issue 2 December 1999

DRUG & ALCOHOL FINDINGS

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practice
to research
research
to practice

what works
what doesn't
what could be
done better

DRUG & ALCOHOL FINDINGS

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- Mike Ashton

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'Brilliant' 'Essential' 'Superb'

I was impressed ... it has the potential to be an extremely useful tool for helping to build the evidence base for effective treatment.
Keith Hellawell
UK Anti-Drugs Co-ordinator

Just what I was looking for. Short, sweet, to the point.
Don Lavoie
Substance Misuse Advisory Service

I am immensely impressed by its professionalism. It is both stylish and authoritative.
Professor Griffith Edwards
Editor, *Addiction*

As an aid to promoting cost effective interventions, it is essential reading.
John Dixon
Drug and alcohol group, Association of Directors of Social Services; Director of Social Services, West Sussex

Primary care groups must use resources effectively. FINDINGS *will ensure that the latest information informs decision making.*
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Substance misuse represents a major criminogenic factor for probation services. FINDINGS *provides a user-friendly answer to the deluge of paperwork.*
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Merseyside Probation Service

Brilliant!
Lorraine Hewitt
Member of the Advisory Council on the Misuse of Drugs; Stockwell Project, London

Weighty papers, huge studies and complex themes are beautifully distilled.
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Just the sort of thing our treatment centres need to help them improve their services.
Simon Shepherd
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A creative and clinically meaningful way to communicate Project MATCH's implications ... insightful ... excellent.
Thomas Babor
Principal Investigator, Project MATCH

Superb – people who can't digest all the literature can still feel up to date with the most relevant information.
Barbara Elliott
Formerly Director of Accept alcohol services in London

Very impressed – jam-packed with what looks like useful and interesting information.
Kristina Bird
National HIV Prevention Information Service, HEA

It really bridges the gap between research and practice; excellent, authoritative and succinct.
Andrew Bennett
HIT, Liverpool

A way for the 'drug worker in a hurry' to keep informed about the latest developments ... invaluable.
Neil Hunt
Invicta Community Care NHS Trust, Kent

My top tips for FINDINGS*? Keep up the standard of the first issue.*
David Flett
Rankeillor Project, Edinburgh

It's just what we need in the field. Nuggets *is going to be so useful! Superb!*
Ollie Batchelor
Training, Advice, Help and Research in Addictions (TAHRA), Gateshead

An excellent first issue ... user-friendly and accessible.
Phil Willan
Drugs Prevention Advisory Service for Yorkshire and The Humber

A tremendous help to those of us who can be described as 'overworked, underpaid and overmonitored'.
Nick Tegerdine
Alcohol Problems Advisory Service, Nottingham

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EDITORIAL

Welcome to issue 2 of FINDINGS – and thanks to all who completed readership surveys and sent comments to let us know how we can build on the success of issue 1. The project's bottom line is action to improve interventions, so we were particularly pleased that as a result of issue 1 over half the survey respondents were considering practice changes. As expected, it was the *Nuggets* section – the heart of the magazine – which attracted the most enthusiastic plaudits. In this issue that section gains a page and we have listened to your suggestions on layout by relaxing the design, while giving you more of everything by increasing the number of pages by 14%. Let us know what you think of this issue, but don't just tell us – tell your colleagues and contacts: the more people who read FINDINGS, the better Britain will respond to alcohol and drug use.

Objectives To improve Britain's response to drug and alcohol problems by disseminating practice-relevant evaluation findings on the effectiveness of interventions including prevention, community safety and treatment.

Readers Workers involved in a specialist or non-specialist role in interventions addressing drug or alcohol problems in the United Kingdom, including drug and alcohol service practitioners, planners, managers, and commissioners, those whose responsibilities include these functions, and researchers working in these fields.

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Pressure *pays*

As the UK opens up new ways to coerce drug-related offenders into treatment, a distinguished expert asks whether the evidence shows this can work, and what it would take to make it work here.

by **Philip Bean**

Professor Bean is Director of the Midlands Centre for Criminology and Criminal Justice at Loughborough University. On behalf of the Home Office the author recently researched US drug courts and the effectiveness of sentencing drug users

The many varieties of enforced treatment lie within the broader range of activities designed to increase the likelihood that drug abusers will enter and remain in treatment, change their behaviour in socially desirable ways, and sustain that change.[1] Closer definition is problematic because what most people see as 'enforced' treatment – treatment under pressure from the criminal justice system – is just one of a range of degrees and types of pressure, which also include unofficial sanctions.

Within the subset of treatment routes which *do* involve the criminal justice system, two major types can be distinguished.

Civil commitment is justified on public health grounds and the person involved has not necessarily committed an offence. For example, commitment may be imposed on addicted mothers-to-be in an attempt to secure their health and that of the unborn child. Or the justification may be that subsequent health care will be more effective if the addiction is treated or that health care costs will be reduced. Spread of HIV among drug injectors and to their sexual partners and children has given impetus to this type of programme.

Judicial commitment to treatment occurs consequent on arrest or conviction for an offence (not necessarily a drug offence). The main objective is usually to combat criminality. Commitment may be imposed by a court as an explicit condition of the sentence or so strongly recommended as to be tantamount to a court order. Sometimes it takes the form of compulsory follow up or aftercare programmes. While some arrest referral schemes[2] impose pressures which amount to diversion, the focus here is on processes which involve the courts. Imprisonment for the offence in question and treatment undertaken in prison are not included.

Civil commitment

Compulsory civil commitment has been used extensively in many countries. It may or may not involve a separate adjudication process, and may be ordered by the courts, by a specially created government agency, or by a medical agency. Comparison between different programmes is hindered by the fact that the criteria used to assess them vary according to the committing authority. When this is a court, the main criterion may be reducing community disruption; when a medical authority, health gains, especially in terms of AIDS prevention or treatment.

Judicial control is essential if change is to occur among drug users as a whole, not just the minority who seek treatment.

Civil commitment has invariably been justified by appeal to a threat to society's health so great that it warrants quarantine-like social control strategies.[3] A secondary justification has been that substance abuse has jeopardised social order and economic progress. In constructing these justifications, governments typically take a series of steps.[4] First the problem is isolated as an issue separate from others; then it is magnified with media assistance. The authorities may even need to *create* the problem. Resistance is minimised if the programme can be projected as a humane and necessary response decidedly in the public interest. Such claims have to be offset against the infringement of civil liberties inherent in civil commitment, the price paid for the control gained by compulsion.

In the 1980s a survey of 43 countries for the World Health Organisation (WHO) found that 27 had compulsory civil commitment programmes for substance abuse.[5] These varied in terms of the procedures used, treatment methods, and lengths of stay. Effectiveness was difficult to determine. The WHO report recommended standardised procedures and called for the universal implementation of four safeguards for patients:

- patients should be released as soon as possible after detoxification;
- civil commitment should be introduced *only* if adequate treatment facilities are available;
- the status of people committed to the programmes should be subject to periodic review;
- during commitment the addict should receive the benefit of the country's normal legal rights and procedures such as the requirement for a certain level of proof, legal representation, ability to cross-examine witnesses, etc.

In the absence of a follow up study, it is difficult to say whether these recommendations have been internationally accepted.

The American experience

Much of what we know about compulsory civil commitment derives from the extensive US programmes. It was proposed there in 1914 after the passage of the first major drug control statute, the Harrison Act. Soon 'narcotic addicts' found themselves dispatched to 'narcotic farms' and from the 1930s to hospitals such as the one in Lexington Kentucky.[6] Coercion was through the civil law – a departure from the more traditional criminal justice commitment procedures and one whose constitutional propriety is still debated.[7,8]

One authority sees US programmes as based on the belief that most drug abusers are not motivated to enter treatment, so a mechanism is needed to pressure the reticent majority. Its description as 'rational authority' was a euphemism for providing mandatory control whilst appearing not to be punitive.[9]

Civil commitment was revived in the

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Golden Bullets

Essential practice points from this article

- Treatment under pressure from the criminal justice system is just one of a range of degrees and types of pressure which encourage problem drug users to seek or accept treatment.
- Civil commitment is a public health measure and the person involved has not necessarily committed an offence. Judicial commitment is a crime-reduction measure and occurs after arrest or conviction.
- How an addict is exposed to treatment seems irrelevant. What's important is that they are brought into an environment where intervention occurs; the more routes into this environment the better.
- More treatment time leads to better outcomes; coercion can improve retention.
- Treatment programmes for legally coerced clients should be lengthy, provide a high level of structure, be flexible yet firm, and undergo regular evaluation.
- Widespread implementation of judicial commitment in the UK will require major changes which overcome the view that treatment should be 'voluntary' and that clients should be free from the threat of criminal justice sanctions if they fail.
- Before implementing such a policy drug abusers should first be given greater incentive to enter treatment voluntarily, and much more pilot research is required.

1960s. One of the most comprehensive programmes was introduced in California in 1962, permitting addicts to be committed for up to seven years without first being convicted of a criminal offence. New York and other legislatures followed suit.

The British way

Many European countries have laws enabling civil commitment[10] but several implement these infrequently or inconsistently.[11] Britain has no provisions for civil commitment. In the 1960s the government committee reviewing drug policy rejected compulsory treatment entry,[12] but did call for treatment centres to be able to detain voluntary patients whose resolve wavered in the face of a withdrawal crisis,[13] a recommendation never implemented.

In the 1970s a review of the Mental Health Act noted that current expert opinion was incompatible with classing drug dependence and drinking problems as mental disorders: "These conditions are increasingly seen as social and behavioural problems manifested in varying degrees of habit and dependency".[14] In line with this thinking, the 1983 Mental Health Act expressly excluded drug addiction as a category of mental disorder, though disorders resulting from drug abuse could warrant compulsion.

Foreshadowing today's interest in 'dual diagnosis', the Mental Health Act review recognised that "alcohol or drug dependency can be associated with certain forms of mental disorder". Increasing awareness of this conjunction[15] may have the unintended consequence of blurring the distinction between substance abuse and mental disorder. As a result, many substance abusers could find themselves in (potentially compulsory) psychiatric treatment because their drug problem is misdiagnosed as a mental disorder or because it has led to one.

Retention is the key to effectiveness

Few civil commitment programmes have been evaluated. In this respect it seems not much has changed since the 1980s when the WHO survey found that most countries were unable to report drug use outcomes and, while most could document admissions or periods of retention, often the data was poorly produced and anecdotal.[16] Claims of spectacular successes generally have to be seen as political statements aimed at producing the appropriate image. For example, drug abuse was said to have been virtually eradicated in the Soviet Union after the communist revolution, whilst compulsory civil commitment was said to have been effective in Poland in the 1970s. Little data was presented to support these claims. However, countries such as Singapore have produced data showing that compulsory civil commitment has helped at least to halt if not reverse growth of a heroin epidemic in the 1980s (a more credible claim), though even then a hard core remained impervious to treatment.

Few American civil commitment programmes have been evaluated, whilst assessments of others are based on little more than clinical intuition and hunches.[17] More substantial was the evaluation of California's programme which concluded that civil commitment was an effective way to reduce narcotic addiction and minimise its adverse social consequences,[18] in contrast to the verdict on New York's programme, seen as an abject failure.[19, 20] It wasn't that the programme was misconceived, more that it was underfunded, had poor treatment facilities, appointed untrained staff, had a poorly developed aftercare element, and lost public support leading to a wave of bad publicity.

The evaluator in California was Douglas Anglin, an influential US expert. He argued that *how* an individual is exposed to treatment is irrelevant. The important thing is that the addict is brought into an environment where intervention occurs; the more routes into this environment the better. Similarly, more time in treatment leads to better outcomes – and retention aided by coercion is still retention. Anglin saw civil commitment as a proven strategy for treating people who would not voluntarily enter treatment. Such measures could, he judged, produce significant individual and social benefits.

Yet he cautioned that while this conclusion is amply supported by research, it should not necessarily lead to immediate implementation of civil commitment. First drug abusers should be given greater incentive to enter treatment voluntarily. Unless accompanied by funding to expand treatment capacity, widespread coercion would also exacerbate treatment shortages and divert capacity currently available for voluntary referrals. Commitment is useful for bringing users into treatment, but it is not treatment, and cannot take its place.[21]

Judicial commitment

In principle the distinction between civil and judicial commitment is clear: the former is primarily a public health measure unrelated to offending, the latter a crime-reduction measure. In practice the programmes can merge. For example, US parole officers were authorised to refer relapsed cases into available treatment slots as an alternative to parole violation, while New York purchased facilities for its civil commitment patients from the state's Department of Corrections – "an environment not conducive to therapeutic treatment".[22] In Britain more or less the reverse occurs when schemes such as arrest referral divert offenders from the criminal justice system into a civil treatment programme.

Enforced but not involuntary

Particularly with respect to judicial commitment, voluntary and involuntary treatment are not as sharply distinguished as that simple opposition suggests:

- Civil commitment *does* directly force addicts into treatment, but during judicial commitment offenders often have a *choice* – whether to face penal sanctions or comply with treatment requirements.
- Some offenders ordered into treatment may have agreed to seek help anyway, irrespective of the court's ruling.
- Pressure from sources such as friends or family can be at least as persuasive as threats from the criminal justice system.[23, 24]

'Voluntary' patients have been found to perceive nearly the same power gap between themselves and their clinicians as do criminal justice referrals: in both cases, failure to comply with treatment may result in severe sanctions.[25]

Criminal justice authorities also exercise different degrees of coercion by threatening consequences of varying severity,[26] affecting the extent to which the offender actually experiences *legal pressure* – that is, discomfort over the potential consequences of non-compliance.[27] The treatment programme may itself affect the degree of coercion. For example, in some US probation-led programmes communication between treatment and criminal justice agencies was so poor that it impeded the ability to enact immediate sanctions for non-compliance.[28] Other programmes adjust the level of coercion as treatment progresses.

Seeing voluntary and compulsory referral as opposite ends of a continuum is not only a misunderstanding of what actually happens, but also risks stereotyping the patients by underestimating the voluntary features of some coerced clients, and the coerced features of some voluntary clients. In practice, substance abusers enter treatment at a point on a continuum of coercion, the position of which does not necessarily depend on the referral route.[29]

Referral route is not crucial

Given the overlaps in the degrees and types of coercion experienced by criminal justice and non-criminal justice clients, it is no surprise that this difference in referral route is not a key factor in the treatment process. Treatment needs seem similar in both populations, though motivation to enter treatment is usually lower among criminal justice referrals, a factor which may need to be addressed by treatment providers.[30] However, in relation to outcomes, initial motivation seems less important than retention in treatment.[31]

Anglin's judgement on this issue applies both to civil and judicial commitment: "How an individual is exposed to treatment seems irrelevant. What is important is that the narcotics addict must be brought into an environment where intervention can occur over time."[32] One of the latest assessments of the evidence reaches the same verdict: "Length of exposure to treatment ... powerfully predicts [success] no matter what the treatment setting". This extensive but as yet unpublished review found that beyond a 90-day threshold, treatment outcomes improved in direct relation to time in treatment – and that coerced patients stayed longer.[33] Such findings underpin claims that the post-arrest period provides a valuable opening for interventions aimed at breaking the drugs-crime cycle.[34]

For more information

Leukefeld C.G., Tims F.M., *eds. Compulsory treatment of drug abuse: research and clinical practice.* NIDA Research Monograph 86. US Department of Health and Human Sciences, 1988. Still a key source. Consult in ISDD (0171 928 1211) or apply for copies to: National Clearinghouse for Alcohol and Drug Information, P.O. Box 2345, Rockville MD 20847-2345, USA, fax 00 1 301 468 6433, e-mail info@health.org.

