked in rural and remote locations and one had extensive connections state wide. The interviewees suggested that in general similar issues would be present for Aboriginal people across the state.

The interviews were conducted at times and locations convenient for the interviewee. Some were interviewed at their own place of work and others attended the offices of ConnectGroups where a private interview room was available. The interviewers were both non-Indigenous, however both have worked with Indigenous people in other circumstances and have undertaken cultural awareness training.

3.1 Participants

Contact was made by email with five Aboriginal men who worked in the health professions. Age of respondents was not sought, however all respondents were adults of working age. Some participants had direct experience of the loss of a close family member through a traffic crash some years ago and therefore spoke from an informed personal position. Others did not indicate any experience of such loss, but did indicate that most Aboriginal people knew of someone affected by road trauma and that Aboriginal communities and families suffered when such losses occurred.

3.2 Interview Procedure

Initial contact was by email which described the research and interview procedure. Interviews were not audio recorded but brief notes were taken and reviewed within 24 hours of an interview. In depth conversations lasting on average an hour with each of these men were conducted. The findings of this part of the research are detailed below. Vignettes were

developed from the information gained during the interviews to present the themes. One of the vignettes is included at the end of the paper.

3.3 Findings – Post crash effects and needs

The information from the interviews was analysed using a thematic analysis that was derived from the data and was not pre-determined. From the interviews it was found that there were three specific groups with differing needs. These groups were perpetrators (those who caused or were responsible for the death or injury of another), victims who have been seriously injured, and family and friends who have lost someone, or who are supporting someone seriously injured. Several of the behaviours and effects described are common to all three groups, in particular, 'acting out' or behaviour considered inappropriate in Western societies; self-medicating with drugs or alcohol; and suppression of emotion.

Perpetrators and their needs

Our informants described issues of shame and guilt for Aboriginal people who had been responsible for the death or serious injury of another. Often those people (mainly males) responsible for a traffic crash found it difficult to express remorse and this sometimes placed them as 'outsiders' within their own families and communities.

The need for this group is to have someone to help them express their emotions and the remorse that they feel. This should result in maintaining contact with their families and communities and reduce their need to express themselves in inappropriate ways such as 'acting out' and self-medicating with drugs and alcohol which often leads to more violent and/or criminal behaviour.

Seriously Injured Victims and their needs

The informants also provided information that suggested that as well as dealing with the physical trauma of serious injuries, victims were often disadvantaged by the medical system and processes that were supposed to provide support. Victims often appeared to display symptoms of depression and/or post-traumatic stress disorder which remained undiagnosed and untreated, and refused assistance from others. They also did not attend follow up treatment.

The needs for this group are supports to deal with the medical system to ensure that both physical and emotional needs are met to attain a best outcome recovery. A case management approach may be beneficial.

Family Members of Victims and their needs

Often family members found it difficult to meet their own personal needs, those of other family members, and those of the injured person. The inability to meet all the pressing needs causes additional stress on family who try to juggle all responsibilities.

Several informants indicated that 'acting out' or 'self-medicating' were the results of such trauma. Families were described as 'shutting down' when such a death occurred. The expression of grief was suppressed.

The needs of this group appear to include a safe place in which to express their grief for a deceased and/or their grief for the injured. They may also require support to assist them meet the needs of all family members and information on how to support the injured individual. Again it may be beneficial for a case management approach to include not only the injured person, but also the family to facilitate best recovery for all.

Proposal for a Western Australian Aboriginal Road Trauma Service

All respondents indicated that a culturally appropriate State Aboriginal Road Trauma Service would be useful. One respondent who had lost a close relative many years ago indicated that such a facility would have been beneficial for him at the time of his loss. Others

discussed the challenges in providing such a service Statewide, but indicated that this was a necessity despite the financial costs and challenges. Ease of access to post trauma services was an issue, both in relation to the proposed counselling service and services to deal with physical injury.

There was a clearly expressed need for such a service to provide not only emotional support and/or counselling but also to include services that addressed the physical needs of both the injured and their families/ communities. Most respondents were of the opinion that “post” hospital services were basically non-existent and that Aboriginal people upon release from formal medical treatment were basically “dumped” with details of appointments but with no check that the patient understands the process of recovery and or that they have the means to attend the appointments.

