

Quad bike safety



- Quad bikes are the leading cause of death and injury on Australian farms¹.
- From 2010 to 2019, on average, 14.5 people were killed annually in Australia, with 60% involved roll overs².
- The rider was not wearing a helmet in at least 58% of fatalities².
- For every quad bike fatality, it is estimated there are an additional 80 hospital and emergency department admissions³.

State of the Road A Fact Sheet of the Centre for Accident Research & Road Safety - Queensland (CARRS-Q)

THE FACTS

- Quad bikes are 4-wheeled vehicles with motorcycle-type controls and seating, designed primarily for off-road use. They are widely used in farming, council maintenance activities, search and rescue, recreation and adventure tourism⁴.
- The number of quad bikes currently in use in Australia appears uncertain, with estimates ranging from around 190,000⁵ to 380,000⁴. National sales of new quad bikes (including side-by-side (SSV) vehicles) have averaged around 21,000 annually in the last 10 years⁶. Sales have declined somewhat from 2017–2019 (Figure 1).
- Quad bikes are a leading cause of unintentional death on Australian farms, and account for a large proportion of non-fatal on-farm injuries⁷. While farm fatalities fell by approximately 65% over the 20 years to 2015, quad bike incidents continued to rise⁸. Some positive signs were seen with a decline in fatalities from 2016–2019 (Figure 1)².
- Concern raised by research, health and community sectors of increasing fatalities and injuries led to four Coronial inquests in Australia and New Zealand, a Federal Government investigation into quad bike safety in 2017⁵, and subsequent reforms⁹.

A statistical analysis

- In Australia, there were 128 quad bike fatalities from 2011-2018²:
 - 84% were male;
 - 14% were children under 16 years;
 - 36% involved a potential weight imbalance (e.g. carrying equipment, cargo, passengers or towing trailers);
 - 58% of riders were not wearing a helmet;
 - 60% involved a rollover;
 - Large proportions of fatalities occurred

- on uneven ground (55%) or inclines (38%);
 - Around half of fatalities occurred during a work activity; and
 - 80% of fatalities occurred in three States: Queensland (31%), New South Wales (27%) and Victoria (21%) (Figure 2).
- While the number of fatalities related to quad bikes is generally well-reported by several agencies across Australia, estimates of the magnitude and patterns of non-fatal injuries are limited. However, almost 8,000 people were hospitalised across Australia from 2003-2011³.

Key risk factors

There is a lack of consumer and public awareness of the dangers of quad bikes and requirements to ride them safely:

- The perception that quad bikes are easy to ride can lead to complacency with their use;
- Maintaining stability while riding a quad bike can be beyond the physical capacity of some riders (especially children and older people), leading to fatigue and an inability to retain control;

- Lack of training and education - research found that 1 in 3 quad bike riders are self-taught and unsafe riding practices are common¹⁰;
- Quad bikes' high centre of gravity increases the risk of rollover;
- Although sometimes referred to as ATVs, quad bikes are not all-terrain vehicles. Steep slopes, rough terrain and even sealed flat surfaces can cause instability;
- Children under 16 years of age do not have the physical and cognitive abilities to operate quad bikes safely. Most child fatalities occur on adult-sized quad bikes⁵;
- Many riders fail to wear protective equipment, including helmets;
- Overloading quad bikes with passengers or equipment, and inappropriate fitting of attachments or towing apparatus can significantly affect handling, stability, braking and propensity for rollover;
- Consumption of alcohol or drugs impairs rider ability and judgement; and
- Operating quad bikes in remote locations without adequate communication methods delays emergency response in the event of an incident.