Turnbull P.J., Webster R. *Demand reduction activities in the criminal justice system in the European Union. Final report.* Lisbon: European Monitoring Centre For Drugs and Drug Addiction, 1997. See how the UK compares to its EU partners. For copies apply: EMCDDA, Rua Cruz de Santa Apolónia Nº23/25, 1100 Lisbon, Portugal, fax 00 351 21 813 1711, web site http://www.emcdda. org.

Anglin M.D., Prendergast M., Farabee D. *The effectiveness of coerced treatment for drug-abusing offenders.* Paper presented at the Office of National Drug Control Policy's Conference of Scholars and Policy Makers, Washington, D.C., USA, March 1998. Latest assessment of the evidence from perhaps the leading US researcher in this field. Available at http://www.whitehousedrugpolicy.gov/treat/consensus/consensus.html.

Bean P.T. "America's drug courts; a new development in criminal justice." *Criminal Law Review*: 1997, p. 718-721. A UK perspective on the increasingly popular US drug court model. For copies apply ISDD, 0171 928 1211.

Evidence positive but scant

US research is positive about the impact of coerced treatment, concluding that judicial control is essential if change is to occur in the drug using population as a whole, not just among the minority who seek treatment. Weaknesses occur when clients perceive inconsistency in the legal process, do not experience appropriate pressure to maintain compliance, or if treatment programmes fail to adequately implement their philosophy.[35] This suggests it is not so much coercion *into* treatment that 'works', but positive controls once offenders are *in* treatment.

However, almost all the evidence is of US origin. In Britain we simply do not know what impact judicial decisions have on drug use or treatment outcomes. A study dating back over 25 years did compare treatment outcomes among patients convicted of an offence and those who were not, concluding that "court appearances have no observable therapeutic effect on ... drug taking",[36] but the methodology was unsound and the assessments unsatisfactory.

Even if new research is done, extracting clear-cut practice implications will be difficult – the methodological problems are immense. Finding an appropriate sample of drug users is the first problem; selecting just those charged with a drug offence will miss many drug-related offenders. Where a dominant local agency refuses to accept 'coerced' clients, very few referrals from criminal justice sources will end up in treatment. Establishing a causal link between offence, sentence, treatment and outcomes is extremely complex. By the time a substance abuser appears at court for one offence, they may have court appearances lined up for two or three others; and by the time a probation order is made, often they have committed further offences while on remand. And if treatment *is* successful, how will we know whether coerced entry was a key factor or simply incidental?[37]

How to make it work

Even if we accept US evidence that an effective interface between courts and treatment providers is a valuable route into treatment, there remains the issue of how to construct this interface. In recent years the UK's main attempt to formalise court-ordered treatment was the provision in the Criminal Justice Act 1991 enabling courts to impose treatment as part of a sentence. It was rarely used. Home Office probation inspections[38] suggest this was because:

- The Home Office and probation services adopted a neutral stance on this disposal option, declining to issue guidance to sentencers.
- Believing coerced treatment is unlikely to work, probation officers were reluctant to advocate it in pre-sentence reports.
- Sentencers lacked information on the treatments available and how they fit in with harm reduction strategies.
- Within the criminal justice system, treatment providers were (with some justification) seen as unenthusiastic about operating mandatory programmes.[39]
- There were difficulties in persuading local authorities to meet the cost of treatment.

The latest attempt to link courts and treatment is the Drug Treatment and Testing Order. Subject to results from the pilot areas, from year 2000 these will be made available nationally, strengthening the court's power to require an offender to undergo treatment as part of, or in association with, a community sentence. Courts will regularly review offenders' progress and drug testing will be mandatory, a move

towards heightening coercion and extending judicial controls to more drug-related offenders. But perhaps implementation will not be as smooth as was hoped; over roughly the first nine months, courts in the three pilot areas made just 80 orders.[40] Even taking into account start-up delays, uptake so far seems disappointing.

In America the major development has been the spread of 'drug courts' from an experiment in Florida to nearly all US states. Though in Britain often confused with the Drug Treatment and Testing Order, there are important differences: control of the offender remains with the court rather than being given over to agencies such as the probation service; treatment agencies are employed by the court; and the judge has a central role in the treatment programme, for which they have often received special training or gained experience by specialising in drug using offenders.[41]

Those close to the drug court movement see the results (in terms of drug use and recidivism) as highly encouraging[42] but a more dispassionate assessment rates them merely as "promising", any benefits being mainly due to the provision of a legal incentive stay in drug treatment.[43] A more definitive verdict is hampered by the "limited scientific rigour" of the available evaluations.[44]

The conditions for success

The evidence is that legal pressure can play a positive role in reducing drug problems by enhancing treatment retention and compliance.[45] Addicts who choose to enter treatment without legal pressure rarely complete it, 90% dropping out within the first year when relapse is then the rule.[46] The benefits of legal pressure are, however, not universally observed: coercion into treatment does not guarantee success. Anglin and colleagues[47] recommend that treatment programmes for legally coerced clients should:

- be lengthy, since drug dependence is a chronic, recurring condition;
- provide a high level of structure, particularly in the early stages;
- be flexible yet firm to take account of the inevitable relapses;
- undergo regular evaluation to determine their effectiveness and to detect changes in the target population.

Given these conditions, they argue that coercion is justified by its potential to make a cost-effective impact on the social costs linked to offender drug use, and should find a place in national drug strategies.[48] If this US message is taken on board in Britain, it will mean practice changes even wider than those currently being contemplated.

Such changes would have to overcome the prevailing views that treatment entry should be 'voluntary' and that clients who fail or drop out should be free from the threat of criminal justice sanctions, views difficult to change. As things stand, British courts and treatment services seem to talk past each other. Even when 'treatment' is defined widely enough to embrace attending a needle exchange scheme, a prescription for methadone, or a single contact to make a (rarely kept) further appointment, a recent British study found that only 17% of offenders had sought treatment.[49] Effective implementation requires a strong working relationship between the criminal justice and treatment systems,[50] one currently not evident in Britain.

While civil commitment is not on the UK agenda, judicial commitment certainly is. But before we embark on a wholesale shift towards compulsory treatment, much more research is required. Of course we need to introduce and evaluate pilots for new treatment modalities such as drug courts, but we also need some very basic data, such as on the nature of offender populations and on current treatment programmes. Above all, we must to be able to identify the types of offenders who can effectively be treated and how links between criminal justice and treatment services can be structured so the two systems can work together: "Members of both systems need to move away from adversarial stances and towards collaboration to produce the desired behaviour change in drug users."[51]

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31 Lipton D.S. *The effectiveness of treatment for drug abusers under criminal supervision*. US Department of Justice, 1995.

32 Anglin M.D., 1988, op cit.

33 Satel S.L., personal communication, 1999.

34 Hora P.F., Schma W.G., Rosenthal, J.T.A. "Therapeutic jurisprudence and the drug court movement." *Notre Dame Law Review*: 1999, 74(2), p. 439–537. See p. 527.

35 De Leon G., op cit, p. 171.

36 De Alarcon R., Noguera R. "Clinical effects on drug abuse of a conviction for a drug offence." *Lancet*: 1974, p. 147–149.

37 Edmunds M., May T., Hough M., *et al*, op cit.

38 Home Office. *Drug treatment and testing order: background and issues for consultation*. March 1998.

39 Many British drug treatment agencies are uneasy about enforced treatment, arguing that motivation is the critical factor, a view vigorously denied by US research.

40 Lord Williams of Mostyn. "Crime and Disorder Act: orders." *Hansard*: 15 July 1999, WA57–WA58.

41 Bean P.T. *Drug courts and treatment*. Report to the Home Office. Mimeo, 1998.

42 Office of Justice Programs Drug Court Clearinghouse and Technical Assistance Project. *Looking at a decade of drug courts*. American University, 1998.

43 Hora P.F., Schma W.G., Rosenthal, J.T.A., op cit, p.527.

44 Sherman L.W., Gottfredson D., MacKenzie D., *et al*. *Preventing crime: what works, what doesn't, what's promising. A report to the United States Congress*. US National Institute of Justice, 1999.

45 Farabee D., Prendergast M., Anglin M.D., op cit, p. 7.

46 Satel S.L., personal communication, 1999.

47 Anglin M.D., Hser Y., op cit.

48 Anglin M.D., Farabee D., Prendergast M. *The role of coercion in offender drug treatment*. Mimeo, 1998.

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50 De Leon G., op cit, p.171.

51 Anglin M.D., Hser Y., op cit.

Mined, refined, assayed and set in context – nuggets of data with weighty practice implications

Nuggets features recent published and unpublished evaluations of interventions selected for their particular relevance to UK practice. An attempt is made to balance studies relating to alcohol and illegal drugs, and to prevention, community safety, and treatment. Studies are sourced mainly through Britain's national drug and alcohol information services (ISDD and Alcohol Concern) and through our network of 400 research contacts.

Entries are drafted by FINDINGS after consulting related papers and where possible seeking comments from the lead authors and members of FINDINGS' advisory panels or other experts. Supporting references are available on request. FINDINGS remains fully responsible for the published text.

Each entry is structured as follows:

Findings The most practice relevant findings for the UK and the main methodological characteristics of the featured evaluation(s).

In context Brief comments on the featured evaluation's methodology and findings, drawing on other related studies and the UK policy and practice context.

Practice implications The most UK-relevant practice implications of the featured evaluation(s). These suggestions are intended as a valuable input to decisions over policy and practice but are implications rather than guidelines. *They do not constitute a sufficient basis for practice*, which should be more widely based on the available research, experience and expert opinion.

Main sources Bibliographical details of the featured evaluation(s).

Secondary sources Optionally, a selection of documents drawn on in drafting the entry. Full references on request.

Copies of cited documents may be available for a fee from Alcohol Concern (0171 928 7377) or ISDD (0171 928 1211); please check before ordering. Reprints may also be available from the author(s). In case of difficulty contact FINDINGS (0181 888 6277).

Contact Where available, contact details of the lead author(s) of the featured evaluation(s). These may not be current and do not imply that the author has agreed to enter into correspondence over the study.

Links Cross reference to related items in current or past issues of FINDINGS. A *Nugget* entry referred to for example as '**1.2**' is the second entry in FINDINGS issue 1.

2.1 Methadone treatment cost-effective life saver

Findings Three studies have shown that methadone maintenance curbs the elevated death rate associated with opiate dependence.

Study ❶ draws on research (all pre-AIDS) to estimate that such treatment costs £3600 for every year it prolongs the lives of clients. The estimate derives mainly from a Swedish study which compared the fate of opiate addicts in methadone treatment with those eligible but denied it. Other studies and assumptions yield different figures but all well within the USA's £30,500 per year criterion for cost-effective treatment. Many accepted medical interventions are much less cost-effective.

Studies ❷ and ❸ suggest the risk of death is greater among patients who drop out or are discharged for failure to comply with methadone programmes. Study ❷ found that over a year nearly 12% of the 77 patients who had dropped out or been discharged from a US programme died within 12 months; none were back in treatment at the time. Just 1% of retained patients died. Heroin overdose caused 6 of the 9 deaths among leavers but none among those retained in treatment. The authors tentatively suggest that deaths may have been avoided had discharged patients been allowed to remain in treatment. In study ❸ the annual death rate was 1% among patients in treatment at a Swedish programme but 4% among those discharged, compared to 2% among untreated opiate misusers.

In context Several studies have costed the benefits of treatment in terms of reduced crime and health costs. Few have considered the prolonged lives of the clients, though these may be valued more highly by the public than crime reduction. Accounting for prolonged lives could alter the relative cost-effectiveness of different treatments.

LINKS *NTORS* p. 16. *Nuggets* **1.4, 1.5, 2.2**

With numbers too small to statistically test a pre-prepared hypothesis, the authors of studies ❷ and ❸ instead tried to make sense of what they observed. The theory that premature departure was at least a partial cause of elevated death rates is supported by the fact that in study ❸ hospital admissions rose after discharge, but fell when patients resumed methadone after an enforced break. Adverse impacts on health and functioning have also been observed when whole programmes have been closed or curtailed. However, in both studies subjects were not randomly allocated to premature departure but selected or self-selected in 'real world' conditions; they *might* have died even if they had remained in treatment, and clients forced out might later have dropped out.

Practice implications 'Maximising retention saves lives' is the main message of these studies, one taken on board by the clinic in study ❷ which later relaxed its rules. Intrusive requirements such as supervised consumption of methadone and daily clinic visits are unpopular with clients and may lead to higher drop out. Local pharmacy dispensing, allowing drugs to be taken at home, self-regulated dosing, optional counselling, commitment to long-term maintenance and harm reduction, and enhanced services, all improve retention. However, some retention enhancements have costs as well as benefits. Relaxing restrictions intended to stop methadone leaking on to the illicit market may save the lives of some patients who would otherwise have left or been discharged, but may also increase deaths due to leakage. Policies which avoid making demands on patients potentially jeopardise therapeutic progress among more motivated clients and create management difficulties by enabling the less motivated to remain in treatment.

Main sources ❶ Barnett P.G. "The cost–effectiveness of methadone maintenance as a health care intervention." *Addiction*: 1999, 94(4), p. 479–488 ❷ Zanis D.A., *et al*. "One-year mortality rates following methadone treatment discharge." *Drug and Alcohol Dep.*: 1998, 52, p. 257–260 ❸ Stenbacka M., *et al*. "The Impact of methadone on consumption of inpatient care and mortality, with special reference to HIV status." *Subst. Use & Misuse*: 1998, 33(14), p. 2819–2834. Copies: for all apply ISDD.

Secondary sources Ward J., *et al*, *eds*. *Methadone maintenance treatment and other opioid replacement therapies*. Harwood Academic Publishers, 1998.

Contacts ❶ Paul Barnett, Center for Health Care Evaluation, 795 Willow Road, Menlo Park, CA 94025, USA, fax 00 1 415 617 2667, e-mail pbarnett@odd.stanford.edu ❷ David Zanis, Center for Studies of Addiction, University of Pennsylvania, Philadelphia, USA, e-mail Zanis@research.TRC.upenn.edu ❸ Marlene Stenbacka, Center for Dependence Disorders, Karolinska Institute, Box 6401, 11382 Stockholm, Sweden.

