SOUTH AUSTRALIA POLICE
KEEPING SA SAFE

Talkin' Road Safety

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The strength of our Road Safety Programs is what occurs when the police aren't around

We are all interested in keeping safe on our roads. Come the holiday times, we put a lot of effort into requesting that people drive carefully, don't speed, wear a seat-belt, don't use a mobile phone, take breaks when driving distances and certainly don't drink or drug drive.

But what does that really mean? Even before you sit in your car it means that you start to make decisions on Road Safety. For instance, what about planning your holiday trip, do you consider how long the drive will be and realistically how long it should take to get there safely? Do you plan where to take your two hour breaks and what time do you start to travel? Perhaps you shouldn't travel after a day's work. Rest first then tackle the trip. Driving after being awake for 17-19 hours is equivalent to driving with a BAC of approximately 0.050%. At this level, the risk of a crash is double than with a BAC of zero. Driving after 24-27 hours awake is equivalent to driving with a BAC of around 0.100% and the risk of a crash is seven times greater than with a BAC of zero.

When you are planning a night out, do you consider how you are going to get home, particularly if you want to drink when you are out? Have a designated driver who doesn't drink, take a taxi home or stay overnight. Remember as well that alcohol takes time to dissipate from your system so even the next day you may be over the 0.05 limit. The Motor Accident Commission has put a lot of effort in their advertising campaigns on this message. It also includes drugs – remember if you use drugs and drive, the drug remains in your system for long periods of time. Think about this and what it means when you do things such as take your children to school or simply do those driving tasks that we all do every day. It should also be noted that the possession and use of illicit drugs is against the law.

Nobody likes receiving an expiation notice with the financial burden that it puts on you to pay money that would be avoidable. Police cannot be everywhere and so there are times when you can commit an offence and not be detected but what does that really mean. Sure, you won't have the financial burden but what chance are you taking with your family, your friends and other members of the public or indeed yourself?

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When was the last time you checked the tyres on your car? Do you know what tyre pressures you should be running? Do you service your car regularly? What about your brakes? You should have a routine about your car and the checks you make before your drive. This includes your day to day driving but especially when you are taking a long distance trip.

The strength of our Road Safety Programs is what occurs when the police aren't around – you owe it to your family, your friends, other members of the public and lastly yourself to do the right thing. Plan and drive carefully.

Quad bikes in South Australia

An investigation by the Centre for Automotive Saftey Research (CASR), of their use, crash characteristics and associated injury risks.

Quad bikes are a leading cause of death and serious injury on Australian farms. The aim of the CASR project was to understand quad bike use and the complex circumstances surrounding incidents that occur as a result of their use. In particular the project identified high risk uses and why quad bikes are chosen for these applications. The severity and type of injury sustained by quad bike riders was also investigated. A wide variety of data sources were examined to capture a detailed picture of quad bike related trauma in South Australia.

This report is comprised of four separate but complementary studies:
1. An analysis of quad bike-related workers' compensation claims in South Australia
2. Characteristics of quad bike-related fatalities in South Australia
3. Identification of quad bike injury in hospital admissions
4. In-depth analysis of quad bike use and incidents in South Australia

1. AN ANALYSIS OF QUAD BIKE-RELATED WORKERS' COMPENSATION CLAIMS IN SOUTH AUSTRALIA

This study involved the first analysis of work-related injury claims for quad bike-related injuries in South Australia. The ReturnToWork SA workers' compensation scheme claims database, provided by SafeWork SA, was examined to provide an estimate of the number of work-related injury claims associated with quad bikes, describe the circumstances surrounding each incident and understand the nature of injuries sustained.

From 2001 to 2013, 199 injuries to workers arising from a quad bike-related incident were identified within the workers' compensation data in South Australia, costing approximately $5.6 million. Note that the number of quad-related work injuries in the workers' compensation records will be an underestimate due to a high level of self-employment in agriculture. While workers' compensation data is primarily designed for administrative purposes rather than assisting injury prevention, some general information regarding worker demographics, incident details and type and nature of injury was obtained for quad-related worker claims:

- Quad bike-related injuries were most commonly reported for workers in regional and remote South Australia (82%), male workers (83%), workers aged 15-29 years (34%), and with incidents occurring late morning (10-11am; 25%).

- Worker quad-related injuries predominantly occurred within the 'Agriculture, Forestry and Fishing' industry (69%). Within the agricultural industry, dairy cattle farming and grape growing accounted for more than half (55%) of all injuries involving a quad bike.

- The most common primary mechanisms of injury for workers using a quad were striking an object on the ground (20%), mounting or dismounting the quad (12%), falling off (11%), and injuries or strains from riding (10%).

