

The impact of compulsory cycle helmet legislation on cyclist head injuries

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Bicycle-related head injuries fell significantly in the months after mandatory helmet legislation came into effect in NSW, and recent calls for a repeal of the laws should be rejected, new research based on hospital admissions data shows.

The injuries fell by up to 29% after the laws were introduced in 1991, according to the study by researchers at the University of New South Wales (UNSW) and the Sax Institute, published in the high impact journal [Accident Analysis and Prevention](#).

"We set out to perform the most comprehensive analysis possible on the subject while addressing any data limitations and possible confounding factors," said study author Dr Jake Olivier.

"What we found provides compelling evidence that the legislation has served its purpose in reducing bike-related head injuries and any repeal of the laws would only put lives at risk," he said.

UNSW's Chair of [Road Safety](#) and study co-author Professor Raphael Grzebieta said the study backs up overwhelming evidence from biomechanical experiments and in-depth accident case analyses that [helmets](#) prevent head injury. "It shows what we've suspected for a long time — that you would be unwise to 'hit the road' without a helmet," he said.

Australia was the first country to introduce mandatory helmet legislation

in 1991, but 20 years later public debate about the legislation's effectiveness in preventing [head injuries](#) continues.

Last year, a Sydney University study found the laws had failed and should be repealed because compulsory helmet wearing could be a disincentive to cycling. The academic paper was later retracted due to serious data and arithmetic errors.

In the new UNSW study, researchers from the Injury Risk Management Research Centre and the Sax Institute examined trends in NSW [hospital admissions](#) for cyclists and pedestrians, comparing the rate of head injury relative to arm injury, and separately for head injury relative to leg injury, in the months before and after the legislation was introduced.

They found the decrease in head injury rates was significantly greater for cyclists compared to pedestrians, and cyclist [head injuries](#) decreased more than limb injuries, pointing to the positive effect of mandatory helmet wearing at the population level.

"We endeavoured to identify the effect of the legislation on head injury rates as distinct from other road safety interventions and we've shown that the improvements could only have come from the helmet legislation," Dr Olivier said.

However, while the findings support the maintenance of mandatory helmet laws, the paper's authors caution against seeing helmets as a panacea for bike safety.

"Cyclist safety is a complex issue driven by a range of factors. Cycling in Australia has changed with a considerable increase in recreational road cycling and mountain biking in recent years. Additional research into the diverse and changing risk profiles among these cycling subgroups could facilitate further safety improvements," Dr Olivier said.

Provided by University of New South Wales

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