

BRITISH MEDICAL JOURNAL

LONDON, SATURDAY 3 FEBRUARY 1979

Priorities in road accidents

Every week more than twice as many people die on our roads as in the recent oil tanker disaster in Bantry Bay. Yet public reaction is muted and our series on road accidents (p 328) has attracted little attention in the correspondence columns. Some of the deaths and injuries are inevitable, but some are avoidable, often by applying knowledge that we have already. May we suggest, then, that there are five priorities in preventing road injuries: seat belts; tougher action on alcohol; better treatment of pedestrians; a change in attitudes; and better statistics.

In no country are seat belts used satisfactorily without legislation, and without proper enforcement and penalties for non-compliance.¹ Experience in Britain and elsewhere has shown that publicity without the backing of the law is short lived in its effects and has failed to raise general wearing rates much above 30%. The case for seat belts is overwhelming and urgent; and doctors and others who know the consequences of our present "freedom" must do what they can to influence opinion: the Government Bill that has just had its first reading must not be defeated through ignorance or apathy.

Recent statistics might suggest that stronger action against the drinking driver was not needed: in a sample of those fatally injured in 1977 the number of drivers who had exceeded the limit was 5% less than the previous two years and the proportion of positive breath tests (32%) was 10% less than in 1975.² But the link between alcohol and accidents is serious and undoubted, and these modest improvements are attributed not to less drinking but to less drinking in public houses since 1975. We have a law that could drastically reduce such driving accidents—and did indeed do so for a year or two after the 1967 Road Traffic Act. In 1968 total casualties fell by 11% and deaths by 15%,³ but the figures steadily deteriorated as people realised that the chance of being caught with a high blood alcohol concentration was remote.

The recommendations of the Blennerhassett Committee could make enforcement much easier and would also help to keep the "problem drinker" off the road.⁴ Most drivers who exceed the alcohol limit so far exceed it that a high proportion are likely to be regular heavy drinkers.⁵ The risk of accident for those with a blood alcohol concentration over 160 mg/100 ml is 21 times higher than if they had not been drinking.⁶ Disqualification in itself will not cure them, and one of the Blennerhassett Report's main recommendations would prevent a high-risk offender from driving again unless his drinking problem was cured. Nearly three years have passed since this report was

published. Its recommendations are not highly controversial, yet still the Government has found no parliamentary time for legislation. Its implementation is, we believe, urgent.

Our third main need is to reduce pedestrian casualties, which have been increasing again after some years' improvement. There were over 71 000 in 1977, nearly a third of whom were seriously injured or killed.² Of these, nearly 40% were children, and Britain apparently has the worst record in Western Europe for child pedestrian casualties.⁷ Sandels in Sweden concluded that adults, whether as drivers or as the children's supervisors, are always directly or indirectly responsible for accidents to children, and she makes practical recommendations.⁸ We believe that, in return for restrictions on jay-walking, pedestrians should be enabled to cross any road in safety, and again this means following the more enlightened practices of other countries: all-red phases of traffic lights; replacement of the fatuous pelican crossings by ordinary traffic lights; and pedestrians given priority by turning traffic, enforced by law. The current proposals to allow vehicles to park on the pavement to deliver goods should be opposed, as this would merely mean even more parking by heavy vehicles and legalise a growing hazard in our cities; moreover, there is little point in adapting our kerbs to wheelchairs and perambulators if once on the pavement these cannot pass parked lorries. Pedestrians in general are too often regarded as second-class citizens and we need new attitudes, as well as more care from pedestrians themselves. "The plans are evidently for motor vehicles, not people," was a verdict of the Swedish study, with the rider that planners should work from a knowledge of the psychology of pedestrians, especially child pedestrians.

Fourthly, we need a change in attitudes in ensuring that public and police co-operate in seeing that traffic laws are obeyed and enforced. A good example showing that this can work is the law making wearing crash helmets compulsory for motor cyclists (though predictably this is being challenged by a vociferous protest movement). Yet do the authorities always consult those who have to enforce the laws before they make them—was the opinion of the police sought, for example, before urban areas free of parked lorries and coaches at night time were introduced (a law which is flouted every night all over London)? And has anybody found out the police's attitude to enforcing the wearing of seat belts: will it resemble that on drunken driving and crash helmets or on bus lanes and box junctions?

Finally, we need better statistics if road safety measures and policies are not to be based on misleading or incomplete information. This includes proper "exposure" data for different classes of road users, locations, and so on, so that relative risks can be reliably based; the Netherlands' road safety organisation SWOV has a plan of research for obtaining such data.⁹ A recent WHO meeting called for more reliable systems of reporting road accident deaths, disabilities, and severities of injury, with record linkage systems and better hospital recording, and more reporting of the human and environmental factors in particular accidents.¹⁰ Commenting over two years ago on a Government consultative document, the BMA made much the same points, arguing for an epidemiological approach to road safety based on public health principles.¹¹ No noticeable progress has been made. Although engineering measures—to the road environment and to the vehicle—have had impressive returns, we badly need research on human factors, which after all play a part in most accidents¹²; but such research is still only a small proportion of the total.