- The most common injury types were strains to the muscles, joints or tendons (33%), fractures (20%), and contusions (12%). Strains to the muscles, joints, or tendons had the highest total expenditure, while dislocations were found to have the highest median compensation expenditure. Upper limbs (29%), the trunk area (23%) and lower limbs (22%) were the most common body regions for injuries involving a quad. Specific body parts that were most commonly injured and attracted the highest expenditure were the back (16%) and shoulder (10%).

- Inspection of worker and employer descriptions found 20% of worker injuries involved a quad rolling over. Fractures accounted for 40% of worker injuries inflicted during rollovers, most commonly occurring in the back (60%).

- The activity undertaken at the time of the incident was not specifically coded but analysis of incident descriptions revealed 56 (28%) cases in which the worker was mustering or checking livestock when the injury occurred. Common mechanisms of quad-related injury while chasing livestock involved striking an object on the ground (34%) and striking other objects such as a bush or fence (14%). The most common types of injuries were fractures to the wrist, strains to muscles in the shoulder and back, and dislocations to the shoulder.

These findings provide the first valuable insight into worker injuries involving a quad bike in South Australia. The data used in this study included general information concerning the injury event but narrative descriptions of the event were usually brief and gave little information about the sequence of events, details about the quad bike or causal factors. In-depth studies that investigate the complex sequence of events that lead to the worker injuries and any contributing circumstances would be most valuable to further assist quad-related injury prevention.

2. CHARACTERISTICS OF QUAD BIKE-RELATED FATALITIES IN SOUTH AUSTRALIA

Quad bikes are the leading cause of deaths on Australian farms. According to data recorded by Safe Work Australia, there were 75 quad-related deaths from 2011 to 2014 in Australia, an average of 18.8 fatalities per year. In order to reduce the increasing number of quad-related deaths there is a need to understand the circumstances surrounding these incidents.

Coroner's closed case records from the National Coronial Information System (NCIS) for all Australian quad bike fatalities were examined to provide detailed information about the factors contributing to quad bike incidents and the resulting fatal injuries. The characteristics of the incident, rider, associated injuries and the quad bike for fatalities in South Australia were compared to those for the rest of Australia to determine whether certain factors were more evident in South Australia. This study is distinguished from earlier Australian studies examining fatal cases as it includes all fatalities involving an adult size quad (even those occurring on roads) and has a focus on behavioural factors including alcohol and drug use, carrying passengers, and helmet use.

A total of 161 fatalities in Australia from 2000 to 2014 resulting from the use of adult size quads were examined. Of these, eight fatalities were in South Australia. Overall, within this sample:

- Quad fatalities predominantly occurred on farms (59%), in off-road environments (75%), during daylight hours (73%) and were more likely to be recreational (63%) than work-related.

- Riders killed in quad-related incidents were more likely to be male (83%) and aged over 60 years (27%) which is likely to reflect the demographic profile for agricultural workers.

- Of those with known test results, 28% of quad fatalities tested positive for alcohol and 12% positive for drugs. Alcohol was predominantly associated with recreational incidents. More than half (56%) of all quad fatalities involved the quad rolling over resulting in many riders being pinned under the quad during the incident. Riders on quads that rolled over were most likely to incur injuries resulting from crush while riders on quads that did not roll over were more likely to incur injuries from contact with an object or the ground. Rollovers also occurred more frequently when carrying a load (67%) and when travelling on a slope (61%). While many factors associated with quad fatalities in Australia were also evident in South Australia, there were a number of specific issues that were particularly salient for South Australia: children on quads, carrying passengers and loads and helmet use.

- 16% of Australian quad fatalities were children aged under 16 years. In South Australia, half of the fatalities (n=4) were children and three fatalities were older riders aged 60 years and over.

- 22% of all quad fatalities were carrying passengers. Seven of the eight quad fatal incidents in South Australia involved the carriage of passengers; three of these occurred as a direct result of passenger behaviour. All of the quad incidents in South Australia involved carrying a load, compared to 35% of all quad fatalities.

- None of the South Australian quad fatalities was wearing a helmet and five of the eight fatalities not wearing a helmet suffered a head injury. Of those with known helmet status, 14% of all quad fatalities were wearing a helmet.