2.2 Treatment staff matter as much as the drug

Findings US studies show that the impact of methadone maintenance depends on the people delivering it as well as on the drug.

Study 1 confirmed the findings of a landmark study (◤ *Secondary sources* 1) in a larger and different selection of clinics. The numbers of cocaine or heroin positive urines (indicators of poor response to treatment) from clients admitted three to four years earlier at 17 New York clinics were related to the characteristics of the clinics and of their staff. More frequent counselling and more experienced clinic directors more involved with treatment were linked to better outcomes, but in different ways. An active and experienced counsellor in regular contact reduced cocaine rather than heroin use, probably because the latter was already minimised by methadone. Apart from client contact (particularly influential early in treatment), directors were thought to influence outcomes by establishing a positive therapeutic tone.

In study 1 good outcomes were associated with longer stays. Study 2 directly addressed retention in a new analysis of the same dataset. Patients stayed much longer at clinics which (as revealed in case notes) responded constructively to their problems. Such responses (eg, increasing doses, offering and arranging further help) exerted a far more significant influence than patient characteristics by (it was thought) preventing problems escalating and fostering partnership between patients and staff.

Study 3 of a US methadone clinic found that, regardless of dose, which counsellor clients had been allocated had a significant impact on retention and illegal opiate use; positive urinalyses ranged from 11% for the clients of one worker to 60% for another. Allocation was random, increasing confidence in the findings.

In context Studies 1 and 2 were hampered by an insensitive indicator of drug use (urinalysis) and a restricted range of clinics, probably obscuring the impact of differences between clinics. The impact of counselling styles might have been far greater had the studies been able (like study 3) to associate outcomes with individual counsellors. All three studies add to a convincing body of evidence that how a clinic is managed (well organised, responsive to patients, greater client control over regime and dose, more services, therapeutic and harm reduction in orientation) and the attributes of the counsellors (knowledgeable, warm, supportive) can improve retention and outcomes, findings broadly consistent with what little is known of the preferences of patients in the UK.

LINKS *NTORS* p. 16. *Nuggets* **1.4**, **2.1**

Practice implications How a methadone clinic is run and the attributes and approaches of its counsellors can effects on outcomes which rival that of dosage. Within any dose regime, project managers and workers have a significant role to play. Their training, morale and resources are important outcome determinants. Positive characteristics can be fostered often at little or no extra cost and sometimes (as in allowing optional counselling) at lower cost. To manage increased retention, clinic managers could develop criteria (◤ *Secondary sources* 2, p. 331) for planned discharge of patients who show signs of being able to manage without methadone and provide them with aftercare, rather than tolerate clinic regimes which create high drop/throw out rates.

Main sources 1 Magura S., *et al*. "Program quality effects on patient outcomes during methadone maintenance: a study of 17 clinics." *Substance Use and Misuse*: 1999, 34(9), p. 1299–1324 2 Magura S., *et al*. "Pre- and in-treatment predictors of retention in methadone treatment using survival analysis." *Addiction*: 1998, 93(1), p. 51–60 3 Blaney T., *et al*. "Methadone maintenance: does dose determine differences in outcome?" *Journal of Substance Abuse Treatment*: 1999, 16(3), p. 221–228. Copies: for all apply IS DD.

Secondary sources 1 Ball J.C., *et al*. *The effectiveness of methadone maintenance treatment: patients, programs, services and outcomes*. New York: Springer Verlag, 1991 2 Nuggets 2.1, *Secondary sources*.

Contacts 1 and 2 Stephen Magura, National Development and Research Institutes, Two World Trade Center, 16th Floor, New York 10048, USA, fax 00 1 212 845 4698 3 Robert Craig, Outpatient Drug Abuse Program, 2320 W. Roosevelt Road, Chicago, IL 60608-1131, USA, e-mail craig.robert@chicago-west.va.gov.

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2.3 Buprenorphine safer than methadone for less dependent patients

Findings Two studies have confirmed the effectiveness of buprenorphine maintenance as an alternative to methadone for less heavily dependent opiate addicts.

Study 1, a double blind trial in three Swiss centres, reported interim results for 58 daily opiate users, 27 randomly allocated to buprenorphine, 31 to methadone. Over a two-week induction period low starting doses were adjusted to (respectively) a maximum of 16mg (generally at least 12mg) and 120mg daily before four weeks of maintenance. During induction drop out on buprenorphine was significantly higher; by the end of the study under 60% remained compared to nearly 100% on methadone. The fact that illegal opiate use (revealed by urinalysis) was not significantly higher may have been an artifact of differential drop out.

Study 2 at an Austrian addiction clinic involved a week of screening when morphine was prescribed, after which 29 opioid dependants were randomised to buprenorphine and 31 to methadone. Over six days doses were adjusted to a limit of 8 and 80mg respectively then maintained for 23 weeks. Daily doses averaged 7.5 and 63mg. Drop out on buprenorphine was not excessive during induction but then became significantly greater, until by the end of the study 38% of patients were retained compared to 71% on methadone. On the (unlikely) assumption that all drop outs resumed illegal opiate use, there was no significant difference on this outcome. However, while in treatment patients on buprenorphine provided significantly fewer opiate positive urines.

In context Buprenorphine's advantages derive largely from its combined opiate and opiate-blocking effects. Compared to methadone, it is less liable to abuse, far safer in overdose, and withdrawal symptoms are mild, yet taken once a day (or even every two or three days) it prevents heroin withdrawal and reduces the desire to take heroin. There are drawbacks: it is best taken by the inconvenient means of holding under the tongue for several minutes; the injectability of the tablets heightens the risk of abuse; and beyond a certain point higher doses do not have more effect, potentially rendering it unsuitable for high-dose heroin users.

These studies suggest that a slow induction phase and limited doses risk higher drop out than with methadone as patients opt to (re)turn to methadone or to illegal use. Studies in the USA and France suggest buprenorphine can work at least as well in primary care settings as in specialist clinics. The US study recorded acceptable retention and drug use outcomes from dosing three times a week, but there primary care treatment is an unusual and (for patients) welcome innovation.

Practice implications For less dependent patients, buprenorphine can be a viable alternative to methadone. Its safety in overdose and (allied to this) the feasibility of prescribing high enough doses to last two or three days suit it to primary care settings and to patients resistant to daily visits. Swiss experience (study 1) commends it as a starting and end point for maintenance, with those not held by the drug being transferred to methadone before (at the end of treatment) easing withdrawal by switching back. Many will be able to manage throughout on buprenorphine with (if injecting can be prevented) a net increase in safety. Care is needed during induction as buprenorphine can precipitate withdrawal, encouraging drop out. Concern over the injectability of the tablets (why UK guidelines recommend supervised dispensing) should be allayed when a combination product becomes available which renders injecting ineffective. In the interim, prescribers should be aware of the history of injecting-related damage from abuse of buprenorphine in the UK.

Main sources 1 Uehlinger C., *et al*. "Comparison of buprenorphine and methadone in the treatment of opioid dependence." *European Addiction Research*: 1998, 4 (suppl 1), p. 13–18 2 Fischer G., *et al*. "Buprenorphine versus methadone maintenance for the treatment of opioid dependence." *Addiction*: 1999, 94(9), p. 1337–1347. Copies: for both apply ISDD.

Contacts 1 Claude Uehlinger, Psychosocial Centre, 56 avenue du General-Guisan, CH-1700, Fribourg, Switzerland, phone 00 41 26 465 20 20, fax 00 41 26 466 47 88 2 Gabriele Fischer, Drug Addiction Outpatient Clinic, University Hospital, Währinger Gürtel 18–20, 1090 Vienna, Austria.

2.4 Cost effectiveness of alcohol treatment improved by cutting inpatient stays

Findings A British study found outcomes did not suffer when the length of alcohol treatment regimes and inpatient stays were halved, with consequent improvements in cost-effectiveness.

Researchers assessed staff views (study 1) and outcomes (2) before and after a five-week inpatient detoxification and therapy regime at an independent hospital's addiction unit was cut to two weeks. The new regime consisted of four to five days' inpatient detoxification then day treatment; both therapies were cognitive-behavioural and relied mainly on groups. Intake measures were compared with outcome measures taken by 'blind' interviewers six and twelve months after treatment discharge. Out of roughly 100 consecutive admissions, 75 patients from each regime could be matched on age, sex and severity of dependence. Data from these pairs was used to compare the treatments. Self-reports were confirmed by relatives and friends and by blood tests. Outcomes were not affected, but the average length of treatment and time physically on the unit were cut significantly, reducing costs by a third and improving cost-effectiveness. Programme completion was much higher (76% versus 55%) and aftercare cheaper.

In context The findings are consistent with earlier research (◤ *Secondary sources*) which suggests that inpatient regimes confer only modest additional benefits which within six months fade into statistical insignificance. In no case have such regimes proved superior to outpatient therapy preceded by inpatient detoxification.

In some ways this was an ideal test of inpatient treatment. The therapies in the two regimes were similar in type and intensity, and self-selection biases should have been minimised by consecutive referrals to a single centre and the matching of subjects. (Earlier studies finding no advantage for inpatient treatment have tested it only on patients willing to accept random allocation.) However, inpatient treatment was tested on patients for whom it may have been not just unnecessary, but inappropriate. They tended to be moderately dependent with good social resources and work/home commitments which made a short and mainly outpatient programme easier to fit in, probably boosting completion rates and outcomes. Usually *inpatient* retention is better, one reason why the results might not generalise to more problematic populations. Two recent US studies found residential settings best for patients with severe alcohol problems and suicidal ideation. It should also be stressed that the shorter regime retained an inpatient element during which three-quarters of the treatment was delivered.

Practice implications For most people with sufficient social resources and no serious medical/psychiatric impairment, extended inpatient programmes can be made more cost effective by trimming overall lengths and limiting the inpatient element (still valuable for many patients) to the first few days. Outcomes need not worsen if therapeutic inputs and progress (especially satisfactory completion) are maintained. Completion rates may even improve for patients with work/home commitments. The study authors believe two weeks may approach the limit to which programmes can be cut, a conclusion supported by the fact that many stays briefly overran.

LINKS *Nuggets* **1.1**, **1.6**

Inpatient and extended treatment is still needed for the severe medical complications of alcohol abuse (including withdrawal) and for patients with serious medical/psychiatric conditions. Especially for patients lacking social support and housing, residential settings may be needed to attract them to treatment, provide shelter, and to offer a sober and supportive respite in which to nurture personal resources and motivation ◤ *Secondary sources*.

Main sources 1 Long C.J., *et al*. "Staff perceptions of organization change of treatment delivery on an addiction unit." *Journal of Advanced Nursing*: 1995, 21, p. 759–765 2 Long C.G. "Treating alcohol problems: a study of programme effectiveness and cost effectiveness according to length and delivery of treatment." *Addiction*: 1998, 93(4), p. 561–571. Copies: for both apply Alcohol Concern.

Secondary sources Finney J.W., *et al*. "The effectiveness of inpatient and outpatient treatment for alcohol abuse: the need to focus on mediators and moderators of setting effects." *Addiction*: 1996, 91(12), p. 1773–1796; also commentaries, p. 1803–1820. Copies: apply Alcohol Concern.

Contacts Dr Clive Long, Department of Psychology, St Andrew's Hospital, Billing Road, Northampton NN1 5DG, phone 01604 616182, fax 01604 635571.

2.5 'Stepped care' for drinkers yet to prove itself

Findings 'Stepped care' first offers clients the least intensive response likely to benefit them. If that fails they are reassessed and a more intensive option attempted, and so on. Reserving more costly responses for non-responders should improve cost-effectiveness without (if later steps succeed) affecting outcomes. However, the first test of this model for problem drinkers found no added benefit from offering further help to initial non-responders.

Subjects were 136 problem drinkers who attended at least three sessions at a Canadian outpatient alcohol clinic. Most were employed, married and mildly dependent. Initial therapy consisted of at least four sessions during which clients considered the costs and benefits of change, set drinking goals, developed action plans, and monitored their drinking. Those drinking 20+ units a week over the first three sessions were considered non-responders and were eligible for a further session to consolidate previous learning and enhance motivation, plus personalised progress reports in aftercare contacts. A randomly selected 33 non-responders were offered this 'extra step', the remaining 36 continued in the base programme, forming a comparison group. Interviews six months after therapy ended assessed drinking levels over this period.

Clients who drank heavily during treatment tended to do so before and after, suggesting that in-treatment drinking was a valid marker of treatment progress. All the groups drank somewhat less during and after treatment than they had done before. The key finding was that, though it encouraged many more clients to attend extra sessions, the further intervention did not improve outcomes.

In context Now attracting interest in the UK, stepped care (for description ◤ *Secondary sources*) adds a 'suck it and see' element to the attempt to match clients to treatments. Its underlying assumption is that *intensity* (not just type) of treatment is important. That it failed this first test may have been due to a number of factors.

Conceivably the patients (those heavily dependent were excluded) were not 'bad' enough to feel the need for or to benefit from extra treatment. Initial 'non-response' was judged by the *absolute* level of drinking, yet for some this may have been an improvement on pre-treatment levels. The further intervention may not have been intensive enough to progress clients resistant to the earlier attempt. A step up in treatment goals (eg, from moderation to abstinence) was not on offer, neither were the nature and 'height' of the extra step geared to the client and their progress. During and post-treatment drinking were measured differently, perhaps obscuring links between them. In-treatment drinking may have reflected post-treatment outcomes just because the (fairly brief) interventions left many patients' drinking untouched. The most pessimistic explanation is that clients resistant to initial treatment continue to be so when intensity is stepped up, rendering this a further waste of resources. Given the caveats above, this would be a premature verdict.

LINKS *Nuggets* **1.1**. *How brief can you get?* p. 23. *Project MATCH: unseen colossus*. **1**, p. 15

Practice implications Despite these findings, the conservatism of stepped care (in terms of resources and demands on clients) and its plausibility make it worth pursuing. Given the lack of previous research, this study's implications can only be tentatively expressed. Among them may be that the 'extra step' needs to be a significant escalation appropriate only for more problematic drinkers. Assessments of treatment progress are best expressed relative to pre-treatment behaviour. Reassessments could permit revision of treatment goals. British experts who have recently reviewed the evaluation literature for the government recommend starting (especially for those new to treatment) with brief outpatient or counselling interventions before stepping up to more intensive outpatient options.

Main sources Breslin F.C., *et al*. "Problem drinkers: evaluation of a stepped-care approach." *Journal of Substance Abuse*: 1999, 10(3), p. 217–232.

Secondary sources Sobell M.B., *et al*. "Stepped-care for alcohol problems: an efficient method for planning and delivering clinical services." In: Tucker J.A., *et al*, *eds*. *Changing addictive behavior*. Guilford Press, 1999, p. 331–343. Copies: for both apply Alcohol Concern.

