

Making cycle helmets compulsory: ethical arguments for legislation

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For both medical and social reasons, there is strong interest in promoting the use of the pedal cycle in Britain. First, regular cycling is beneficial to health; second, cycling is one of the most ecologically friendly modes of transportation.^{1,2} An important obstacle to wider use of bicycles, however, is public concern about safety³—especially the risk of death and disability from head injury. An increasing body of research suggests that the risk of serious head injury can be substantially lessened by use of a cycle helmet,⁴ and for the past decade cyclists have been urged to adopt this protective measure; yet rates of usage in Britain remain disappointingly poor.⁵ Thus, some authorities suggest that the British Government should follow several other countries and make the use of cycle helmets mandatory.⁶ In this paper, we consider the ethical and moral arguments for and against helmet legislation.

ARE CYCLE HELMETS EFFECTIVE?

A fundamental question, and one that has been hotly debated, is whether or not helmets really do offer protection against serious head injury.⁷ Evidence initially came from case-control studies of cyclists presenting to emergency rooms with serious head injuries,^{8–10} and the results indicated that helmets offered substantial protection. The studies have, however, been criticized because of the difficulties in adequately adjusting for confounding factors, such as differences in risk-taking behaviour between those who choose to wear helmets and those who choose not to.¹¹ Although the presumption is that helmet wearers would be more safety conscious, some have suggested (without supporting evidence) that helmets might promote risk-taking behaviour by engendering a false sense of security.^{12,13}

Observational studies, looking at regional and national time trends of head injury, have shed further light on the question, revealing a strong association between increasing

helmet use and declining rates of injury.^{14–17} Randomized controlled trials would undoubtedly allow a clearer picture of the efficacy of cycle helmets, but such studies are impractical on account of the very large numbers that would be required and ethical concerns about randomization to non-helmet use.¹⁸ Indeed, clinical equipoise regarding the benefits of helmet wearing would be hard to achieve, given the existing evidence. To find sufficient numbers of cyclists who were in equipoise about the merits of helmets and about the convenience of wearing them, and who were prepared to comply with their assigned helmet wearing or non-wearing behaviour after randomization, would be near impossible.

Recognizing the methodological constraints, we believe that evidence for the effectiveness of cycle helmets is now strong. Indeed, it may not get stronger, and a strategy of 'wait and see' no longer seems justified. Therefore, attention has shifted to discussions regarding the ethical merits of cycle helmet legislation. Here we examine the key ethical issues according to the 'four principles' framework of Beauchamp and Childress.^{19,20}

THE ETHICS OF LEGISLATION

Beneficence and non-maleficence

To evaluate the ethics of a health promotion programme, we must ask: Is the goal of the programme good? Does the programme achieve the goal effectively? Does it do so efficiently? Does it do so in a manner consistent with the values and liberties of the target population?^{21,22} Clearly, the aim of reducing head injury, consistent with promoting cycling as an activity beneficial to health, wellbeing, and environmental quality, is good. With a health promotion scheme there may be a benefit to the individual, but the aim is usually to lower risk in the population. The individual may actually be slightly worse off in the short term (as with vaccination or anti-smoking campaigns for example). So while society gains a global benefit and some people gain personally (by not being head-injured), most individuals are trading off a moderate inconvenience, possibly including some expense, against a reduced risk of an already unlikely event.

We argue that there are good, but mildly paternalistic, justice-related grounds for making this choice collectively rather than individually.

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Evidence from other countries shows that legislative programmes have been effective.^{15,23} Looking at the substantial burden of cycling-related head injury and the modest achievements of campaigns to promote voluntary use, several countries have concluded that legislation is the most effective way of realizing the benefits of cycle helmets. Bicycle helmet laws currently exist in five provinces of Canada, one-third of US states, and throughout Australia and New Zealand and have recently been introduced in Slovenia for children aged 14 and under. Early results indicate that legislation significantly increases the proportion of cyclists wearing helmets. More importantly, they reveal a reduction in absolute numbers of cycling fatalities and serious head injuries. Critics of legislation, however, point out that the reduction in injuries can be at least partly explained by a decrease in cycling *per se*.²⁴ The possibility that, in Britain, legislation might reduce cycling from its already low level is real cause for concern, because the health benefits of cycling greatly outweigh the risks from head injury.²⁵ Similar concerns were expressed about a flight from the motorcycle, before motorcycle helmets became compulsory—initially an unpopular law—but the legislation probably had no long-term adverse effects on this mode of transport. The evidence in our possession suggests that, although there might be a transitory reduction in cycle use after legislation for helmet wearing, in the medium term the effect is likely to be negligible. Moreover, if legislation were to reduce rates of serious injury and promote increased public confidence in cycling, the effect might even be to make cycling more popular.

We can also ask whether the legislative intervention is efficient in achieving the aim of protecting cyclists while not adversely affecting patterns of cycle usage. In principle it should be, since it may be cheaper than implementing a health promotion programme aimed at increasing the voluntary use of helmets. There is a pragmatic question that is incalculable at this stage: law requires enforcement, and there is a question over what the appropriate enforcement strategy should be. However, the *threat* of sanction has an important symbolic value. It is important that the law should be enforced equitably and that it be phased in over time, to ensure that individuals have a fair chance to comply.

Autonomy

One of the strongest arguments against legislation is that this constitutes an unwarranted infringement of the civil liberties of cyclists.^{26–28} Furthermore, it is argued that enforcing cycle helmet use is tantamount to penalizing the cyclist when, in many cases, it is the motorist who is responsible for the accident.^{29,30} In addition, there is reason to be suspicious of turning a pleasant leisure activity into a ‘medicalized behaviour’.

