

known for decades that self reported belt use is not valid, particularly so in the Centers for Disease Control's data.<sup>9</sup> And the non-occupants in the study included motorcyclists, almost half of whose deaths do not involve collisions with other vehicles.

Even more compelling than disaggregated crash data are observations of the driving behaviours of users and non-users of safety belts before and after laws on wearing safety belts were introduced. In Newfoundland, for example, there was no adverse change before and after the law was enforced in four important risk related driving behaviours—speed, stops at intersections during the amber phase of traffic lights, turning left in front of oncoming traffic, and the following distance from the vehicle in front. Observed belt use increased from 16% to 77%. The only changed outcome was slower speeds on freeways. In Nova Scotia, which lacked a seat belt law and acted as a control province, there were no changes in the same behaviours, again contrary to risk homeostasis.<sup>10</sup>

Another test of the hypothesis that increased protection is offset by riskier behaviour was provided by the introduction of air bags. If drivers of cars equipped with air bags wished to keep their risk constant they would have to reduce their use of seat belts, but they did not. Observed belt use in cars with air bags remained the same as in those without.<sup>11</sup> It is noteworthy that the main proponent of risk homeostasis uses a single study of the introduction of air bags to support the hypothesis, whereas critics cite six others that reach a contrary conclusion.<sup>4</sup>

The most compelling argument against risk homeostasis is the observation that occupant death rates in passenger cars per distance travelled fell by nearly two thirds in the United States from 1964 to 1990. A comprehensive study of the effect of vehicle

modifications, laws on use of seat belts, and reductions in drunk-driving indicates that about 90% of this reduction was due to vehicle modifications. Moreover, there is no association of these reductions with any increases in fatalities to occupants of cars in collision with the safer vehicles or any other road users struck by them.<sup>12</sup>

## Conclusion

Road builders, vehicle manufacturers, and policy makers can be assured that they can improve road safety standards without having them offset by drivers attempting to adjust their alleged risk thermostats.—Leon S Robertson, I Barry Pless

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- 1 Robertson LS. *Injuries: causes, control strategies and public policy*. Lexington, MA: DC Heath, 1983.
- 2 Lave LB, Weber WW. A cost-benefit analysis of auto-safety features. *Appl Economics* 1970;4:265-75.
- 3 Adams CF. *Notes on railroad accidents*. New York, GP Putnam's Sons, 1879.
- 4 O'Neill B, Williams A. Risk homeostasis: a rebuttal. *Injury Prev* 1998;4:92-3.
- 5 Peltzman S. The effect of automobile safety regulation. *J Political Economy* 1975;83:677-726.
- 6 Robertson LS. A critical analysis of Peltzman's "The effect of automobile safety regulation." *J Econ Issues* 1977;11:587-600.
- 7 Robertson LS. Automobile safety regulations and death reductions in the United States. *Am J Public Health* 1981;71:818-22.
- 8 Garbacz C. Estimating seat belt effectiveness with seat-belt usage data from the Centers for Disease Control. *Econ Lett* 1990;34:83.
- 9 Robertson LS. The validity of self-reported behavioral risk factors. *J Trauma* 1992;32:58-9.
- 10 Lund AK, Zador P. Mandatory belt use and driver risk taking. *Risk Analysis* 1984;4:41-53.
- 11 Williams AF, Wells JAK, Lund AK. Seat belt use in cars with air bags. *Am J Public Health* 1990;80:1514-6.
- 12 Robertson LS. *Injury epidemiology: methods and approaches*. New York: Oxford University Press, 1998.

### A memorable trainer

#### Dr John Annear

Dr Annear was a sage-like, enigmatic, paternalistic, "old school" eccentric whose outpatients clinics stretched into the very late evening. Patients would wait to see him for their appointments, often bringing soup or tea and bedding down until it was their turn. This was not some outback post in the Third World, this was inner city London. Although, the length of outpatients clinics and the fluidity in boundaries were frustrating at times, they were a place of great learning, not in the formal sense but in the artistic practice of medicine. I learnt to listen. The patient's narrative was paramount, and, by example, I too learnt to listen actively. Patients commented after ward rounds that they felt somebody had heard and respected their account.

Formal supervision took place while on home visits in a clapped out old camper van, which often broke down and was full of old papers and rubbish. A huge bag of Mars bars and full bodied Coke was stashed behind the passenger seat. This was the staple diet of many a trainee, fearful as the camper van sped along a busy main road at full throttle at 20 mph. I was inspired to read and take on new ideas. My trainer had been through several major changes in the NHS and mental health services. Ideas came and went, but he

was still able to explore and encourage trainees to read and learn. This infamous van was a place where essentialist and social constructionist accounts of mental illness and the human condition were explored. One session centred on a critique of second wave feminism stimulated by a particular clinical problem. It was an unorthodox yet inspirational introduction to psychiatry.

This six month placement was often frustrating, often surreal, but remains a treasured memory.

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We welcome articles up to 600 words on topics such as *A memorable patient*, *A paper that changed my practice*, *My most unfortunate mistake*, or any other piece conveying instruction, pathos, or humour. If possible the article should be supplied on a disk. Permission is needed from the patient or a relative if an identifiable patient is referred to. We also welcome contributions for "Endpieces," consisting of quotations of up to 80 words (but most are considerably shorter) from any source, ancient or modern, which have appealed to the reader.