Our respondents made it explicit on several occasions during the interviews that support was required for the family and the community when a road trauma, particularly one resulting in death occurred and that counselling services should take account of these extra needs. They also referred to the strength of family relationships in Aboriginal families and communities and how they are considerably stronger than the relationships in non-Aboriginal families. Thus when road trauma occurred the connections to a victim could be extensive and felt more deeply by relatives whom to non-Aboriginal people would be considered distant. The transfer of trauma to the mental health system was also raised. It is well documented that trauma can lead to mental health issues. The suggestion for support not only for the crash victim but their family and community was made also in the context of financial savings. Culturally appropriate and readily available trauma counselling may cost more initially, but save money with reduced later in-patient care and the social costs of inappropriate behaviour.

Rehabilitation services being based in Perth (i.e. Shenton Park Rehabilitation Hospital) was another issue raised. The removal of trauma patients from their country and families in order to receive appropriate medical assistance placed emotional, financial, and cultural stress on both patients and their families. Often these patients speak English as a second language and do not easily have their needs or concerns understood. Aboriginal patients may have issues with change in diet, experience cultural difficulties in terms of care (e.g. an Aboriginal woman being bathed by a male nurse) and may spend months without seeing their children or other family members. Some of these issues have also been reported in relation to Aboriginal people who are cancer patients²³.

4 Conclusions

From the review of the literature it is clear that there have been concerns over a long period of time in relation of Aboriginal people’s involvement in road trauma. A range of interventions have been applied in relation to licensing as well as to address the ‘fatal four’¹⁰. There is evidence that the safe systems approach to interventions may be applied in Aboriginal communities with appropriate support^{22,23}. However there have also been a range of interventions that have endeavoured to work within Aboriginal cultural strengths of art and music²⁰. Evaluations of the effects of such interventions do not appear to have been conducted, and this is a general weakness of road safety interventions.

The identification of the post-crash needs of different groups (perpetuators, injured victims and family and friends of fatally injured or injured individuals) is important. However there were similar emotional and behavioural issues that crossed the groups. Cultural issues may inhibit the success of existing interventions.

In relation to the proposal for a Road Trauma Support Service for Western Australia the needs of Aboriginal people need to be considered. Each of the Aboriginal men interviewed confirmed the traumatic effects of road crashes on Aboriginal people and also confirmed that counselling would be a benefit for Aboriginal individuals, families, and communities. The main outcome of the interviews was that there was a definite need for a State Aboriginal

Road Trauma Service that addressed both physical and psychological issues associated with the road trauma; and that the service needed to be available for all those who were affected by the trauma, not just the primary victim.

Vignettes

Story telling is an important aspect of Aboriginal culture²⁴. Therefore, the themes generated in the interviews have been presented in a series of vignettes which tell a short story of an individual's circumstances. Vignettes are a useful method for conveying personal stories that preserve the anonymity of the persons involved. They also enable a demonstration of a range of interrelated themes and the complexity of circumstances under which people live. The vignette presented here has been developed from interviews with Aboriginal people. It has been constructed with pseudo names to preserve anonymity of the individual, and reflects a composite story.

The following vignette highlights the challenges that Aboriginal people face when they have to balance the rules and regulations of mainstream society with the cultural expectations that they believe are placed on them.

Vignette 4 - Tony

Tony lives in Perth. He has good relationships within his community and is often asked to transport the boys to football games. He has a good vehicle which serves his immediate family well. However, when asked to transport a large number of boys, there is no room for these boys to wear seatbelts.

Tony often finds himself weighing up the risks of getting caught with a car load of boys not wearing seatbelts (and an overloaded vehicle) and the cultural needs of his community. Many of the boys that he transports are from sole parent families headed by a female, so in addition to providing transport, Tony is considered a male role model for these boys. Additionally, some of these families do not have a vehicle and if Tony does not transport the boys, they will miss out on participation in a positive activity that they enjoy.

Tony does not want to think about the consequences of what might happen if he were to be involved in a crash and thinks that the risks are low. He drives carefully. When weighing up the risks he decides that his role as a mentor to the boys and as a community member is more important and he often transports a number of children accepting the risk.

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