**Views & Reviews** Personal View

# We should push for evidence based sentencing in criminal justice

BMJ 2011; 342 doi: http://dx.doi.org/10.1136/bmj.d612 (Published 02 February 2011) Cite this as: BMJ 2011;342:d612

**Sheila M Bird, senior scientist, MRC Biostatistics Unit, Cambridge, Ben Goldacre, research fellow, Department of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, John Strang, professor, King's College London and National Addiction Centre, London**

Correspondence to: S M Bird sheila.bird@mrc-bsu.cam.ac.uk

Formal experiments are underused in criminal justice. Disposals matter. Are they effective? And how much do they cost for what they deliver? Good intentions are not evidence of effectiveness.[1] [2] The same standards of evidence[1] [3] [4] [5] [6] [7] [8] [9] should apply for judges prescribing a sentence as for doctors prescribing drugs. Given the benefits of good quality research, and the cost of ignoring it, health scientists should advocate for randomised controlled trials in the criminal justice system and confront common objections.

Offenders are also patients, with problems of infection, mental health, and addictions. In dealing with offender patients, judges deserve the same quality of evidence on "what works" as doctors take for granted. There is no methodological or ethical reason why equivalent standards of efficacy and cost effectiveness should not apply in criminal justice. The barriers are cultural and political. Biomedical scientists should raise awareness about the need for formal experiments in sentencing and support their implementation. We should complain about sentencing that is untrialled and not based on evidence, just as we criticise homoeopathic medicine for its lack of an evidence base.

Randomisation for fair comparison was introduced into biological experiments by Ronald Fisher in 1926 and into medicine by Austin Bradford Hill in 1947. Randomised trials in criminal justice date back half a century[3] but today exert little influence,[3] [4] [5] [10] [11] yet the need for robust evidence in criminal justice is widely recognised.[12]

As in medicine, interventions in criminal justice (sentencing and case management) aim to reduce harms through minimising reoffending, saving money, or saving lives. When resources are used wastefully[4] or wrong decisions are made, people suffer, as in medicine. Offenders are harmed through their own actions[13] [14] [15] [16] or through the criminal justice system.[16] [17] Offenders are expensive to incarcerate and expensive to rehabilitate, and, when they reoffend, society bears the cost.

The most commonly raised objections to use of randomised controlled trials in criminal justice concern ethics and practicality. However, trials of biomedical interventions within criminal justice show that barriers to research can be overcome. For example, young offenders in Scotland are participating in a

placebo controlled trial of 1000 volunteers to determine whether daily vitamins reduce disruptive behaviour by a quarter.[18] Internationally, randomised controlled trials on restorative justice[6] are setting a new standard that special drugs courts (in which judges not only sentence drug using offenders but regularly review their progress) have sidestepped.[5]

Commonly posited objections to randomisation at the time of sentencing can be countered.[4] Ethics approval is needed for randomisation and follow-up (to find out about reconvictions and mortality) but is a wise investment of time if the alternative is that benefits and harms remain unknown. Pilot studies to establish whether an intervention is logistically feasible are not sufficient to determine effectiveness, a different question. The widespread belief that only judges can tailor sentence to offenders is a tenet that can itself be tested by randomisation.[4]

Major policy questions, pertinent for any jurisdiction, require major science, often needing randomised controlled trial design to assure like with like comparison and that sufficient numbers are randomised to estimate effectiveness precisely. Three examples follow.

**Early release from incarceration for prisoners assessed as being at low risk of reoffending**—This policy aimed to balance the risk of serious reoffending against the benefit of reduced costs. Its effect could easily have been quantified, and bad press avoided, through random assignment of potentially eligible inmates to either “conventional release” or “intention to manage by early release” (in England, assessment for home detention curfew).

**Court monitored treatment for a health problem such as drug dependency**[3 4 5]—Judges lack high quality randomised evidence on the effect of court monitored treatment versus conventional sentences for offenders who depend on drugs (evidence includes numbers of deaths from overdose, costs, and reoffending rates).

**How changing mandatory powers**[17] **affects decisions**—In England, the scope of mandatory testing by police for opioid or cocaine use was widened to include those arrested, but not charged, for a trigger offence (mainly acquisitive crimes or drug supply). The sooner that testing is done, the more likely that drug residues are detectable. Had those tested at arrest been initially randomised (disclosure versus non-disclosure to police of test result), the public would know how disclosure influenced the police’s decision to charge and judges’ subsequent sentencing.

Ethics and practicality are the commonly cited barriers to randomisation, but evidence based practice in criminal justice has been held back mainly by cultural and political barriers and by deficits in training and knowledge.

The battle for good science in criminal justice is still to be won—and doctors can help. Doctors are familiar with the concept of an experimental evidence base. Their treatment failures are not hidden from view—they return as outpatients, are readmitted to hospital, and, sometimes, are looked after until death. For judges, castigating feedback is lacking—reoffenders appear before different courts.[5] Even mortality data on offenders are unavailable. Both failure and success go largely unseen and, crucially, unmeasured.

Progress in medicine has been hard won. The battle for experimentation was won through education and evangelism. Both Iain Chalmers and Archie Cochrane, two of the pioneers of evidence based medicine, describe past confrontations with senior doctors for whom “empirical evidence” was an

intolerable challenge to expertise.[19] Doctors are thus well placed to work alongside judges to explain why medicines need rigorous testing before they are licensed and that cost effectiveness needs to be appraised to ensure rational prescribing.

