Malcolm J Wardlaw

TO THE EDITOR: Sikic and colleagues state that the 1990 legislation making helmets compulsory for bicyclists in Victoria was associated with a decrease in non-fatal head injuries and fatalities.\(^1\) However, of the three citations given to support this statement (references 8–10 in Sikic et al),\(^1\) one is a study performed before the helmet law was introduced, another is an editorial, and the third makes the common error of attributing to helmet use the effects of economic recession and road safety campaigns. These together reduced all road deaths in Australia by about a third.\(^2\) Careful analysis takes account of such factors.

Western Australia and New Zealand offer good datasets of injuries to cyclists and control groups through the period of increasing helmet use and enforcement: neither dataset shows evidence that mass helmet use reduced the occurrence of serious head injuries to cyclists.\(^3\) With fewer serious crashes, there were fewer serious head injuries, and a general reduction in severity of injury in road accidents for all road users. These observations make it hard to accept that cycle helmets reliably confer significant protection.

Sikic et al further state that “Wearing an approved safety helmet substantially reduces the risk of serious head injury in cyclists who fall or are involved in collisions with motor vehicles”\(^4\), citing case–control studies. Such studies are known to have serious weaknesses when applied to voluntary behaviour in a socially disparate population.\(^5\)

Risk assessments do not justify helmet laws for cyclists alone. Analysis of Australian Government data (1988–1990) showed that cyclists faced a lower risk of death per hour than car occupants (0.41 v 0.46 fatalities per million hours of use).\(^6\) Wider risk assessment based on European data confirms that cycling risks are in the same range as for walking and driving.\(^7\)

Sikic et al ask for further research to identify factors other than helmet wearing that contribute to preventing cycling injuries. One important factor is already well known: an increase in cyclists on the roads means less risk per cyclist.\(^8\) Considerable experience is now available to show that mass helmet use has not been effective in preventing serious head injuries in cycling populations.\(^3\) Enforced helmet laws in Australia may deter people from cycling\(^9\) and getting the major health benefits of moderate exercise.\(^10\)

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3. Robinson DL. No clear evidence from countries that have enforced the wearing of helmets. BMJ 2006; 332: 722-725.
In reply: The main conclusion of our population-based study was that a consistent increase in bicycle-related injuries occurred over the study period. Our study was not designed to analyse the effect of helmet wearing. The potential benefits of helmet wearing were identified in the discussion as a means of reducing the increasing burden of injury.

There has been opposition to legislation enforcing helmet wearing in Australia. The response to this opposition has been adequately addressed by Canadian researchers. In addition, a number of Cochrane systematic reviews have arrived at different conclusions to Wardlaw. Although there are no randomised controlled trials, the weight of evidence would suggest that wearing helmets reduces head injuries in the bicycle-riding population and the imposition is worth the inconvenience to bicycle riders.

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2 Robinson DL. No clear evidence from countries that have enforced the wearing of helmets. BMJ 2006; 332: 722-725.
3 Hagel B, Macpherson A, Rivara FP, Pless B. Arguments against helmet legislation are flawed. BMJ 2006; 332: 725-726.