Whilst acknowledging that legislation will of necessity restrict autonomy, proponents can point to the precedents of vehicle (including cycle) lights, speed limits, motorcycle helmets, front seat-belts and more recently rear seat-belts, stressing that any infringement of autonomy is minimal. For the law to work, individuals should autonomously choose to obey, and allow that it can be necessary as a mechanism for behavioural change, in circumstances where change is good but hard to achieve. The medicalization argument is not convincing; no one appears to regard seat belts in this way, for example.

It should be recalled that respect for autonomy is only one of the principles of medical and social ethics although there is a presumption in its favour in most societies. Our argument here is that, in the light of the evidence, most people would rationally choose to wear a helmet, and we would all allow that there are good social grounds for encouraging cycle helmet wearing. But equally, we know that doing what is in our own interest can be hard without external encouragement. We recommend legislation as a collectively autonomous choice in favour of one kind of external encouragement. Naturally, one condition for this argument to work is that it is applied in a democratic society.

Justice

We can divide justice into two parts—procedural and substantive.³¹ From a procedural point of view, three questions are important. First, the law should be consistent: if a principle is applied in one area, then it should be applied in all equivalent areas in an equivalent way. Secondly, we must require that the legislation is enacted in a fair way—that it is enacted after full public consultation, and after full debate and discussion in Parliament. In this manner, the legislation arises out of collective choice, rather than simply being imposed by experts. Thirdly, the legislation must be applied fairly—that is to say, without arbitrary administration, and penalizing ‘offenders’ in accordance with the merits of the case. Thus, it would be unjust to penalize a non-compliant cyclist in a road accident more harshly than the motorist, where the fault for the accident lay with the motorist. And it would clearly be unjust to use not wearing a cycle helmet as a pretext for harassment of ethnic minorities (e.g. turban-wearing sikhs) or others by the police.

Substantively, we must consider whether the overall collective benefits, and the local benefits to other road users, outweigh the strong claims of individual autonomy. Principally the benefit is a social one—reduced costs to the health service or to one’s fellow purchasers of insurance. It is arguable that individuals have some sort of duty to their fellows of taking responsibility for their own health, and

that sometimes this duty is an enforceable one. Interestingly, in more 'libertarian' societies, such as the US and Australia, compulsory cycle helmet wearing is often a 'State' rather than a federal law, in the interests of requiring individuals to be responsible for their health, since many of the severely injured will eventually need to use the State health safety net.

One argument made widely in cycling circles is that cycle helmet legislation distracts us from more effective means of protecting cyclists, such as separating them from motorized traffic. We sympathize with this view and do not believe bicycle helmets fully resolve the issue of cyclists' safety. However, this does not detract from the proven value of cycle helmets in both the short and the long term. Hence we do not agree that our proposal is unfair to cyclists.

CONCLUSIONS

The analysis in this paper is based on the 'four principles' approach devised by Beauchamp and Childress and further developed by Gillon in the UK.^{19,20} It can fairly be objected that we have not done full justice to this approach, in that we have considered each principle's application to this question separately. Much of the difficulty of applying the 'four principles' approach in practice concerns the need to 'balance' the principles and their sometimes conflicting requirements in any given case. The proponents of the 'four principles' theory themselves allow this.^{19,32}

The particular difficulty for our case concerns the relationship between autonomy and beneficence. We accept that our argument is mildly paternalistic, in that we are arguing that the interests of personal safety and public welfare safety outweigh the slight harm of infringing individual autonomy. However, as noted in the section on the principle of autonomy, a rational person ought to be able to accept the welfare and safety arguments and autonomously agree to obey the law that we propose.^{33,34} Moreover, a law that could not command such rational respect would be a bad law. The tyranny of imposing it could not be justified (that would fail the test of the principle of justice, even if it could be narrowly justified on welfare grounds). Unless respect for autonomy really does amount to letting people do whatever they wish unless they harm another, some constraint such as the rationality test (a detailed discussion of which falls beyond the scope of this paper) is needed. Hence, on a plausible understanding of the scope of 'respect for autonomy', we hold that there is no major tension between the requirements of the 'four principles' in this case.

In summary, we have concluded that there is a strong case for making the wearing of cycle helmets legally compulsory. The argument is weakly paternalistic, in that it

gives higher priority to social costs and individual risks than to individual autonomy. We argue that this prioritization is consistent with other injury-prevention legislation. We see three options for the future:

- No legislation, but an intensified voluntary health promotion effort
- Legislation to ensure that children only are required to wear helmets
- General legislation.

We would favour the last of these options. However, the children-only case has some merit—notably that the autonomy considerations are weaker. We have a general obligation to promote the welfare of children, and there is evidence that adults' behaviour is modified because adults wish to support their children's use of helmets. Against this, the sanctions (e.g. fines) would fall against the adult, so that the effect would be similar to the general legislation option, with the added disbenefit that attempts to identify and penalize the 'responsible' adult could cause much resentment and dispute. We also conjecture that by applying the law to children but not adults we would encourage a 'rite of passage' effect (much as happens with cigarette smoking), whereby older children abandoned helmets to signify their maturity. This perverse effect would subvert an explicit, if secondary, policy aim of making helmets compulsory for children, which is to encourage adults to adopt helmets in order to set an example without compromise to adults' legal liberty and moral autonomy.

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