3. IDENTIFICATION OF QUAD BIKE INJURY IN HOSPITAL ADMISSIONS

The study was concerned with identifying and describing injuries involving a quad bike, particularly those arising in the context of farming. Data on patients admitted to hospitals in Australia were examined. The records included are episodes in hospital that ended in the period 1 July 2002 to 30 June 2013. Good identification of relevant cases was not achieved. This is partly due to limitations of the classification system used to specify the types of vehicles involved in injury cases, the Australian Modification of the 10th revision of the International Classification of Diseases (ICD-10-AM). That limitation is explained partly by the diversity of types of quad bikes and similar all-terrain vehicles, their uses and the terms used to refer to them.

A focus of the project was quad bikes in farming and other agricultural activities but does include other categories designed to specify cases involving predominantly agricultural vehicles and machinery. However, it is probable that most cases coded to them do not involve a quad bike and it was concluded that these categories could not be used. Certain other categories include vehicles with some similarity to quad bikes (e.g. “four-wheel drive motorcycle”; “quad-cycle registrable for on-road use”).

Despite remaining uncertainty about included vehicles, this set is referred to as “quad bike cases”. The set includes 1,236 cases over 11 years who were mainly males (81%), aged 35 years and older (55%). Nearly all cases occurred off road (94%) and most resulted in fractures (58%). The body parts most often injured were head and neck (24% of cases), trunk (27%) and upper limbs (28%). In conclusion, hospital admitted patient data were examined and were found to provide an unsatisfactory basis for quantifying admitted injury cases of quad bike users. A set of hospital admitted injury records could not be selected in which there was confidence it was both specific to quad bike cases and includes all, or nearly all, of them. A study design is described that would provide a better basis for selecting hospital admitted cases that involved a quad bike.

4. IN-DEPTH ANALYSIS OF QUAD BIKE USE AND INCIDENTS IN SOUTH AUSTRALIA

This study aimed to identify the different quad bike uses among agricultural workers, determine why quad bikes were chosen for these applications, and to investigate in-depth the complex circumstances surrounding any incidents that occurred as a result of their use. The severity and type of injuries sustained by quad bike riders was also examined.

Individual face-to-face interviews were conducted with agricultural workers from a variety of industries in South Australia who ride a quad bike for work purposes. Follow up interviews were also conducted with riders admitted to the Royal Adelaide Hospital following a quad bike incident. In addition to the interview, the quad was inspected to determine its mechanical condition and the site of the incident visited to measure the slope of the terrain and take photographs. A total of 46 interviews with agricultural workers who used a quad bike were conducted, of which six were identified from the Royal Adelaide Hospital admissions. Exactly half of the riders experienced a quad bike incident.

The findings from this study showed that quad bikes were used across a wide range of agricultural industries in South Australia. The typical terrain of the properties in which they were used varied considerably. The quad bikes are used for many different agricultural tasks including mustering, transport and spraying weeds. More than three quarters of all riders felt that quad bikes are safe but this proportion decreased for those who had an incident (68%), especially if they had attended hospital as a result of the incident (46%). The riders thought the most common cause of all quad incidents was related to inexperience or a lack of ability, yet none stated this as a cause of their own incidents.

Chasing livestock or mustering was perceived to be the most risky task, and it was the most common task being undertaken when an incident occurred. Factors linked to incidents while mustering included divided attention, speed, taking the quad onto unsuitable terrain, unpredictable animal movements, and quick, sharp turning movements of the quad.

The quad bikes were found to generally be in good condition though many of the tyres of the quads were not inflated to the correct pressure. Independent rear suspension was present in 20% of quad bikes that were examined. Most riders carried loads of some form on their quad and this was a reason some stated for purchasing a quad. While many of the loads carried on the front were very light and probably of little rollover stability consequence, the loads carried on the rear tended to be quite heavy. Despite only one of the quads used by the riders being designed to carry passengers, three quarters of the riders admitted that they carry passengers on the quad, though this was not a common occurrence.

The quad rolled over in the majority of the incidents and the main source of injury was the quad striking the rider. The most severe type of rollover was when the quad rolled backwards. In this study, all backwards rollovers involved a very steep slope. A total of 44% of riders allow children aged under 16 years to ride quad bikes either as riders or passengers and half of these children were permitted to operate the quad. It is not clear whether those interviewed appreciated the risks but there appeared to be a perception that the risks were mitigated by placing conditions or restrictions on children's use of the quads. Recreation was over-represented as an activity being undertaken when an incident occurred, as the quad bikes were reportedly used very rarely for recreation. While this is not directly a workplace health and safety issue, the quad that is being used primarily for work tasks is then also being used for recreational purposes. The average travel speed and reported speed when the incident occurred were generally low, with three quarters occurring at speeds at or below 20 km/h.

