Caned boys were considerably heavier smokers than uncaned boys. 26 per cent. of the boys studied had been classified as delinquent in police records by a date at which their mean age was 15 years 4 months. Delinquent boys were significantly heavier smokers than non-delinquents, but the difference was not as marked as that between caned and uncaned boys.

There was an apparent decline in smoking over a year. This may be due to errors of recall but is more likely to be real; if so it may be the effect of cancer propaganda. There was no significant association between delinquency and being caned for smoking.

I wish to thank Prof. A. L. Cochrane for suggesting and encouraging this study, and the Chief Constable, the Local Education Authority, and the Headmaster and staff of the school for their kind co-operation and help.

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Commentary: Punishment and Palmer

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Archie Cochrane used to say that randomization should become a way of life and every decision between alternatives should be tested. He was therefore delighted when I told him that I was buying tropical fish for my seven-year old son and had decided to have two tanks with identical stock, but one would contain hard water and the other soft water. Mortality was to be the outcome variable. A few months later, Archie asked about the fish and he became very excited when I told him that the population in the soft-water tank was rising steadily, whereas there was no increase in the hard-water tank. He wondered if hard water might be contraceptive, and if it were, he claimed that such a finding would be of even greater and more lasting importance than a mere reduction of mortality. The hypothesis was slain, however, when my seven-year old reported that there was a cannibal fish in the hard-water tank.

But Archie was serious about promoting the concept of randomization. Every year he went skiing with a small select party of friends and this included two high court judges. On his return each year, Archie would lament that the judges would have nothing to do with randomizing punishments, or testing any part of the justice system—totally unethical, they claimed!

Archie, however, had already appointed a bright young sociologist to his MRC Unit, and together they had conducted in a school an observational study of punishment (caning or a reprimand) for smoking (, the measure of success being no re-offence. They judged that there was no convincing evidence of benefit, so they set up an intervention trial, with the two punishments allotted at random to boys who offended by being late for school.

The paper John Palmer wrote on the trial was brilliant. The trial had been small and not surprisingly the results were inconclusive, but it showed that a randomized trial of different punishments was acceptable, and could be done, and the commentary Palmer wrote around the results of the trial was most thoughtful and stimulating. Sadly however, Palmer left the MRC Unit soon after this and Archie lamented the end of this area of work.

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Cochrane’s Unit was privileged, however, to be asked to evaluate several government policies, and these requests (together with funding) led to successful randomized trials but to no effect upon policy. Since the early years of World War II, iron had been added to all white flour in the UK. Archie’s Unit conducted a series of studies culminating in a 2-year randomized trial in which the homes of 300 anaemic women were supplied with their daily bread. The trial demonstrated that the form of iron used by the flour milling industry was almost totally biologically unavailable, and even a soluble iron salt was very poorly absorbed from bread made from flour enriched with iron.3 Later, following the withdrawal of welfare milk, the Unit was asked by the Chief Medical Officer (CMO) (Nutrition) in the Ministry of Health (MOH) to evaluate milk in the growth of infants and young children. Two randomized trials were conducted,4,5 but it was requested that in any published report there would be no attribution of funding to the Ministry. The MOH explained that he would not want his Minister to have to admit that there was doubt about the wisdom of her policy on welfare milk, and her uncertainty must not be exposed in the House. These randomized controlled trials (RCTs) were each successfully completed, but iron is still added to white flour and welfare milk has never been restored.

Of course times have changed and the balance between rights and responsibilities has shifted. The randomization of punishments would now be very difficult indeed, whether in law courts or even in schools. A fundamental condition would have to be that randomization should not compromise justice, and therefore informed consent would raise difficulties, as would the right of appeal. Nevertheless, there are issues within the prison service which could be evaluated in RCTs. Facilities for the education of offenders, for their training, their employment and their care after discharge, could all be developed and evaluated within a programme of randomized trials. The outcome variable could of course be re-offence, but other more positive and encouraging outcomes should be considered, such as a stable home life and useful employment after release. Alternatively, the stepwise introduction of new measures within a randomized timetable would enable enhanced ‘before and after’ comparisons. An example of this last has been described in ‘Parable of two agencies, one of which randomises’.6

There are however some straws in the wind, indicating change in the corridors of power. Andrew Leigh, an MP in Australia, has written persuasively on the need for evidence-based policy.7 Leigh claims that randomized trials of policy, including education and welfare, are common in the USA but rare in Australia, and he estimates that perhaps 1% of policies are adequately evidence based. A recent and highly promising development has been the publication by the UK Cabinet Office of Test, Learn, Adapt: Developing Public Policy With Randomised Controlled Trials8 and overarching all these is the Campbell Collaboration,9 an international research network that produces systematic reviews of the effects of social interventions in education, in crime and justice, and in social welfare.

A basic necessity however, before random allocation of a treatment or an intervention of any kind is acceptable, is that those responsible for a measure admit ignorance as to whether or not the measure is flawed or might benefit from change. The admission of ignorance is of course exceedingly difficult for a politician.

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