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2.6 GPs moderate risky drinking in elderly

Findings A brief intervention at 24 US primary care clinics (equivalent to GPs' surgeries) was the first to be tested on elderly heavy drinkers. At routine attendances, patients aged 65 and over were asked to complete a screening survey. 656 had a history of heavy drinking of whom 396 were interviewed by researchers. 158 met the study's criteria for current heavy drinking (which included drinking over 16 UK units a week for men and 12 for women; very heavy and 'alcoholic' drinkers were excluded) and were randomised into intervention and control groups. Intervention patients were offered two doctors' appointments one month apart (over 80% attended) for 10–15 minutes of alcohol advice/education and agreement of drinking goals to be self-monitored. Two weeks after each session nurses followed up by phone. The intervention partly derived from a landmark British study ◤ panel, p. 28. After three, six and 12 months, outcomes were assessed through 'blind' phone interviews checked with family members.

Results were positive, statistically significant, and lasted over the follow up. At 12 months average alcohol intake (hardly changed in controls) was 36% less in the intervention group while the proportion drinking excessively had fallen by nearly 50% but increased by 15% in controls. Accidents and injuries were more frequent among heavier drinkers but neither these nor hospitalisations were significantly affected by the intervention.

LINKS *How brief can you get?* p. 23. *Nuggets* **2.7, 2.8, 2.9**

In context Concern to contain the health care costs of an aging population (one reason for the study) is apparent also in Britain, where perhaps 1.8 million people aged 60 and over drink excessively and might benefit from interventions. This figure will almost certainly rise as the elderly increase in number and drink more.

Compared to similar interventions with other patients (◤ *Links*), the drinking reductions in these elderly patients were impressive and clinically meaningful, probably aided by their high attendance, three follow-up contacts, and the fact that few controls received any alcohol advice from their doctors, meaning the intervention was mainly compared to doing nothing.

The prospect (likely to materialise in longer term follow ups) of positive impacts on health and health costs may make intervening seem worthwhile, but the costs of screening an age group with relatively few problem drinkers could deter health planners. Of nearly 7000 elderly people approached for screening, at the 12-month follow up just 14 fewer were drinking excessively as a result. Had controls also been counselled it might have been 26.

Doctors in this study were specially interested in research, prepared to be trained, paid a non-trivial sum, and had their elderly patients health-screened free of charge. How many in everyday practice would undertake the intervention is the main query.

Practice implications With their high attendance rates, the GP's surgery seems a promising setting for tackling drinking among elderly patients, who seem to respond better to brief interventions than younger patients. At the observed 'hit rate' it will be difficult to justify screening programmes but doctors may be persuaded to intervene with heavy drinkers identified during routine practice; opportunities are suggested in a US guide ◤ *Secondary sources* ❶. Perhaps also the elderly can be encouraged to see their doctors by workers well placed to identify drinking problems but not to intervene, such as home carers ◤ *Secondary sources* ❷.

Main sources Fleming M.F., *et al*. "Brief physician advice for alcohol problems in older patients. A randomised community-based trial." *Journal of Family Practice*: 1999, 48(5), p. 378–384. Copies: apply Alcohol Concern.

Secondary sources ❶ US National Institute on Alcohol Abuse and Alcoholism. *The physicians' guide to helping patients with alcohol problems*. Download from http://silk.nih.gov/silk/niaaa1/publication/physicn.htm ❷ Raby S. "Not born yesterday." *Alcohol Concern Magazine*: 1999, 14(3), p. 22–23. Copies: apply Alcohol Concern.

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2.7 Students respond to brief alcohol intervention

Findings A targeted brief intervention reduced alcohol-related problems among young adult US college students, an age range where in Britain drinking is at its height.

'High risk' school students aged 18 or less were selected on the basis of alcohol-related problems or monthly drinking, involving at least five drinks on one occasion in the past month. 2041 responded to questionnaires sent to 4000 pupils intending to enrol at the University of Washington. 508 met the criteria of whom 348 took part in the study and were randomly assigned to intervention or control groups. A random selection from all responders was used to monitor general trends in drinking.

Research interviewers took baseline measures during the first term at college. Three months later the intervention was delivered by a clinical psychologist who provided feedback on baseline drinking and on the students' own monitoring of their drinking in the previous two weeks. Using a motivational interviewing style, students were encouraged to consider less harmful drinking and left the option of further contacts. Follow ups interviews were conducted at six months and (from 86%) at one and two years after baseline. Personal risk assessments based on the first two follow-ups were fed back by post to intervention students in time to affect the two-year follow up. Contacts (mainly friends) broadly confirmed the subjects' self-reports and there was no indication that students systematically minimised their alcohol use or problems.

At one and two years all the groups tended to drink less than at baseline but the intervention group had made slightly greater reductions. In line with its aims, the intervention had a greater impact alcohol-related problems; at the two-year follow-up, 11% of the intervention group but 27% of controls were at least mildly dependent. Effectiveness was unaffected by gender or a family history of behavioural problems or alcoholism.

In context In Britain a third of young people enter higher education at ages when excessive drinking and dependence are at their height, making colleges a prime site for harm reduction. This rather than reduced drinking per se was the intervention's aim, an innovation as in the USA it is illegal to sell alcohol to under 21-year-olds, who in Washington are also forbidden to drink it. The fact that their peers in the UK will be consuming alcohol legally and more heavily may make harm reduction interventions more applicable here, though perhaps less effective as British students have less incentive to moderate their drinking.

Though the intervention included just a single face-to-face session, it drew on data collected in three 45-minute research interviews fed back also by post, and some students may have availed themselves of the extra help on offer. It also involved screening 4000 prospective students and analysing the results.

The study adds to evidence (◤ *Secondary sources*) that brief interventions with college students can reduce drinking amounts and problems. However, one-to-one interventions may have less impact than altering factors such as the price and availability of alcohol.

LINKS *How brief can you get?* p. 23. *Nuggets* **2.6, 2.8**

Practice implications This study demonstrated the potential of student interventions but using a relatively expensive methodology. On-site screening at college during induction, with heavy drinkers contacted via college channels, would be more manageable and probably more cost-effective. If the results of this study transfer to the UK such arrangements could reach up to a third of young people and make a worthwhile contribution to accelerating the natural age-related decline in drinking and drinking problems.

Main sources Marlatt G.A., *et al*. "Screening and brief intervention for high-risk college student drinkers: results from a 2-year follow-up assessment." *Journal of Consulting and Clinical Psychology*: 1998, 66(4), p. 604–615. Copies: apply Alcohol Concern.

Secondary sources Hingson R., *et al*. "Interventions to reduce college student drinking and related health and social problems." In: Plant M, *et al*, *eds*. *Alcohol: minimising the harm. What works?* Free Association Books, 1997, p. 143–170.

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2.8 Advice and referral curb drinking in alcohol dependent hospital patients

Findings New York state's pilot programme for risky drinkers among general hospital patients supports the case for brief intervention and referral for treatment at these sites. Special teams screen all patients for alcohol-related harm evidenced by patient notes or the CAGE indicators. Assessment interviews with patients screening positive are used to eliminate those who don't have an alcohol problem and to divide the remainder into two categories:

- dependent on alcohol and/or suffering serious problems; the worker attempts to persuade these patients to accept referral to treatment and follows them up.
- problem drinkers – less severe but experiencing problems or drinking over three UK units a day; these receive a brief intervention covering alcohol problems and ways to minimise risk.

State authorities chose four of the nine pilot hospitals to compare against three similar non-programme hospitals. At pilot sites positive screen patients were asked to enter the study; at comparison sites, a random selection of all patients. Of those who accepted, 377 intervention patients and 296 controls were interviewed and met the study's criteria (similar to the screening criteria). Six months later 75% could be re-contacted to assess progress. Most self-reports were confirmed by faily etc or by saliva tests.

As intended, after the referral intervention, drinkers sought help at a significantly greater rate than both controls and those given the brief intervention. They also reported 30% fewer heavy drinking days compared to just 4% fewer in controls. However, the amount drunk and associated problems were unaffected and (crucially) there was no evidence that referral had a greater impact on drinking than the brief intervention.

Of those followed up, 19% had been assessed as just needing the brief intervention, but research data indicated that only 13% (38 patients) were *correctly* assessed. Though designed for them, among these low/non-dependent patients the brief intervention proved ineffective. The remaining 18 patients were more highly dependent and should have been referred for treatment. However, the brief intervention *did* significantly reduce how much and how often they drank as well as problems.

In context The brief intervention had a modest impact but only on the more dependent patients, a chance finding in need of confirmation. Among the same type of patients, referral to treatment also had a worthwhile impact on 'binge' drinking but none on drinking problems. This may have been because relatively few patients opted for formal treatment. In line with other studies, there was no evidence that for those not seeking treatment, referring them to it was any more effective than a brief intervention.

While this was 'real-world' test of an intervention as normally delivered, the modest gains were recorded at probably the best of the pilot hospitals, and specialist teams took the burden off ward staff. Similar results cannot be expected from less well developed/resourced services, raising question marks over cost-effectiveness.

Practice implications Even with patients somewhat dependent on alcohol, specialist intervention staff in general hospitals can cut drinking and drinking problems by a one-off information/advice session. Referral to treatment is best reserved for those with at least moderately severe dependence who (given their small numbers) should be proactively followed up to maximise uptake of formal treatment. Other studies suggest that a motivational interviewing approach may be appropriate for patients (probably the majority) not yet ready to change their drinking. Employing specialist staff improves throughput but is also more costly than training and motivating existing staff.

Main sources Welte J.W., *et al*. "An outcome evaluation of a hospital-based early intervention program." *Addiction*: 1998, 93(4), p. 573–581. Copies: apply Alcohol Concern.

Secondary sources Chick J. "Alcohol problems in the general hospital." In: Edwards G., *et al*, *eds*. *Alcohol and alcohol problems*. British Medical Bulletin 50(1). Churchill Livingstone, 1994, p. 200–210. Copies: apply Alcohol Concern.

Contacts John Welte, Research Institute on Addictions, 1021 Main Street, Buffalo, NY 14203, USA, fax: 00 1 716 887 2510.

LINKS *Nuggets* **2.6**, **2.7**. *How brief can you get?* p. 23

2.9 Shared care encourages GPs to treat addiction

Findings An evaluation of Brent and Harrow Health Authority's pilot project to extend GP care of drug users found evidence that both the quantity and quality of treatment had improved.

The project works on shared care lines, GPs taking on patients with support from drug services and a specialist GP. All but one of the project's 21 GPs engaged in treating opiate dependence were interviewed and supplied data on relevant patients, 49 out of 147 of whom completed an anonymous satisfaction survey.

Half the GPs had started prescribing for drug users after input from the project; audit data confirmed that the number prescribing and patients treated had doubled. Quality of care was assessed against national guidelines. At least 80% of GPs required patients to undergo a full assessment, to attend at least fortnightly and give random urine samples, and to have a named pharmacist from whom they pick up their methadone daily. Most also maintained contact with the pharmacist, made arrangements for patients to obtain clean injecting equipment, and routinely offered hepatitis screening and vaccination. The average dose of methadone was 63mg and all offered maintenance as well as reduction. GPs valued the scheme as did patients, around 80–90% of whom felt their assessment and dosing were appropriate and that their GPs were approachable and well informed. Over 8 in 10 of the three-quarters previously treated at a clinic preferred GP treatment.

In context Just 4% of problem drug users (re)enter treatment via GPs, a constriction which impedes access to treatment. Shared care schemes to support GPs will be critical to achieving the Department of Health's target of increasing this number. Such schemes can help overcome drug users' concerns about GPs and GPs' concerns about treating challenging patients in isolation, yet in most areas shared care is either not implemented or only poorly.

The current study cannot establish cause and effect but its multiple sources of data generate confidence that the scheme did expand GP treatment and enhance its quality. However, there is no mention of supervised consumption (now, but not then, recommended for at least the first three months) and nearly half the GPs prescribed tablets, a risk if patients crush and inject them. Though satisfaction is an important performance measure, it is no surprise that patients who choose to attend GPs prefer them to clinics.

Indications from the national drug treatment study (p. 16) are that GP-based methadone schemes perform as well as those run by clinics. Studies of other schemes have reported reasonable retention rates, reduced viral transmission behaviours, less illicit opiate use, and dramatic cuts in revenue-raising crimes.

Practice implications There seems no reason why GPs in other areas could not be persuaded to participate in a similar scheme to similar effect. None of the GPs had been formally trained in addiction and for most this was a small part of their work. All but one of the GPs shared their practice with another doctor who also prescribed to drug users, a ready source of peer support. Less likely to be replicated elsewhere is the fact that the scheme was led by a nationally recognised GP specialist.

LINKS *Nuggets* **2.6**

Important (but often missing) features of such schemes include being led by primary care, assessment of referrals by a specialist clinic, continuing specialist support and back up, financial recompense, training and peer exchange meetings, detailed treatment protocols, and close links with pharmacists. Other practical issues are addressed in national guidelines *Secondary sources* (1).

Main sources Ryrie I., *et al*. "Supporting GPs to manage drug users in general practice: an evaluation of the substance misuse management project." *International Journal of Drug Policy*: 1999, 10, p. 209–221. Copies: apply ISDD.

Secondary sources (1) Department of Health *etc*. *Drug misuse and dependence – guidelines on clinical management*. HMSO, 1999 (2) For shared care training materials contact SCODA, 0171 928 3343.

Contacts Dr Chris Ford, Lonsdale Medical Centre, 24 Lonsdale Road, London NW6 6RR, fax 0171 328 8630, e-mail cford@lonsdalemc.u-net.com.ulc.

2.10 Arrest referral breaks drugs-crime cycle

Findings A Home Office report has clarified what makes for a successful arrest referral scheme. It reports outcomes from three schemes previously covered in FINDINGS (*Nuggets* 1.9) and adds data from offenders referred to treatment by probation. All were 'proactive' schemes in which drug workers initiate contact with arrestees or offenders thought to be problem drug users with a view to referral to treatment.

205 clients were interviewed six to nine months after contacting the schemes and asked to recall their drug use and criminal behaviour in the past month and in the month before arrest. Typically they were young men with long criminal careers who injected illicit opiates. For 41% this was their first contact with a drug project. 77% were referred to drug services, 51% attended, and about 37% completed treatment or stayed for at least six months. Before arrest clients typically spent £375 a week on drugs raised mainly through property crime and drug dealing. At follow up this had fallen to £70, and 8 in 10 property offenders had cut their offending. Injecting and the proportion overdosing fell, the latter from 26% to 5%. Improvements persisted for at least another year.

Interviews with workers suggested that the schemes were vulnerable due to strains on participating agencies. Reports on two other proactive schemes (*Secondary sources* ❶, ❷) offer detailed confirmation of the client characteristics and managerial issues documented in the main study.