As in other public health problems, however, the whole community needs to take more responsibility. Ultimately some three-fifths of our road casualties, according to one estimate,¹³ might be prevented—at present rates a saving of roughly 209 000 a year. For this to happen, however, we all need to care more.

¹ Berard-Anderssen, K, *Use and Effects of Seat Belts in 21 Countries*. Oslo, Institute of Transport Economics, 1978.

² Department of Transport, Scottish Development, Welsh Office, *Road Accidents Great Britain 1977*. London. HMSO, 1978.

³ Department of Transport, *Roads to Safety*. London, Department of Transport, 1978.

⁴ Department of the Environment, *Drinking and Driving. Report of the Departmental Committee*. London, HMSO, 1976. (Blennerhassett Report.)

⁵ Havard, J D J, *British Medical Journal*, 1978, **1**, 1595.

⁶ Allsop, R E, *Alcohol and Road Accidents: A Discussion of the Grand Rapids Study*, Report No 6, Harmondsworth, Road Research Laboratory, 1966.

⁷ Commission of the European Communities, *Statistical Yearbook: Transport, Communications, Tourism 1975*. Luxemburg, Commission of the European Communities, 1977.

⁸ Sandels, S, *Why are Children Injured in Traffic?* Skandia Report II. Stockholm, Skandia Insurance Company Ltd, 1974.

⁹ SWOV, *Ten Years Road Safety in the Netherlands*, p 55. Voorburg, SWOV (Institute for Road Safety Research), 1978.

¹⁰ World Health Organisation, Regional Office for Europe, Summary Report of *Ad Hoc* Technical Group on Road Traffic Accident Statistics, Prague, 1978.

¹¹ *British Medical Journal*, 1976, **2**, 1000.

¹² World Health Organisation, *The Epidemiology of Road Accidents*. WHO Regional Publications, European Series No 2. Copenhagen, WHO, 1976.

¹³ Sabey, B E, paper presented to traffic safety research seminar organised by the Road Traffic Safety Research Council of New Zealand, Wellington, 1976.

Emotion and empiricism

In a recent issue of *Biomedicine* F E Jones¹ pointed out that, though the initial use of combination chemotherapy in Hodgkin's disease showed a regression rate of 80% (as compared with previous results of 10% or 20% at the most), a clinical trial was still mounted with the known relatively ineffective nitrogen mustard as the control limb.² Some patients in that control group must have died, and Jones suggested that such a trial was scientifically unnecessary as well as being unethical. In similar circumstances, how would we (or one of our relatives) like to be randomised into an arm

of a trial with such strong a priori evidence that it was ineffective?

The answer is simple: we should not. The statistician may reply, however, that this is an emotional response. His concern is with populations and in the long run, he may argue, more patients will survive if studies are designed that can be interpreted scientifically. Little as we may like it we are very much embroiled in the dilemma between the Benthamite philosophy of the greatest happiness of the greatest number and the Hippocratic view that everything should be arranged for the best for each individual.

How, then, can we resolve this dilemma? Neither on the one hand by a slavish adherence to the prospective randomised clinical trial (which has been described as a modern religion by some³ and an *idée fixe* by others⁴), nor on the other hand by abandoning scientific ideas in favour of opinions and impressions hazily recalled. The Medical Research Council takes the view, shared by many, that it is ethical to use the previously best available treatment as the control for anything new. This bootstrapping idea is certainly difficult to counter; yet the clinician faced with the decision whether or not to treat an individual patient (who, as Jones points out, has put a complete trust in his professional judgment) finds it less easy to say, "Randomise and let the individual go hang."

One way out of this dilemma would be to devise techniques for logical evaluation in other ways. It is fair to say that the greater part of our present behaviour is dictated by knowledge of the past—indeed, a radical might say that the prospective trial is an antihistorical device that cuts across all the received wisdom of human experience. It may be none the worse for that; but too drastic a rejection of the historical model would be mistaken. Maybe the historical approach cannot match the rigour of the prospective investigation—but it may also be a better balance between humanism and science.

The cautious use of historical controls may, then, be justified—provided that the best inferences are made from the data. Standardisation of the population can carry forward from past to present to future, and though bias can be introduced by the effects of observers or treaters we would do well not to overestimate this effect. Bias can be observed and estimated rather than submerged by randomisation. In clinical practice it may well be that the doctor who has to treat the next patient in ward or outpatients will prefer to heed the result derived from a biased but directed experience, which he feels he can relate to his own ideas, rather than that from a randomised trial in which his own professional "touch" has been submerged.

Perhaps the most important thing for us to realise is that, after countless years of empiricism, the controlled trial has emerged as a sharp tool for dissection of certain problems—but exactly which these are still remains to be determined. Some guidelines are visible: when there is no rational or a priori basis for preferring one treatment to another the prospective randomised controlled trial is wholly appropriate. By the same token, when a very radical and controversial suggestion is made for an advance in a topic where results are poor, comparison may best be achieved by a prospective trial, perhaps in a sequential format. There is less ground for such a trial when there is a clearly seen mechanism by which treatment can be improved. A historical approach may then be the most appropriate. Rules for its application have been extensively documented.⁵

Long ago William James wrote that "Neither the whole of truth nor the whole of good is revealed to any single observer although each . . . gains a partial superiority of insight from