RECOMMENDATIONS

Based on the findings from this report and other literature, the following recommendations concerning quad bikes are suggested. It is acknowledged that some of the recommendations extend beyond Safe Work SA's direct responsibilities. Note that these are recommendations only and may not become a reality.

- Explore options to increase the use and purchase of safer side-by-side vehicles.
- Consider ways to encourage quad riders to purchase, and manufacturers to fit, quads with independent rear suspension.
- Consider regulations that restrict children under 16 years from riding adult size quads.
- Rider training should focus on: giving guidance in eliminating hazards from the environment, emphasize the importance of choosing the safest action such as selecting the right vehicle for the right job, restrict or ban riding in risky areas or in certain conditions, and promote the wearing of personal protective equipment including helmets.
- Develop public education campaigns to promote quad safety; promote awareness of possible criminal liability if a business has not reasonably undertaken all safety obligations and draw on emotional appeals that relay the wider effects and costs of quad-related injuries on families and communities. Campaigns might also increase awareness that quad incidents can happen to anyone, even experienced riders.
- Continue to aim preventative measures at farming as this is where most quad incidents occur (recreational and work-related).
- Develop a helmet that provides maximum head protection for travel speeds compatible with quad bikes but also accommodates the needs of workers riding quads.
- Develop a standardised form to investigate all quad bike and side-by-side fatalities.
- Continue the in-depth analyses of quad-related crashes following hospital admission at the Royal Adelaide Hospital to foster a greater understanding of non-fatal quad-related incidents.

If you would like to read the full report go to the Centre for Automotive Safety Research using the following link: -
http://casr.adelaide.edu.au/casrpubfile/1868/CASR134.pdf

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Do advertising signs affect Road Safety?

The outdoor advertising industry has one singular goal: to get your attention. For a hundred years we've had billboards scattered across our cities shouting out their messages about new cars, jeans, fast food and the latest television shows. But billboards only work if you notice them. So, increasingly, they are getting bigger and brighter in an effort to distract a larger audience. The newest innovation is digital billboards which display a new advertisement every ten seconds -- flashing thousands of times each day.

The human eye is hard-wired to look at bright, moving or flashing objects. It's an evolutionary feature that protects all animals from potential threats. When something moves quickly, your eyes automatically look towards it. There are two sets of data related to digital signage and road safety. One is driver distraction and the other is collisions. The first category gives us very clear conclusions. Almost every study that's been done shows a direct causal relationship between digital signage and driver distraction. This is no surprise, since the purpose of these signs is to distract drivers! When it comes to collision data, however, we get inconsistent results. Some studies show a significant increase in collisions while others show little or no change at all. Experts blame this inconsistency on the fact that the collision data itself is often inaccurate or incomplete due to lack of proper reporting, and because so many other external variables are involved.

Lobbyists for the billboard industry have taken advantage of this inconclusive data, for collisions, and twisted it into an argument that digital signage is therefore safe for drivers. This is a terrible distortion of the truth, and a distortion that puts human lives at risk. If we know that flashing digital billboards are guaranteed to increase distraction, and we know that driver distraction is one cause of traffic fatalities... then why would we even consider placing commercial digital billboards on highways?

A new study published in the journal Traffic Injury Prevention concludes that digital billboards attract and hold the gazes of drivers for far longer than a threshold that previous studies have shown to be dangerous. The study, conducted by researchers at the Swedish National Road and Transport Research Institute and funded by the Swedish Transport Administration, found that drivers looked at digital billboards significantly longer than they did at other signs on the same stretch of road, with the digital signs often taking a driver's eyes off the road for more than two seconds.

A well-regarded 2006 study by Virginia Tech for the National Highway Traffic Safety Administration found that anything that takes a driver's eyes off the road for more than two seconds greatly increases the risk of a crash. The study also found that nearly 80 percent of all crashes involved driver inattention just prior to (within 3 seconds) of the crash.

Do advertising signs affect Road Safety? cont….

The Swedish study's authors reasoned that it's not surprising that digital billboards attract greater attention from drivers: the signs are brighter, visible from greater distances, and display a constantly-changing series of advertisements. They concluded that digital billboards "have the potential ability to keep up the driver's curiosity over an extended period of time." Previous human behavior studies have shown that drivers are hardwired to notice bright, changing lights in their peripheral vision and to anticipate additional motion.

The Swedish government had given temporary authorization to erect digital billboards in 2009, but as a result of this and related studies the government ordered the removal of all digital billboards. Meanwhile in the United States these signs continue to go up at a rapid pace despite a growing body of evidence suggesting they pose a threat to traffic safety.

ROAD SAFETY IS EVERYONE'S RESPONSIBILITY
STOP Distracted Driving