In context Proactive schemes contact the most criminal of drug users seen by treatment services generally, many arrested for offences committed to fund opiate/stimulant dependence. Reduced crime among these types of clients accounts for most of the known social benefits of treatment pages 20 and 22.

The study could not prove the schemes *caused* the outcomes, but for most clients adding treatment to the criminal process (itself ineffective in preventing reoffending) seems to have helped break a long standing drugs-crime-conviction cycle. Offenders referred to treatment by probation under conditions imposed by the court were particularly pleased with their disposal and did particularly well. However, clients the study was unable to contact would probably have shown poorer outcomes. Recollections of behaviour six or more months ago may have been unreliable.

Practice implications By 2002 government wants arrest referral schemes in all police custody suites and to double their throughput of offenders into treatment. The featured study includes detailed, well founded recommendations on how these schemes might be run, as does another Home Office report (*Secondary sources* ❸); only a few points can be mentioned here.

The proactive approach most efficiently funnels high-rate offenders into treatment, tackling both crime and dependent drug use, though schemes might also offer diversion (*Nuggets* 2.11) to less serious offenders. For worthwhile outcomes and to prevent 'referral' workers having to take on caseloads, schemes require suitable drug services to refer on to. Ideally they employ a dedicated drug worker managed by a drug service (to distance them from the legal process) under conditions which encourage them to stay long enough to build relationships of sufficient depth and trust to harmonise the disparate goals of participating agencies. For the same reason, schemes should be physically and managerially structured to foster cooperation. Also needed are measures to overcome the supervisory difficulties inherent in detached work and to create simple and supportive lines of accountability.

Main sources Edmunds M., *et al*. *Doing justice to treatment: referring offenders to drug services*. Drugs Prevention Advisory Service, 1999. Copies: apply DPAS, phone 020 7217 8631, e-mail public_enquiry.dpas@homeoffice.gsi.gov.uk.

Secondary sources ❶ Galvin K., *et al*. *An evaluation of the Second Chance arrest referral scheme*. Institute of Health & Community Studies, 1999. Copies: apply Institute *etc*, phone 01202 504184 ❷ Shah K., *et al*. *Drugline arrest referral. Report June 1998*. Copies: apply Drugline Lancashire, phone 01772 253840 ❸ *Drugs interventions in the criminal justice system: guidance manual*. Drugs Prevention Advisory Service, 1999. Copies: apply DPAS *Main sources*.

Contacts Criminal Policy Research Unit, South Bank University, Erlang House, 103 Borough Road, London SE1 0AA.

LINKS *Nuggets* **1.9**, **2.11**. *Pressure pays*. p. 4

2.11 Coerced arrest referral as early intervention

Findings Two process evaluations have detailed the strengths and limitations of incentive arrest referral schemes. These offer diversion from criminal proceedings to offenders who address their drug use/problem. Bail schemes incorporate coercion by deferring a decision about proceeding while the offender is on police bail, a condition of which is that they accept the help on offer. If they do, no further action is taken; if they do not, proceedings continue.

Both featured schemes are bail schemes available only to offenders arrested for, and who admit, illegal possession of drugs. The Durham study (❶) relied mainly on observation of intervention sessions; the Kirklees report (from the relevant police service), on the scheme's records. Both drew on feedback questionnaires completed by offenders at the end of intervention sessions. The first results below relate to Durham, the second Kirklees.

Of all eligible offenders, 12% and 20% refused or were unsuitable, leaving about 500 and over 650 referred to the schemes in a year. Most were aged 25 or less and arrested for cannabis possession (only 3% and 17% for heroin), though many later admitted using other drugs. Over 80% complied with bail requirements. In Durham this involved a group advice/information session. Experience led group sizes to be cut to on average three and to the offer of one-to-one sessions, especially for heroin offenders. The Kirklees scheme required and directly provided a one-to-one therapeutic intervention. Scheme staff referred 1 in 12 and 1 in 5 offenders for further help. For both schemes client feedback indicated satisfaction with the interventions; two-thirds of offenders felt it had helped change their behaviour. Police records for the first year of the Durham scheme show that 5% of referrals re-offended during that period. In Kirklees (where 64% had previous convictions) 31% of clients seen in the first six months were later re-arrested.

In context Because they offer diversion from criminal proceedings, incentive schemes can only be applied to less serious offences and only capture drug-related offenders found in possession of drugs. As a result, their clients are younger than in proactive schemes (*Nuggets* 2.10) and their drug use is far less serious. Referral to further help is less common, partly because often this is unnecessary and probably partly because services for the young, the less dependent, and users of non-opiate drugs are less available than for older opiate addicts. Instead such schemes mainly function (if effective) as an early brief intervention. No specific outcome data is available, but research suggests that coerced treatment entry need not affect outcomes *Pressure pays*, p. 4.

The Durham report mentions two possible side-effects. Decreased post-arrest workload and expectations that something useful would be done with offenders "probably" led police to step up arrests for possession of drugs, and arrestees who know they can qualify for diversion only by admitting guilt may do so even if they would later have been exonerated.

LINKS *Nuggets* **1.9**, **2.10**. *Pressure pays*. p. 4

Practice implications Incentive schemes tap a range of drug users from first-time cannabis smokers to heroin addicts. A similarly varied response is required; care must be taken not to expose young experimental users to negative influences from other clients. The inter-agency working demanded by such schemes can act as a foundation for further cooperation to extend services for young non-opiate users, informed by the unmet need uncovered by the schemes. Incentive schemes do not efficiently access criminally active addicts, but may intercept some drug careers before they reach this point. They avoid criminalising young, casual drug users and offer police a way to avoid the cost of proceeding with minor drug cases whilst still taking action to address the offending. Integrating such schemes with proactive schemes would combine early intervention with crime-reduction.

Main sources ❶ Alred G., *et al*. *Offering incentive*. Durham and Darlington Drug Action Team, 1998. Copies: apply Durham and Darlington DAT, Appleton House, Lancaster Road, Durham DH1 5RE ❷ Marsland S. *Evaluation of the Kirklees drug arrest referral scheme*. West Yorkshire Police, 1998. Copies: apply Kirklees Drug Liaison Officer, West Yorkshire Police, Castlegate, Huddersfield HD1 2NJ.

Secondary sources *Nuggets* 2.10, *Secondary sources* ❸.

Contacts *Main sources*.

2.12 Promising approach to 'dual diagnosis'

Findings 'Assertive outreach' has gained popularity as a way to avoid hospitalising seriously mentally ill clients who otherwise would not engage with services. Staff persistently and proactively contact patients on their own territory, providing client-led help often with practical issues such as housing and finance. Clients include many with alcohol and drug problems whose instability has caused concern. Outreach can form part of an integrated service tackling substance and mental health problems together.

New Hampshire in the USA operates the best known services. The featured study (reported in two papers) compared two variants. The smaller workload (12 v. 25) of the *assertive community treatment* teams and their specialisation enabled them to directly deliver many services; *standard case management* teams relied more on other personnel – a less integrated option. 223 referrals (typically white unemployed men in their 30s) were randomly assigned to the treatments. 203 completed the study. Data from interviews before treatment and then every six months for three years were combined with clinical ratings and urinalysis. At three years improvements in both groups (in substance problems, independent living, and psychiatric symptoms) were similarly encouraging. The (minor) differences favoured assertive treatment. Over the three years each approach achieved comparable improvements per $ spent; though less intensive, standard treatment drew more on other services and on informal help, meaning that it was not significantly cheaper. But by the *final* six months, assertive treatment costs had declined to the point where it was more cost-effective.

In context Evidence supports assertive treatments for the mentally ill; a British report has made detailed recommendations ◤ *Secondary sources* 1. However, trials with mentally ill *substance abusers* are few and disappointing. A British review of the most sound studies (◤ *Secondary sources* 2) found no evidence that integrated treatments confer greater benefits than routine care and queried whether they represent value for money, though the latest programmes are more promising (◤ *Secondary sources* 3).

The current study benefits from low drop out, long follow up, sophisticated measures, and comprehensive costings. The main query is how far results will generalise to urban, ethnically diverse and homeless populations, and to areas lacking support services. In these areas the more all-in-one option might have been preferable. Conversely, in countries like Britain with free comprehensive social and health care, approaches which rely on such services might perform at least as well as all-in-one treatments. Though there was no 'unintegrated' comparison, the outcomes in this study provide indirect support for integrated treatment.

Practice implications Services with low caseloads and highly trained staff directly delivering comprehensive help can be at least as cost effective as less intensive services which compensate by accessing supplementary support. Outcomes depend on the adequacy of the services. Though the advantages of integrated treatment (in theory, this eliminates falling between stools and conflicting treatments) have yet to be demonstrated, a profile is emerging of them most promising approach: assertive outreach to engage and retain clients; intensive case management to ensure they receive services; and interventions geared to the patient's own agenda and willingness to recognise their problems. Support services and staff training will be the keys to success. At this stage such initiatives should be tested against standard practice.

Main sources 1 Drake R.E., *et al*. "Assertive community treatment for persons with co-occurring severe mental illness and substance use disorder: a clinical trial." *American J. of Orthopsychiatry*: 1998, 68(2), p. 201–215 2 Clarke R.E., *et al*. "Cost-effectiveness of assertive community treatment versus standard case management for persons with co-occurring severe mental illness and substance use disorders." *Health Services Research*: 1998, 33(5), p. 1285–1308. Copies: for both apply ISDD.

Secondary sources 1 Sainsbury Centre for Mental Health. *Keys to Engagement*. 1998. Copies: apply Sainsbury Centre *etc*, phone 020 7403 8790 2 Ley A, *et al*. "Treatment programmes for those with both severe mental illness and substance misuse." *Cochrane Library*: 1999, 4. Copies: apply Update Software, phone 01865 513902, e-mail info@update.co.uk 3 Drake R.E., *et al*. "Review of integrated mental health and substance abuse treatment for patients with dual disorders." *Schizophrenia Bulletin*: 1998, 24(4), p. 589–608. Copies: apply ISDD.

Contacts Robert Drake, New Hampshire-Dartmouth Psychiatric Research Center, 105 Pleasant Street, Concord, New Hampshire 03301, USA.

2.13 Harm reduction education works – but only with current drinkers

Findings Two school curricula aiming to prevent alcohol-related harm had positive outcomes, but only among children who had already drunk alcohol.

The US curriculum (study 1) for 11–12-year-olds aimed to boost resistance to peer pressure and reinforce reasons not to use/misuse alcohol. 49 matched schools were randomly assigned so that twice as many pupils received the intervention as did not. Subjects were surveyed beforehand and in follow ups over four years. Nearly 1 in 5 pupils missed too many data points, leaving 971 in the analysis. Consumption and attitudes to drinking were unaffected but among pupils who had already drunk without adult supervision, the lessons did retard growth in alcohol problems, such as getting very drunk or in trouble with parents.

The Australian curriculum (study 2) was delivered to pupils over the first two years of secondary school (12–14 years of age) who were surveyed beforehand and at the end of each year. Random assignment of 14 schools yielded (in the first year) usable results from 855 intervention pupils and 872 controls, three-quarters of the sample. Compared to equivalent controls, after year one intervention pupils who had drunk *but only under adult supervision* increased consumption by less than half and experienced nearly three times fewer harms from their drinking. These and other intervention pupils also gained in knowledge and support for safer drinking and in the second year continued to show greater improvements in knowledge, attitudes and harms.

In context Both studies benefited from long-term follow up and individual tracking of children, but attrition was high enough to have affected outcomes. What the curricula were tested against is generally unclear. Though study 2 compensated for this, both randomised *schools* but measured outcomes for *pupils*, a mismatch likely to inflate the significance of the intervention.

As well as being more focused on harm, the Australian intervention occupied 8–10 lessons over the first year against four in the USA. Nevertheless, costs were just over £1000 per school including initial training and a modest £235 per year thereafter. The US curriculum has now been extended to 13 sessions over three years and is considered among the best of its kind ◤ *Secondary sources*.

Existing drinkers benefited most probably because the education was more relevant and (since they continued to drink more than their peers) they had more scope for putting it into practice. In Australia the greater age of the pupils (and a more liberal attitude to young drinkers) may have meant that youngsters already drinking beyond adult supervision were also beyond educational influence. In the USA this smaller (and more deviant) group were perhaps nudged back towards mainstream drinking by the intervention. Overlaps in these findings from different cultures increase confidence in their generalisability to the UK.

Practice implications Harm reduction education has most impact on pupils who already drink, but should not be delayed to the point where unsupervised drinking has become the norm. In societies and at ages where unsupervised drinking is atypical, even a few lessons can curb the growth of alcohol-related problems. Alcohol-specific teaching permits a more consistent harm reduction orientation than substance abuse education, but it may take official guidance on alcohol matching that on illegal drugs before schools devote the required time.

LINKS *Nuggets* **2.15**

Main sources 1 Maggs J.L., *et al*. "Reasons to drink and not to drink: altering trajectories of drinking through an alcohol misuse prevention program." *Applied Developmental Science*: 1998, 2(1), p. 48–60. Copies: apply Alcohol Concern 2 McBride N., *et al*. *Early results from a school alcohol harm minimisation study*. National Centre for Research into the Prevention of Drug Abuse, 1999. Draft submitted for publication.

Secondary sources *Making the grade*. Washington DC: Drug Strategies, 1999. Copies: apply Drug Strategies, fax 00 1 202 414 6199, e-mail dspolicy@aol.com.

Contacts 1 Jennifer Maggs, 2340 Institute for Social Research, PO Box 1248, Ann Arbor, MI 48106, USA, e-mail jmaggs@umich.edu 2 Nyanda McBride, National Drug Research Institute, GPO Box U 1987, Perth, Western Australia 6845, Australia, fax 00 61 8 9486 9477, e-mail nyanda@ndri.curtin.edu.au.

Thanks to Nyanda McBride for her summary of findings and year two results in study 2.

2.14 Deviant drug use susceptible to education

Findings A US study of at-risk teenagers confirms that drug education can reduce less accepted forms of drug use.

In California pupils refused entry to high schools (many use drugs) attend 'continuation' schools. 21 such schools were randomly assigned to one of two programmes or to act as controls. Mainstream drug education was likely to be ignored by these high risk youngsters so a nine-lesson, three-week curriculum was developed which first motivated them to attend to later content. One programme added 'school-as-community' activities to the lessons; no added value was noted, so results are presented for classroom-only schools versus controls.

Questionnaire responses before lessons started were compared with those collected over a year later. From a roll of 3800 pupils, full data was available from 1074, over 90% aged 16–18, under half living with both parents. Those lost to the study after baseline measures were similar to those retained, but the characteristics of the rest (roughly 2200) are unknown. The lessons were accepted, attended, and achieved at least a short-term gain in knowledge. At the follow up changes in cannabis or tobacco use over the past month did not differ from controls. Growth in alcohol use was slowed down, but only among those already drinking heavily. Cuts in "hard" drug use (cocaine, heroin, stimulants, hallucinogens, etc) were more clear cut; intervention pupils used nearly half as often as controls, a trend seen after both programmes and in most comparisons, whatever the starting level of use.

