

Title: Fatal and non-fatal childhood cycling injuries in Queensland children: have we made a difference?

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Background:

Bicycle riding is a common recreational activity enjoyed by many children throughout Australia that has been associated with the usual caveat of benefits related to exercise and recreation. Given Australia was the first country in the world to introduce cyclist helmet laws in 1991, very few publications have reviewed paediatric cycling injuries (fatal or non-fatal) over that last 20 years.

Objectives:

To identify trends in children (0-16 years) who required admission for greater than 24 hours following a bicycle-related injury (fatal and non-fatal) in Queensland. Further, to discuss changes that have occurred in paediatric cycling injury trends in Queensland since a prominent Queensland publication in 1995. This paper aims to establish evidence to assist in inform interventions to promote safer riding to parents, children and communities.

Methods:

Data on paediatric (0-16 years) cycling injuries in Queensland resulting in hospital admission more than 24 hours across three tertiary paediatric hospitals in Brisbane: Royal Children's Hospital (RCH), Mater Children's Hospital (MCH), and Lady Cilento Children's Hospital (LCCH), between November 2008-June 2015 was compiled by the Paediatric Trauma Data Registry for non-fatal injuries. The Child Death Review Team at the Queensland Families and Childhood Commission provided data on fatalities in children <17years from (June 2004 –June 2015). Comparing trends to the Acton et.al paper (1995, Injury Prevention, pp.86-91).

Results:

Between 2008-2015 there were 166 patients admitted for greater than 24 hours across the three hospitals following a cycling injury. The median age was 11 years, with males more frequently involved (n=139, 87%) compared to females. Mean length of stay was three days, with 47 (28%) children admitted to PICU, location of injury was most often the street (n=63 37%). Between 2004 – 2015 there were 15 fatalities (Incidence rate 0.25/100,000); all were male, 14/15 occurred on the street, with eight stated to have not been wearing a helmet, 11/15 children came from the least advantaged socio-economic group (SEIFA) compared to Acton et.al's finding of 94 fatalities between (1981-1992).

Conclusions:

There has been a notable decrease in fatalities between the two time periods with incidence rates dropping from 1.75-0.25/100,000, however it is unknown if this is a true reduction or decrease in children riding bicycles. Injuries that occur on the street that come in contact with a car remain of serious concern. The purpose of this paper is not to discourage bicycle riding among child and adolescent populations, rather, inform parents and the wider community about the risks associated with cycling in order to reduce injuries associated with this sport, whilst promoting safe cycling.