

Child and youth mortality from motorcycle, quad bike and motorised agricultural vehicle use with a focus on deaths under age 15 years

Questions and answers

What is 'off-road'?

For this report, 'off-road' includes not only farms and other private property, but also locations such as a beach, a river road or a mountain access road, which are classified as 'Z roads' by the New Zealand Transport Agency and are off-road in nature.

What is an 'off-road vehicle'?

The report uses 'off-road vehicle' as a collective term for quad bikes, motorcycles and motorised agricultural vehicles such as tractors and other heavy machinery, as well as four-wheel drives and utility vehicles used primarily for agricultural purposes. Some of the motorcycle deaths in the report occurred when the child was working on a farm, others during recreational or competitive riding. Some were on public roads.

Why include the motorcycle deaths that occurred on public roads?

Because a child was operating the motorcycle in 4 of the 7 deaths, even though they weren't legally allowed to do so. The original focus of the report was going to be on child operators of these vehicles, regardless of the location of death being on- or off-road. During analyses, the committee could see most of the deaths occurred in off-road settings, but it was decided on-road deaths should also be included to present a more complete picture.

What were injury rates for quad bikes?

The risk of injury when using quad bikes is particularly significant for children, with those under the age of 16 estimated to be 2.5 times more likely to be injured than those aged 16–34. A recent review of hospitalisations in New Zealand from 2008 to 2012 shows that, on average, at least 28 children aged 0–14 are hospitalised each year from quad bike injuries. Of all children hospitalised for quad bike injuries during this period, 58 percent were aged 10–14.

What were some of the circumstances behind the deaths in the report?

Loss of control preceded the crash in most cases. Cornering, descending a slope, speed and a loose surface were factors in losing control of the vehicle. This was at times compounded by carrying a liquid load, mechanical faults, towing a trailer, carrying a passenger, driver inexperience, not being big enough to engage the brakes effectively, rough terrain and a high cc rating. Sometimes sudden changes in speed or direction occurred when the rider misused controls – eg, engaging too much power or using the wrong gear.

Flipping or rolling over was the most frequent nature of the crash, occurring in 8 out of 10 of the quad bike deaths where the child was the driver. Injuries were most frequently inflicted as a result of being pinned under the vehicle. For those riding motorcycles, deaths were usually from injuries sustained from colliding with trees, rocks, wire fences or the ground.

Being blind to oncoming vehicles was also a theme, particularly for crashes at the brow of a hill, on undulating ground or at sharp corners.

Four children were unsecured on the vehicle, which resulted in them falling and then being run over by the vehicle.

For some deaths, considerable time probably elapsed between the crash and other people becoming aware. In most cases, the child had died before emergency services arrived.

Is there anything to be learned from the decline in child deaths on tractors?

One child aged under 15 died while riding on a tractor during 2002–2012, and none while operating one. This compares with the 1980s, when on average two children aged under 15 died every year. Interventions introduced to prevent tractor operator and passenger deaths included a combination of education, engineering, design and legislation – a successful multifaceted approach that should be considered for off-road vehicle deaths and is in evidence in WorkSafe New Zealand’s quad bike programme.

What are some of the other recommendations in the report?

- Local rural organisations (both governmental and non-governmental) and district health boards should, with advice from national groups like Federated Farmers, develop skills and education programmes.
- Design engineers and manufacturers are encouraged to consider including safety mechanisms on quad bikes made for children and young people that prevent sudden accidental surges of power, prevent children from using vehicles outside the manufacturer’s weight recommendations, and prevent crushing and asphyxia injuries caused by rollover.
- Children, young people and parents who operate quad bikes should ensure they are familiar with and actively using the safety practices and guidelines recommended by the manufacturer and government agencies such as WorkSafe New Zealand (<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/guidelines-for-the-safe-use-of-quad-bikes/safe-use-in-agriculture.pdf>) and the Accident and Compensation Corporation (http://www.acc.co.nz/PRD_EXT_CSMP/groups/external_ip/documents/publications/promotion/wpc086719.pdf)

The report is principally concerned with children under the age of 15, but what were the death rates of young people older than that?

We only have off-road figures for these: in 2002–2012, there were 17 deaths for those aged 15–19 and 18 for those 20–24. That is 35 deaths in total. Taking all those aged from 28 days to 24 years, there were 61 deaths, 26 of them involving quad bikes, 22 of them motorcycles and 13 of them motorised agricultural vehicles.