In context This is one of several studies (including another of high risk youth ◤ *Secondary sources* ❶) to have found that drug education reduces less accepted forms of drug use, including heavy drinking, but not those common within the youth culture.

The impact on drinking was clouded by its puzzling absence in 'school-as-community' schools, but the impact on 'hard' drug use (in this sample, sufficiently common to be visible) was convincing, subject to three caveats. High attrition raises questions over generalisability to other pupils, especially those at normal schools, and over whether any school-based activities can reach children most at risk. Most follow ups were completed by phone (many subjects had left school), though this is unlikely to account for differences between intervention and control schools. Lessons were taught by project health educators trained by the project manager; regular teachers cannot be expected to teach to the same standard.

That the supplementary activities had no (perhaps even negative) impact may be partly due to their being organised on a voluntary basis by school staff and also poorly attended. In turn this may reflect the lack of appeal of drug-free parties, organised sport, and job training to disaffected youngsters concerned to maintain credibility with peers in a tough environment.

Practice implications Working against the grain of youth culture, educational interventions struggle to reverse drug use already widely practised and accepted, but can intercept more deviant forms of drug use, which also tend to be the more immediately damaging. Gaining these benefits where they are most needed – among high risk youth – requires considerable investment in a curriculum tailored to their social environment (peer and perhaps parental support for drug use), emotional needs (stigma, depression, poorly controlled anger, stress), and the role of drug-taking in this nexus. Schools with a high level of serious drug abuse may consider the investment justified. The curricula in this study and in another spotlighted by US authorities (◤ *Secondary sources* ❶) could form the starting point for a UK version.

Main sources Sussman S., *et al*. "One-year outcomes of Project Towards No Drug Abuse." *Preventive Medicine*: 1998, 27, p. 632–642. Copies: apply ISDD.

Secondary sources ❶ Thompson E.A, *et al*. "Enhancing outcomes in an indicated drug prevention program for high-risk youth." *Journal of Drug Education*: 1997, 27(1), p. 19–41. Copies: apply ISDD ❷ US National Institute on Drug Abuse. *Drug abuse prevention for at-risk individuals*. US National Institutes of Health, 1997. Copies: apply NCADI, PO Box 2345, Rockville, MD 20847-2345, USA, fax 00 1 301 468 6433, e-mail info@health.org.

Contacts Project Towards No Drug Abuse, Institute for Health Promotion, 1540 Alcazar St, CHP 207, Los Angeles, CA 90033, USA, fax 00 1 626 457 5856, e-mail svcraig@hsc.usc.edu.

LINKS *Nuggets* **1.13**, **2.15**

2.15 Community mobilisation cuts drinking and drug use, but implementation complex and costly

Findings Community programmes seek to create a prevention-friendly environment outside as well as inside school by engaging the support of parents and community leaders. Two major US studies found such programmes delayed onset of alcohol and drug use among younger adolescents.

LINKS *Nuggets* **2.13**, **2.14**

Project Northland (study ❶) aimed to prevent underage (in the USA, under 21) drinking through classroom lessons, peer-led activities, support for parents, and community mobilisation. It began at age 11–12 and outcomes have been reported up to age 13–14. 20 communities were randomised to the intervention or to act as controls. Children were surveyed before the programme and then each year for three years, by when 19% had been lost to the study, leaving 1901. Between baseline and age 13–14 the rise in past-week drinking had been nearly twice as steep among controls as among intervention children. Further analysis revealed that significant outcomes were confined to the 62% of pupils who at baseline had not yet tried alcohol, including fewer drinking or smoking cannabis or tobacco, less susceptibility to drug problems, and better relations with school and family.

Project STAR (study ❷) also started at age 11–12. Its impact persisted for at least five years; fewer teenagers reported regular drunkenness or frequent use of cannabis or tobacco, and fewer among themselves or their families sought help with drug problems. Compared to conventional drug education, STAR cost-effectively contained health and treatment costs. In its review of research, study ❷ concluded that community extensions to educational interventions prevent more serious forms of drug use.

In context Both curricula have been authoritatively judged among the best and best proven of their kind. However, the STAR study suffered from non-random allocation of schools and a blurring of the distinction between control and experimental conditions. In another US city (where randomisation was more thorough) STAR recorded less impressive results. Both Northland (because these operated in control schools) and STAR (in the cost-effectiveness calculations) were compared with programmes with minor if any known impact on drug use. Set against more effective curricula (◤ *Nuggets* 1.11), community approaches might seem less attractive, though presumably the benefits are spread wider.

In the UK a programme like Northland aimed at abstinence and of no proven impact on early drinkers (twice as common here as in the Northland communities) would be less relevant and less likely to gain support. Northland's communities were mainly rural, middle class and white. Though adjustments were made, matching of control and intervention districts was imperfect and the study randomised school districts but analysed outcomes among pupils.

Practice implications Though promising, adding community enhancements to *effective* drug education has yet to be proved cost-effective. Implementation is costly, complex and unpredictable though more feasible in identifiable (by residents as well as health educators) communities which recognise their drug problem but in which it not yet out of control. Unless sensitively planned, the attempt to involve parents can fail to reach families most in need. The Home Office recommends community anti-drug interventions (◤ *Secondary sources*) and has funded the first comprehensive evaluation of a such a project in the UK.

Main sources ❶ Perry C.L., *et al*. "Project Northland: outcomes of a communitywide alcohol use prevention program during early adolescence." *American Journal of Public Health*: 1996, 86, p. 956–965. Copies: apply Alcohol Concern ❷ Pentz M.A. "Costs, benefits, and cost-effectiveness of comprehensive drug abuse prevention." In: *Cost-benefit/cost-effectiveness research on drug abuse prevention*. Research Monograph 176. US National Institute on Drug Abuse, 1998, p. 111–129. Download from http://www.nida.nih.gov.

Secondary sources Home Office Drugs Prevention Initiative. *Developing local drugs prevention strategies: overview guidance to drug action teams*. HMSO, 1998. Copies: apply DPAS ◤ *Nuggets* 2.10, *Main sources*.

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NTORS

The most crucial test yet for addiction treatment in Britain

The National Treatment Outcome Research Study represents a watershed for addiction treatment in Britain; no research before and perhaps none to come will be more crucial. Our expert advisers assess the study and its findings.

by **Mike Ashton**
Editor, *Drug and Alcohol Findings*
The author owes a considerable debt to the NTORS team and to the members of the FINDINGS advisory panel whose assessments of the study form the basis of this review ◤ *Acknowledgements*

More than any other single piece of work, the future of addiction treatment in Britain depends on findings from the National Treatment Outcome Research Study (NTORS) initiated in 1995. Then and now, all the treatment types ('modalities') studied were under threat: at ministerial level, methadone prescribing was seen as perpetuating addiction; health stringencies and reorganisation were undermining expensive inpatient units; and community care reforms had left funding for residential services in the hands of cash-strapped local authorities.

A damning set of outcomes could have been used to justify radical reforms. Instead, 'treatment works' was the headline finding accepted by the Department of Health, which immediately announced extra funding. By 1997 the study's implications had been enshrined in official guidance to commissioners. Support survived the change of government, most decisively in 1998 with a £217 million allocation for drugs work, again justified largely by NTORS.

The study's impact derives partly from the lack of similar data, partly from its reception by a new breed of decision-makers ushered in by the purchaser-provider split, with little knowledge of treatment and hungry for data of the kind NTORS provides. To achieve this impact NTORS had to meet a painfully tight deadline, yet leave no room for its findings to be dismissed as based on an unrepresentative selection of treatments, services or clients.

NTORS is a starting point designed to address the fundamental issue of whether everyday drug treatment provision in the UK is associated with improvements in the clients and gains for society. In its own terms, the study's central questions are: Does it really show treatment 'works'? Does it show it works well enough to deserve further support? And what clues can it provide about how it might work better? To approach these questions, first we must understand how the study's design does or does not permit them to be answered.[2]

Plan your route

❶ First read **NTORS from the inside**, the NTORS team's own account of their findings ◤ opposite.
❷ For the most in-depth understanding of this study yet made available, read the **Commentary** ◤ starting this page.
❸ For just the bottom line about what it all might mean, skip to the section on **Practice implications** ◤ page 21.
❹ To appreciate the findings on which practice implications are based turn to the **Findings** section ◤ page 20.
❺ To assess the degree of confidence we can have in those findings, read the section on **Methodology** ◤ this page.

Methodological strengths and limitations

NTORS' research design is appropriate to its core objective. Without artificial allocation into different treatments and practically without selection, the study recruited nearly all new clients seen over five months at services representative of major strands in the UK's drug treatment provision. Services were selected from those which volunteered for the task and had to be able to quickly deliver the required number of clients, perhaps tilting the balance towards larger urban services. But the resulting client mix was varied with complex and multiple problems and the services offered a range of interventions. However, practitioners and planners need to interpret its findings pragmatically, alive to alternative explanations for the outcomes. Below we deal with some of the main methodological issues to keep in mind.

Pragmatic dissemination strategy leave gaps in the science

At the time of writing, peer-reviewed articles in scientific journals afford a comprehensive account of some of the findings up to six months after intake. Beyond that we are reliant on bulletins meant to rapidly disseminate findings to practitioners, which understandably lack numerical data, statistical test results, and precise definitions. So while the research *design* can be adequately scrutinised, the latest *findings* cannot.

Interpretation of the one and two year outcomes is further complicated by the collapse into a single 'residential' group of clients attending inpatient and rehabilitation services. Typically the former want to become drug-free, the latter to remain so. Differences in the outcomes at six months seem to confirm that like is not being combined with like. Similarly combined (into a 'community' group) are methadone

page 18 ◤

Acknowledgments
This commentary draws on the views of several experts, each of whom was asked to focus on a particular aspect of the study but also invited to comment more broadly. Though they have enriched it, they bear no responsibility for the final text. FINDINGS thanks the following for generously giving its readers the benefit of their experience and expertise.

Methodological strengths and limitations ◤ **Professor Gerry V. Stimson** and **Dr Matthew Hickman** of the Centre for Research on Drugs and Health Behaviour in London ◤ **Dr Ambros Uchtenhagen** of the Institut für Suchtforschung in Zurich, leader of the research team evaluating the Swiss national heroin prescribing trial ◤ **Professor Christine Godfrey**, Centre for Health Economics, University of York.

Findings The NTORS team, especially **Michael Gossop**, **John Marsden** and **Duncan Stewart** ◤ the advisers listed under other sections.

Practice implications ◤ **Jerry Sutton** of Inward House, a residential drug rehabilitation service in Lancaster ◤ **Dr John Merrill**, consultant psychiatrist in drug dependence with the Mental Health Services of Salford NHS Trust ◤ **Don Lavoie** and colleagues at the Substance Misuse Advisory Service.

NTORS from the *inside*

The researchers behind NTORS summarise their findings.

by **Michael Gossop**, **John Marsden** and **Duncan Stewart**
The authors are members of the project team of the National Treatment Outcome Research Study (NTORS) which is run from the National Addiction Centre at the Maudsley Hospital in London

The National Treatment Outcome Research Study (NTORS) – the UK's largest follow-up study of treatment outcomes for drug users – was commissioned at the request of a task force set up by the Department of Health to review the effectiveness of drug treatment. Studies of this type and scale are rare; they are expensive financially and in terms of human and scientific resources and require serious and sustained commitment from many individuals and organisations. Several such US studies have shown treatment can be effective, but in many ways the drug users differ, as do the treatments provided.

NTORS is a prospective, longitudinal, cohort study of existing treatment programmes in everyday conditions. Data were collected by interview at treatment intake, and then six months, one year, two years and four to five years later. The study monitors clients recruited into one of four treatment modalities representative of the most common services in the UK: two (rehabilitation and specialist inpatient treatment) were delivered in residential settings; two (methadone maintenance and methadone reduction) in community settings. Fifty-four agencies delivering these programmes were chosen from across England and from all English NHS regions.

Gains for clients and society

From March to July 1995 the study recruited 1075 clients. Intake interviews by treatment staff revealed extensive, chronic and serious substance-related problems, most commonly long-term opiate dependence, often with polydrug and/or alcohol problems. Many clients had psychological and physical health complaints and reported high rates of criminal behaviour.

Client progress can be gauged by comparing intake measures with similar measures taken at follow up by researchers from the Office for National Statistics. One-year outcome data was obtained for 769 clients of whom 16 had died, mostly of drug-related causes. At two years a random sample of 572 clients were re-interviewed. Unless indicated otherwise, the results reported below apply to both time periods.

Every extra £1 spent on treatment gains over £3 in cost savings from crime

Given the duration and severity of prior drug use, improvements following treatment were impressive, including substantial and important reductions in the use of heroin, cocaine and other drugs. Abstinence rates for illicit opioids (heroin and non-prescribed methadone) had more than doubled. At one year the 61% of residential clients[1] injecting at intake had fallen to 33%; in methadone programmes, from 62% to 45%. Among those injecting at intake, the proportion sharing injecting equipment had more than halved.

Many clients were drinking excessively at intake; a disappointing number continued to do so. Methadone clients showed no overall gains in drinking at one year and only modest gains at two. Residential clients did better, but at two years 29% were still drinking excessively. In both settings clients evidenced improvements in physical and psychological health including (at two years) a halving in the proportion who had recently contemplated suicide.

Although clients in all four modalities showed substantial improvements, we cannot assume all would have done equally well, whatever the treatment. At intake residential clients reported the most serious problems. Rehabilitation clients in particular had the longest heroin careers and were more likely: to be regular stimulant users and heavy drinkers; to have shared injecting equipment; to have been involved in crime and arrested more frequently.

The economic costs imposed upon society by the NTORS cohort were largely due to their criminality. High rates of criminal behaviour (mostly shoplifting) were reported prior to treatment and crime costs greatly outweighed all treatment costs. After treatment there was a marked reduction in crime. We estimate that for every extra £1 spent on drug misuse treatment, there was a return of over £3 in terms of cost savings associated with the victim costs of crime and reduced demands upon the criminal justice system. The true cost savings may be even greater.

An asset worth protecting

NTORS documented substantial improvements after treatment among people with serious and long-term drug problems, results which should be widely disseminated. The benefits for the individuals, their families and friends, and for society are enormously important. The services which provided the treatments represent a powerful national asset, one deserving protection and continued support.

Why, then, have the cost savings from treatment not been used to expand treatment capacity, providing further benefits?

NTORS followed up clients entering

Residential treatments
- Rehabilitation units
- Inpatient drug dependence units (detoxification plus ancillary services)

'Community' or methadone treatments
- Methadone maintenance
- Methadone reduction (abstinence goal)

The **impact** of treatment was assessed by comparing clients at intake with their condition up to five years after treatment had started

Perhaps largely because savings mainly accrue, not to the purchasers and providers of treatment, but to services whose core remit does not include treatment, such as criminal justice and drug control agencies.