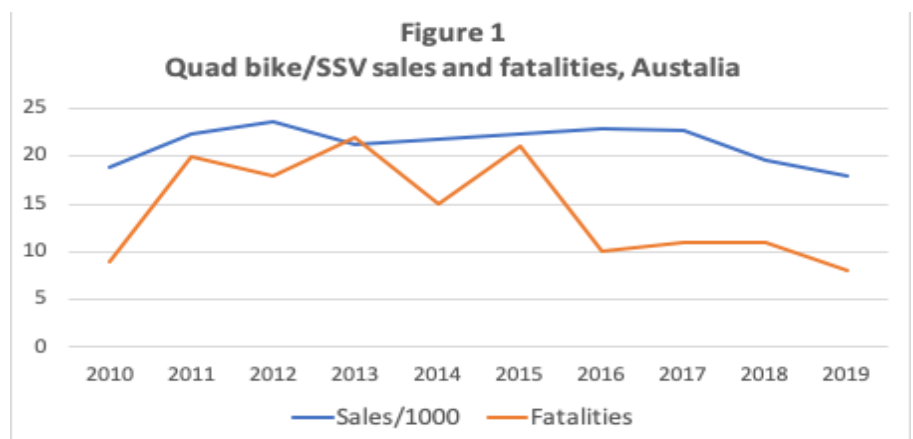
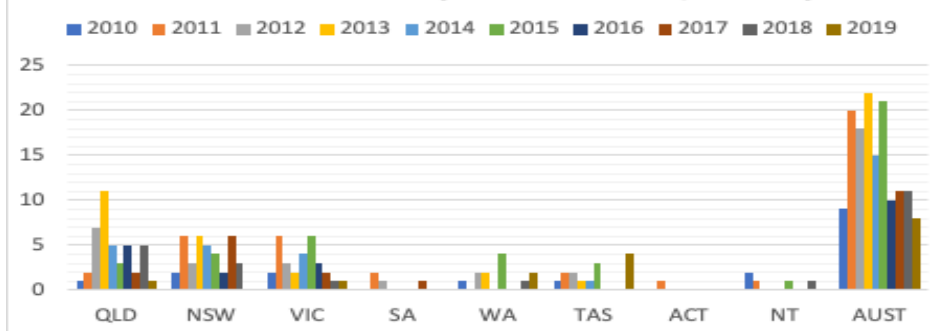


Figure 2
Quad bike fatalities by Australian State/Territory



Recreation versus work-related incidents

From 2011-2017, approximately half of all quad bike fatalities were work-related, while half occurred during sport or recreation activity¹¹.

Reform and regulation

- Limited specific regulation exists for quad bike use in Australia, and requirements differ in each State and Territory. With limited exceptions, quad bikes are generally not permitted for use on public roads or road-related areas and are mostly used on private property.
- Quad bikes used for work in any location are regulated under work health and safety laws. A person conducting a business or undertaking must ensure the health, safety and welfare at work of all their employees and visitors. This includes ensuring quad bikes are safe to use for the situation and skill of the rider. Proper instruction and training must be provided and understood by the rider (see, WorkCover Queensland)⁴.
- In terms of quad bike design, manufacture and sale, extensive research and consultation with stakeholders through the ACCC has led to recent introduction of the Australian Consumer Goods (Quad

Bikes) Safety Standard 2019⁹. **On and after 11 October 2020**, all new quad bikes are required to:

- meet the specified requirements of the US standard for quad bikes, ANSI/SVIA 1-2017, or the European standard for quad bikes, EN 15997:2011;
- have a rollover warning label fixed so that when the quad bike is used, it will be clearly visible and legible;
- provide information in the owner's manual or information handbook on the risk of rollover; and
- be tested for lateral static stability, and display the angle at which the quad bike tips on to two wheels on a hang tag at the point of sale.
- **From October 2021**, all new general use quad bikes must be fitted with an approved or equivalent operator protection device to prevent crush injury from rollover.
- Note that only some of the many recommendations made to the ACCC by relevant experts were adopted in legislation⁵. **Federal and State Government agencies strongly encourage all quad bike users to seek relevant educational material and participate in quad bike rider training programs.** For

example, Queensland's Statewide Plan for Improving Quad Bike Safety identifies three priority areas to reduce the rate and severity of quad bike incidents⁴:

1. Community education and awareness about quad bike safety risks.
2. Improving quad bike operator skills and safety.
3. Government leadership in promoting safety.

CARRS-Q WORK IN THE AREA

- Work and farm associated quad bike-related injuries in Queensland³.
- Understanding serious quad bike-related injuries in Queensland and Northern Territory: comparing circumstances, patterns, severity, costs and outcomes.
- Quads and kids: Understanding parents' knowledge, attitudes and beliefs about safety and risks (PhD program).

FUTURE DIRECTIONS

- Development of a consumer safety rating system for stability, handling and crashworthiness (similar to the ANCAP Star Rating system for motor vehicles) has been undertaken at the University of New South Wales¹², with support of the National Farmers Federation and ACCC.
- Improved data collection is needed: State variability and coding constraints limit the quality and consistency of data collection relating to injuries and incidents.
- An investigation of the impact of training on rider safety to identify characteristics of effective training programs.
- Design, delivery, impact and potential improvement of community and workplace education programs should also be investigated.

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