If doctors explained the benefits flowing from earlier (and ongoing) randomisation of thousands of patients in multicentre trials, then judges might recognise the value of, and be advocates for, establishing criminal justice trials units[4] to run the experiments that would answer judges' questions on sentencing. Infrastructure is desperately needed to generate high quality evidence to help answer important policy questions that confront judges, police, and politicians.

# Notes

**Cite this as:** *BMJ* 2011;342:d612

# Footnotes


- Funding: SMB is funded by the Medical Research Council (WBS number U.1052.00.002.00001.01). BG holds a Wellcome Trust clinical research training fellowship. These sponsors had no role other than as funder.


- All authors have completed the Unified Competing Interest form at www.icmje.org/coi_disclosure.pdf (available on request from the corresponding author) and declare: no support from any organisation for the submitted work; SMB holds GSK shares and MRC funding as part of the Nationally Integrated Quantitative Understanding of Addiction Harm (NIQUAD) cluster on quantifying drug harms; SMB serves on and was the inaugural chairwoman of the surveys, design, and statistics subcommittee of the Home Office's Scientific Advisory Committee. In December 2008 the subcommittee issued a report, "21st Century Drugs and Statistical Science in UK." SMB and JS have research or clinical interests in the epidemiology of drugs related deaths and their prevention. All authors have research interests in best quality evidence on benefits and harms.

# References


1. Fitzgibbon C. The need for randomised trials in social research. *Journal of the Royal Statistical Society, Series A (Statistics in Society)* 2004;**167**:1-4.
2. Henderson M, Wight D, Raab GM, Abraham C, Parkes A, Scott S, et al. Impact of a theoretically based sex education programme (SHARE) delivered by teachers on NHS registered conceptions and terminations: final results of cluster randomised trial. *BMJ* 2006;**334**:133-5.
3. Farrington DP, Welsh BC. A half century of randomized experiments on crime and justice. *Crime Justice* 2006;**34**:55-132.
4. Bird SM. Prescribing sentence: time for evidence-based justice. *Lancet* 2004;**364**:1457-9.
5. Bird SM, Merrall ELC. Serial offending: evaluation of drugs courts. *Lancet* 2009;**373**:1231-3.
6. Shapland J, Atkinson A, Atkinson H, Dignan J, Edwards L, Hibbert J, et al. Does restorative justice affect reconviction? The fourth report from the evaluation of three schemes. Ministry of Justice research series 10/08, June 2008.
7. Fienberg SE, Stern PC. In search of the magic lasso: the truth about the polygraph. *Statistical Science* 2005;**20**:249-60.

8. FienbergS, Larntz K, Reiss AJ Jr. Redesigning the KansasCity preventive patrol experiment. *Evaluation* 1976;**3**:124-31.
9. McDougall C, Clarbour J, Perry AE, Bowles R. Evaluation of HM Prison Service enhanced thinking skills programme. Report on the implementation of a randomised controlled trial. Ministry of Justice research series 4/09, March 2009.
10. Howells C, Allen S, Gupta J, Stillwell G, Marsden J, Farrell M. Prison based detoxification for opioid dependence: a randomised double blind controlled trial of lofexidine and methadone. *Drug Alcohol Depend* 2002;**67**:169-76.
11. Dolan KA, Shearer J, MacDonald M, Mattick RP, Hall W, Wodak AD. A randomised controlled trial of methadone maintenance treatment versus wait list control in an Australian prison system. *Drug Alcohol Depend* 2003;**72**:59-65.
12. Committee on Data and Research for Policy on Illegal Drugs. Informing America's policy on illegal drugs: what we don't know keeps hurting us. National Academy Press, 2001.
13. McDonaldSA, HutchinsonSJ, Bird SM, MillsPR, Dillon J, Bloor M, et al. A population-based record linkage study of mortality in hepatitis C diagnosed persons with and without HIV co-infection in Scotland. *Stat Methods Med Res* 2009;**18**:271-83.
14. Kariminia A, Law MG, Butler TG, Levy MH, Corben SP, Kaldor JM, et al. Suicide risk among recently released prisoners in New South Wales, Australia. *Med J Aust* 2007;187;387-90.
15. Merrall ELC, KariminiaA, BinswangerIA, Hobbs M, Farrell MC, MarsdenJ, et al. Meta-analysis of drug-related deaths soon after release from prison. *Addiction* 2010;**105**:1545-54.
16. Bird SM. Fatal accident inquiries into 97 deaths in prison custody in Scotland (1999-2003, or during first five years of operation of Scotland's only private prison): elapsed time to end of inquiry or written determination, issues and recommendations. *Howard Journal for Criminal Justice* 2008;**47**:343-70.
17. Bird AG, Gore SM, Hutchinson SJ, Lewis SC, Cameron S, Burns S. Harm reduction measures and injecting inside prison versus mandatory drugs testing: results of a cross sectional anonymous questionnaire survey. *BMJ* 1997;**315**:21-4.
18. Bohannon J. The theory? Diet causes violence. The lab? Prison. *Science* 2009;**325**:1614-16.
19. Maynard A, Chalmers I. Non-random reflections on health services research. Wiley-Blackwell, 1997.