Since our study started some treatment services have closed down through lack of support, others have faced financial cuts. Residential agencies have been especially vulnerable, many being forced to curb their lengths of stay and range of services, yet NTORS shows that their clients are the most severely disturbed and make some of the greatest gains. A balanced and integrated national treatment response requires that such services continue and are supported in ways which maximise effectiveness.

Acknowledgments
We thank colleagues who have worked on NTORS including **Alex Rolfe**, **Petra Lehmann**, **Carolyn Edwards**, **Alison Wilson**, **Graham Segar**, **Max Mirza** and **Gary Stilwell**. We are grateful to the staff of the **Office for National Statistics** who worked so hard to contact and interview clients at follow up. We especially thank staff at the **54 participating agencies** and their clients, without whose active support NTORS would not have been possible.
Funding for NTORS was wholly provided by the **Department of Health**, and further funding is available up to the year 2001 for continuing follow ups. The views expressed in this paper are those of the authors and do not necessarily reflect those of the Department of Health.

reduction and methadone maintenance clients. This is probably a less serious conflation as in practice methadone regimes are often not clearly differentiated.

Treatments hard to pin down

Even *within* each of the four modalities, treatments might have differed substantially. Preventing this would have meant controlling the services and the clients so tightly as to make them unrepresentative of UK treatment provision. But it does leave us unsure just what is being evaluated and whether it is being evaluated against an appropriate measure. For example, 59% of clients in methadone 'reduction' programmes were still in the same treatment after six months, just 8% less than in methadone 'maintenance'. The impression that the 'cheaper' reduction option worked as well as maintenance was probably because it too was maintenance in all but name.

For the residential sample the problems were similar but more serious. The mix of drug problems and treatment aims mean we do not know how many clients with abstinence as their goal actually achieved it, the key outcome for these settings. As well as opiate addicts, many clients were primary stimulant users, groups for whom abstinence from stimulants and opiates have very different meanings. Presumably some inpatients were admitted for assessment or stabilisation rather than detoxification, and we do not know how many rehabilitation clients were detoxified during treatment or drug free on entry.

A further complicating factor is that many subjects moved between treatment modalities. NTORS rightly emphasises that the outcomes reflect a treatment career which usually started before the NTORS episode and often continued beyond it, but one has to go well beyond the headlines to appreciate that, for example, outcomes among the residential group may partly reflect the fact that at one year over a third had moved into community treatments.

What would have happened without treatment?

Here we address an issue which goes to the heart of the conclusion drawn from NTORS that 'treatment works' – that it *caused* at least the major part of the changes seen in the clients. Because this would have been impractical and unethical, *NTORS did not recruit a non-treatment control group* against which to compare the clients' progress, making it difficult to rule out alternative explanations for their improvement.

Future NTORS papers will document links between outcomes and treatment variables such as completion, retention and the nature of the programmes. If the links are positive and plausible, they will boost confidence that treatment was indeed a causal factor. Already we know that a critical retention period in residential programmes was associated with greater improvement.[3] Variability in outcomes at different services itself suggests[4] that what they do or fail to do has a substantial impact.

For the NTORS team the changes in clients are all the more impressive in view of their treatment and drug use histories. The implication is that such entrenched behaviours would not have remitted without some powerful influence having been exerted; treatment received after NTORS intake is the prime candidate.

It is inconceivable that the NTORS treatments did not help clients change. But how much they helped is an unknown quantity

Crediting treatment with a substantial impact is plausible and supported by the international literature, but by no means beyond dispute. For example, if clients entered treatment at a low point in their lives then some improvement would be expected, even without intervention (chart). A few UK studies have questioned the degree to which treatment is an active ingredient as opposed to spontaneous remission and the client's decision to change.[5, 6] Such effects would need to be subtracted from the pre–post treatment gains to estimate how much of these were attributable to treatment.

On the other hand, we cannot rule out the possibility that NTORS' clients would have *deteriorated* without treatment, in which case the impact of treatment would have been *underestimated* by a simple pre-post comparison.[7]

Most puzzling is why clients improved in the NTORS period when recent similar interventions had left three-quarters still regularly using heroin. This may be because treatment in the first NTORS year was more extensive, costing over twice as much as treatment in the previous year. Perhaps too the impact of treatment is in some cases cumulative.[8] And perhaps after an average heroin career of nearly a decade, the NTORS improvers had reached the point where the impetus for change had become irresistible. The answer is probably a variable mixture of all these and more.

To sum up, it is inconceivable that the treatments received after NTORS intake did *not* help the clients make and sustain positive changes. But how *much* they helped is an unknown quantity not necessarily equal to the difference between the clients' poor state at intake and their rather better state at follow up.

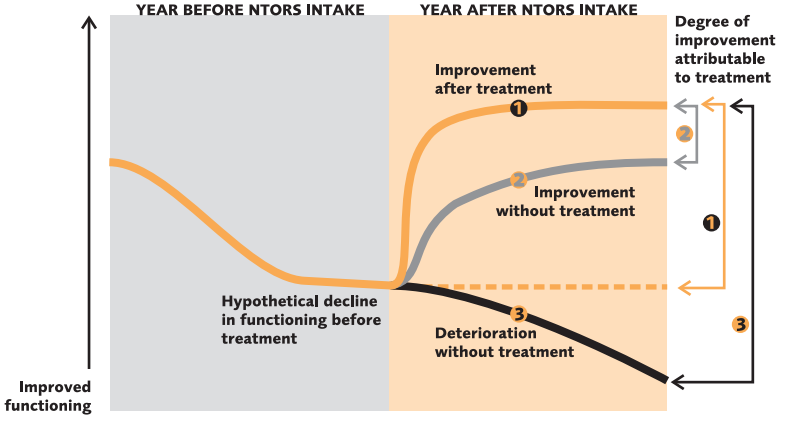
Can't say which treatment is best

NTORS cannot readily be used to determine which treatment modality is 'best' or best for which kind of client. This is because clients selected their treatments rather than being allocated at random, or in some other way which ensured that each modality was set the same challenge in terms if its clients. However, a more sophisticated analysis of the kind we may see later might allow us to address these issues, for example by comparing the progress of pairs of individuals with similar characteristics, but who chose different treatments. NTORS'

1 NTORS assumes the improvements seen after intake were largely due to treatment received ...

2 but if clients would in any event have improved, then treatment's impact may have been far less. On the other hand ...

3 if they would have further deteriorated then its impact would have been even greater.



Illustrative only. Not based on NTORS data

wide range of clients also raises the possibility of analysing who opts for, is retained by, and profits most from which treatments, providing clues about how to shape services to the client's needs.[9]

Measures reliable and valid

Recruitment of subjects and the reliability and scope of the measures taken from them are among NTORS' strongest features. The measures were in line with advanced international treatment research and drew on existing standardised instruments, though the core instrument – the *Maudsley Addiction Profile* (MAP) – was specially developed for NTORS in tests which proved it satisfactory.[10] Certainly up to the one year follow up, nearly all contacted clients completed the interview, suggesting that the questions were easy to administer.

There are some worries. At intake the major one is that we do not know how many clients who met the study's criteria refused to participate; staff found providing this information too great a burden. Why this should be so when they managed to interview clients *in* the study for up to an hour is a puzzle which adds to concern.

Intake interviews were conducted by staff of the treatment services rather than by researchers. Together with an undocumented refusal rate, this means bias in recruitment to the study cannot be ruled out. Clients questioned by staff of the agency which would treat them may also have been less than candid. Such problems will have been lessened by the care taken to train and monitor the interviewers. Urinalyses usually confirmed what they were told about drug use but no similar check was available for criminal behaviour, known to be a sensitive topic liable to under-reporting. However, if this did happen, it would have tended to make improvements in crime rates seem *less* than they actually were.

At six months clients still with the original service were interviewed by treatment staff; all other follow-up interviews were conducted by independent researchers.[11] Treatment staff – perhaps aware that the study would be crucial to the survival of their types of services – were in a position to exert an influence on the results through the treatment or the interviewing of people they knew to be in the study.

Worry over clients lost to follow up

Had NTORS been able to re-contact all its clients, we might have seen a less impressive average improvement. At the one year follow-up, data was unavailable for nearly 30% of the intake; if they tended to be the less successful clients, then the benefits of treatment could be seriously over-estimated. This makes it vital to establish whether they differed from those who *were* followed up. In fact, among the variables tested the only statistically significant difference was that clients lost to follow up used heroin more often.

At two years NTORS re-interviewed a random sample of just over half the clients. Again the more frequent heroin users (and the younger clients) tended to be lost to follow up.[12] It's also a fair guess that clients who could not be re-contacted were more likely to have left their original treatment. For methadone clients in particular, early drop out risks a return to street use.

However, the similarity of outcomes at one and two years lends confidence to both sets of findings. And the fact that those lost to follow up seem to have been the less promising clients could mean some of the benefits of treatment were *under*-estimated. This is because improvements in criminality were concentrated in the high rate offenders, who also used more heroin.[13]

Savings for society depend on what's counted in and what's counted out

NTORS' 'treatment works' message rests most of all on the estimated cost savings following treatment, in which crime is by far the biggest factor. So the study's key conclusion hinges on its measures of crime rates and its translation of these into costs and cost savings, the reason why (despite the complications) it is worth exploring queries over these in some detail.

All else being equal, there is no doubt that NTORS' savings figure is an underestimate. It takes in only the costs to the victims of crime and the costs to the criminal justice system of processing offenders, and even then excludes important elements such as the cost of implementing sentences. There are bound to be other areas of saving, such as in health and local authority resources, as well as benefits to the clients and their associates.

But, of course, all else is *not* equal. The '£3 saved for every extra £ spent' estimate derives from the one-year follow up when nearly a third of the intake were not re-interviewed. These tended (but not significantly so) to be the higher rate offenders.[14] We do not know whether they continued to offend at this rate or evidenced crime reductions on the scale seen in those who *were* followed up. If the former, then the cost savings may be less than estimated by NTORS; if the latter, more.

What society is being saved *from* is largely the cost of crimes committed by NTORS' subjects *before* treatment. The higher this was, the greater the cost savings will be for a given level of post-treatment crime. There is reason to believe that pre-treatment crime levels have been overestimated and cost savings thereby inflated. This is because crime levels over the year before treatment were grossed up from those reported for just the three months before intake. Drug users often seek help in the face of escalating difficulties,[15] so the assumption that crime levels during the whole pre-NTORS year matched those seen immediately before intake could lead to an over-estimate.

At intake nearly half the clients had recently used illicit methadone and 29% were regular users. Arguably, then, methadone treatment is creating *dis*-benefits in the form of methadone leakage,[16] but no attempt was made to account for these. The most dramatic are methadone-related deaths – 368 in England and Wales in 1997.[17]

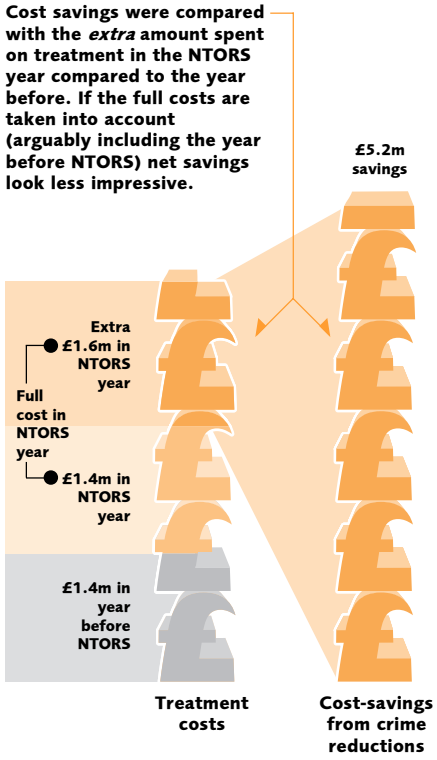
It is an uncomfortable truism that for everyone who loses by having their property stolen, someone else gains. In the case of addicts presumed to be stealing to finance their drug use, the 'gain' is partly for the drug user and any intermediary criminal, and partly for end users who obtain property at what is probably a cut price. A decision was made to disregard such benefits because they "involve a violation of property rights". Had they been included, the cost savings estimate would probably have been substantially reduced.[18]

In calculating its cost-benefit ratio, another study similar to NTORS set benefits against the *full* cost of treatment.[19] NTORS costed in only the *extra* cost in the year after

Golden Bullets

Essential practice points from this article

- **NTORS suggests that drug addiction treatment in Britain substantially reduces illicit drug use, crime, and viral transmission; health problems and excessive drinking remain of concern.**
- **Every extra £1 spent on treatment probably saves well over £3 in crime-related and other costs, though if treatment expands we can expect diminishing returns.**
- **Even established addicts previously resistant to treatment can benefit from further intervention.**
- **The findings justify increased or sustained investment in treatment, especially from the criminal justice system.**
- **The progress made by the highly problematic clients attending residential services justifies their retention until further research can assess whether cutbacks would sacrifice effectiveness.**
- **All drug services should tackle alcohol abuse in their clients.**
- **Gross variability in service performance reinforces the need for an outcome monitoring system based on a common measure which can help pinpoint what makes one service better than another of the same type.**



intake compared to the year before (chart). In the NTORS year treatment for the one-year follow up sample cost £3 million and the year before £1.4 million. The difference – £1.6 million – was less than a third of the £5.2 million cost savings, leading to the conclusion that every *extra* £ spent on treatment saved over £3. The underlying assumption is that having spent £1.4 million the year before, simply spending the same amount in the NTORS year would have had no further impact on crime: all the cost savings are attributed to the *extra* £1.6 million. We simply do not know whether this assumption is valid.

Expressing cost savings in this way is appropriate to a debate about *additional* returns from *additional* treatment expenditure; if the return is favourable the message is – not that treatment works – but that *extra* treatment works. In deciding whether *treatment* works – whether society gains more than it spends – the full cost of the NTORS treatments would have to be taken into account, reducing the return to under £2 for each £ spent. Certain plausible assumptions about the cumulative impact of treatment[20, 21] would demand that previous treatments also be costed in. Then at least the £4.4 million cost of treatment in the NTORS year plus the year before would need to be set against the £5.2 million savings.

The findings: highlights and queries

Having explored what the study's design permits us to conclude, we now turn to those conclusions – the findings. *NTORS from the inside* (page 17) is the researchers' own account of their finding. Here our experts spotlight the findings that most impressed them, add nuances, and sometimes challenge NTORS' conclusions. But we should first emphasise the major point of agreement: the findings suggest treatment 'works' in terms of reducing crime, illicit drug use, and behaviours which transmit blood-borne viruses. Any reservations do not alter that fundamental conclusion.

Treatment work – but how well?

From the NTORS findings released to date we can be confident that Britain's treatment system is reducing opiate use and curbing crime – arguably its main objectives – and that these changes are usually accompanied by reduced use of cocaine, crack, amphetamine, and benzodiazepines. However, though improved, the physical and psychological health of clients remained poor. For health services to have wrought such middling health gains must raise questions over the quality of medical inputs.

Within NTORS it is impossible to weigh the mix of under- and over-estimations of cost savings to society from treatment. And whether one chooses to talk of *extra* benefits gained by *extra* expenditure, or simply gains for £s spent, is dependent on the type of policy decision under consideration. But the international literature supports the spirit of the way NTORS has been interpreted – that society almost certainly gains by funding addiction treatment and could gain more if more was spent. Much more work will be needed before we can delete the word 'almost' and assess with any confidence the *degree* to which we all benefit.

> *The message is – not that treatment works – but that extra treatment works*

There is also the issue of *for whom* treatment is cost-effective. At intake just 10% of the sample accounted for 80% of the victim costs. In the past three months the most prolific tenth had committed 75% of all acquisitive crimes; half the clients had committed none at all. The greatest reductions in crime also occurred among high rate offenders[22] and these also reduced their use of illicit opiates by more than average.[23] Given that crime was the largest element in the cost savings, these must *also* be concentrated in the 10% of prolific offenders.

Residentials: expensive but effective

Results from NTORS' residential services – the costliest option studied – have attracted considerable interest. Despite more severe problems, on several measures their clients ended up in a similar or better condition than those in methadone programmes. But the crucial issue is whether such improvements are sustained after the client has *left* treatment. Methadone *maintenance* is accepted as just that – a treatment which may need to be maintained. Residential *rehabilitation* (and to a lesser extent inpatient care) is justified in terms of a lasting reorientation of the client's life.

Only further analysis of people no longer in treatment will be able to address this issue. To date we know that 45% of residential clients were out of treatment at one year, suggestive of at least a medium-term improvement sustained without continuing drug-related care. On the other hand, a fifth (compared to just 5% of the methadone samples) were continuing or back in residential treatment at one year. Improvements in health and drug use while in such controlled environments do not necessarily mean the resident's drug problem has been turned round. Had the researchers focused on those out in the community, the apparent advantage of residential treatment might have looked less convincing.

Methadone: room for improvement

Methadone clients too made substantial gains, the proportion regularly using heroin having been cut by over a third at two years. But the residue of continued risk behaviour is worrying. At two years nearly two-thirds were using heroin and 40% were regular users. Over 40% were still injecting drugs and nearly one in eight of those injecting at intake had recently shared needles or syringes.

A far more positive impression might have been given if the *amounts* of drugs used had been reported. We know that at six months the *number* of regular heroin users had fallen by a third but that the average *amount* of heroin used had dropped by about 75%, well over twice the reduction.

Excessive drinking and abstinence from alcohol both common

The modest impacts on drinking seen in NTORS are of concern because of the risks of overdose and of aggravating hepatitis C infection. At one year among residential clients the proportion drinking over recommended levels had fallen from 33% to 19%, another outcome where residential services seemed to have the edge. However, by two years the figure had risen to 29%. We do not know whether this was a reversion to heavier drinking (some services have noted such a tendency) or an artifact of different sampling methods. Among methadone clients, at one year there had been practically no change in drinking, while at two years just 3% less (down from 24% at intake) were drinking excessively.

In both settings those who continued to drink consumed a hefty 10+ units on a typical drinking day. Otherwise drinking levels

do not seem out of line with young men (the typical NTORS client) generally, and abstinence rates seem unusually high. For example, at one year 37% of the NTORS sample had not drunk recently compared to just 11% of 25–34-year-old men generally. At two years well under 30% of the NTORS sample were drinking excessively compared to 30% of 25–44-year-old men.

Performance patchy

Even within the same modality, different services were associated with very different outcomes. At one year, heroin users attending the 'best' 25% of residential services had cut their heroin use by two thirds, while clients of the 'worst' 25% had on average not cut their use at all. Among methadone services, clients of the best performing 25% reduced heroin use by about 65%, of the worst performing, by only 25%. Unfortunately, the implications of these findings are obscured by the conflating of the services into just two groups. For example, we don't whether the variation among residential services largely reflects a difference between inpatient and rehabilitation services, or a difference between services of the same kind.

Retention in treatment is internationally recognised as a key variable. In NTORS too the poorer performing residential services tended to be those which failed to retain clients beyond a month for short stay programmes or three months for longer ones. In shorter term rehabilitation programmes, 64% of clients stayed for these critical periods, 40% in longer term programmes, and just 20% in inpatient units.[24] At six months a satisfactory 67% of methadone maintenance clients were still in their original treatments and probably well over half were still there at a year.[25]

Diminishing returns from expanded treatment?

NTORS' naturalistic design and broad sampling mean its results are likely to apply to similar services across the UK. But there are some reservations. Those stemming from the research design are mentioned above. Here it's appropriate to add that drug users who overcome the obstacles to accessing treatment in the '90s may represent the more motivated of treatment seekers. In turn these are more motivated than the broader sweep of drug users *not* seeking treatment.

The implication is that treatment gains would probably be less impressive among the wider range of clients who might be attracted by an expanded drug treatment network, or coerced into treatment via new criminal justice interventions. Each £ spent on the NTORS treatments may gain £x in benefits, but each extra £ devoted to improving access to treatment may gain slightly less than £x until the further expenditure needed to attract the least motivated creates no additional net benefit.

For more information

Technical papers

- Gossop M., Marsden J., Stewart D., *et al.* "Substance use, health and social problems of clients at 54 drug treatment agencies: intake data from the National Treatment Outcome Research Study (NTORS)." *British Journal of Psychiatry*: 1998, 173, p. 166–171.
- Healey A., Knapp M., Astin J., *et al.* "Economic burden of drug dependency. Social costs incurred by clients at intake to the National Treatment Outcome Research Study." *British Journal of Psychiatry*: 1998, 173, p. 160–165.
- Gossop M., Marsden J., Stewart D., *et al.* "The National Treatment Outcome Research Study in the United Kingdom: six month follow-up outcomes." *Psychology of Addictive Behaviours*: 1997, 11: (4), p. 324–337.

NTORS can be contacted at the National Addiction Centre, 4 Windsor Walk, London SE5 8AF or via the project's web site at http://www.ntors.org.uk

Research bulletins

- Gossop, M., Marsden, J., Stewart, D., *et al. NTORS. The National Treatment Outcome Research Study. Summary of the project, the clients, and preliminary findings.* Department of Health, 1996.
- Gossop M., Marsden J., Stewart D., *et al. NTORS. The National Treatment Outcome Research Study. Improvements in substance use problems a 6 months follow-up.* Department of Health, 1997.
- Gossop M., Marsden J., Stewart D. *NTORS at one year. The National Treatment Outcome Research Study. Changes in substance use, health and criminal behaviours at one year after intake.* Department of Health, 1998.
- Gossop M. *NTORS: two year outcomes. The National Treatment Outcome Research Study. Changes in substance use, health and crime.* Department of Health, 1999.

For copies of all papers apply ISDD, 0171 928 1211

Practice implications

Here we attempt to decipher what NTORS means for UK policy and practice. However, the study's publishing programme still has a long way to run; at this stage practice recommendations can only be interim.

Treatment *is* worth investing in

Results from NTORS enhance the case for increased or at least sustained investment in drug treatment services and strengthen the hands of local drug commissioners. All the tested modalities recorded substantial gains, providing no reason to withdraw investment from any of the four.

NTORS did not test modalities such as day treatment and counselling, nor low threshold services such as needle exchanges and drop-in centres. While needle exchanges enjoy a positive research record, the others are largely untested. But 'untested' is not the same as 'ineffective'. By validating some modalities, NTORS has not *in*validated the rest, some of which augment NTORS' modalities by acting as referral and support services.

Despite this positive verdict, it cannot be assumed that more and more treatment will deliver benefits on the scale seen in the NTORS clients. A check would have to be kept on whether drug users with a similar capacity to benefit from treatment were being caught in a widening treatment net, and whether they showed improvements of similar value.

Bridge obstructive budget divides

The structure of public finance seems the greatest impediment to expanding services. Most cost savings from treatment and many of the outcomes do not benefit the authorities which fund that treatment, reducing their motivation and ability to fund expansion. Savings are primarily due to cuts in crime; health authorities may well ask why they should shoulder the main financial burden for these when health gains are less obvious. Likewise, local authorities, despite an interest in public health and community safety, may question why they bear the brunt of funding for the rehabilitation services which help create these benefits.

We need to find a way to recycle the savings from treatment into expanding it, so that even more benefits are gained. One obvious route is to further engage criminal justice agencies in funding and commissioning. A good start has already been made, most noticeably in the recent Comprehensive Spending Review settlement and in official guidance to police forces recommending they devote about 1% of their budgets to anti-drug partnership work.

Such advances may not be enough to realise the full potential benefits of treatment. Most of the cost savings accrue to people who would otherwise have been the victims of crime, rather than *directly* saving money from enforcement or health budgets. Only purse-holders able to take a broad, non-parochial view of welfare priorities will see the force of the argument for expanding treatment, and perhaps only an overarching authority will be able to implement the funding shifts needed for expansion.

Preserve the residential option

In NTORS some of the most problematic clients self-selected residential rehabilitation and they made some of the greatest gains. The NHS and Community Care Act (1990) made local authorities the gatekeepers both to rehabilitation and to the funding to pay for it. Competing priorities have meant that in many areas, budgets have shrunk, eligibility been restricted, and cost-driven limits have been placed on lengths of stay and how often an individual can re-enter treatment. These threaten to hobble residential treatment before we have thoroughly tested whether such cutbacks lose more in outcomes than they save in costs. NTORS provides a strong basis for residential providers to aggressively market their services so they survive long enough for the research to be done.

Build in a response to alcohol

NTORS provides a strong argument for commissioners to specify that all their drug services incorporate a strong intervention on alcohol. Perhaps because they focus on opiate addiction, the scope for improvements in this regard seems greater in methadone than in residential programmes, which have the time and the settings conducive to a more holistic approach. Excessive drinking may be one symptom of a deficit in ancillary services (such as counselling and general medical support) in Britain's drug dependency units.

Suggestive evidence of reversion to heavier drinking following residential care indicates that throughcare and aftercare arrangements should include alcohol counselling for those assessed as risky drinkers.

Identify what makes one service better than another

Overall services are doing well, but could they do better? Gross disparities among the same types of services in NTORS suggest the answer must be 'Yes': a disturbingly large minority achieved no improvements in the most relevant dimensions of behaviour and health. NTORS will provide clues as to why this is the case, but not definitive answers. It should kick-start an active and much needed British research programme geared to informing purchasing decisions.

At a more routine level, there is an obligation on providers and commissioners to establish monitoring systems capable of spotting poor performing services in need of further investigation, as well as those from which others could learn. Ideally, local systems will use the same measures so it becomes possible to compare services to identify what makes one better than another. Currently, there is no such 'industry standard'. The MAP instrument seems a good basis for creating one, with the bonus that MAP data from NTORS can be used as a national benchmark against which to compare clients and services locally. Commissioners could modify service specifications to require outcome monitoring with MAP but should also be prepared to fund the systems needed to re-contact clients after they leave a service.

Whatever monitoring is undertaken, services should not automatically be blamed for poor performance. Important influences are beyond their control, such as catchment areas, the community care policies and work of local authorities, funding constraints, and local access to pre-entry and aftercare provision. These impinge perhaps most on residential services, where NTORS suggests performance varies most. For these services too, government policy may be leading to inappropriate placements because the full national range of agencies is no longer available for referral.

Pending UK findings, practice leads can be gained from overseas studies which show that well run, well resourced programmes following research-based procedures do best.[26, 27] Given the NTORS evidence of prior unsuccessful treatments and of premature drop out, retaining drug users in treatment or in a care management system should be a priority.

Intervene early but don't give up later

Beyond the issue of which services do best lies the issue of which *clients* do best. NTORS shows that even long-term addicts who have continued or relapsed into addiction despite previous treatments can benefit from further intervention. Like Project MATCH (FINDINGS issue 1), there is no justification here for diverting investment into early interventions for younger, less chaotic users on the grounds that chronic users are beyond redemption.

In fact, there is a case for arguing the opposite. Cost savings were concentrated among high rate offenders (who also tended to be more drug dependent). Certain types of arrest referral schemes selectively pick up on these offenders at well over the rate seen in NTORS.[28] *On the basis of the evidence to hand*, there seems a strong cost-effectiveness case for diverting resources *from* voluntary routes into treatment and *into* those fed by criminal justice sources, entailing a corresponding diversion of treatment resources to the most criminal addicts.

As well as being ethically suspect (focusing help on the most criminal and denying it to those who manage without crime), such a reading of the evidence would be short-sighted. Without intervention, less criminal and less dependent drug users may escalate their use and forfeit legitimate income sources to the point where they too become high-rate offenders and stay that way for many years. Also, NTORS' cost savings omit the very elements which many people feel welfare services are all about: saved lives, improved health, families kept together, children safeguarded, a better life for the drug user and all affected by them and their activities.

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1 Such terms are used as shorthand for clients recruited at intake into these types of treatments. Many later crossed into other modalities.

2 Unless indicated otherwise, references to NTORS are based on the publications in *For more information* p. 21.

3 Marsden J. NTORS Conference. London, 9 June 1999.

4 Unless this is due to different client mixes.

5 Strang J., Finch E., Hankinson L., *et al*. "Methadone treatment for opiate addiction: benefits in the first month." *Addiction Research*: 1997, 5(1), p 71–76.

6 Strang J., Bacchus L., Howes S., *et al*. "Turned away from treatment: maintenance-seeking opiate addicts at two-year follow-up." *Addiction Research*: 1997, 6(l), p. 71–81.

7 Urschel *et al*, quoted in: McLellan A.T., Woody G.E., Metzger D., *et al*. "Evaluating the effectiveness of addiction treatments: reasonable expectations, appropriate comparisons." *The Milbank Quarterly*: 1996, 74(1), p. 51–85.

8 Hser Y., Grella C., Chih-Ping C., *et al*. "Relationship between drug treatment careers and outcomes. Findings from the National Drug Abuse Treatment Outcome Study." *Evaluation Review*: 1998, 22(4), p. 496–519.

9 McLellan A.T., Grissom G.R., Zanis D., *et al*. "Problem-service 'matching' in addiction treatment: a prospective study in four programs." *Archives of General Psychiatry*: 1997, 54, p. 730–735.

10 Marsden J., Gossop M., Stewart D., *et al*. "The Maudsley Addiction Profile (MAP): a brief instrument for assessing treatment outcome." *Addiction*: 1998, 93 (12), p. 1857–1868.

11 Personal communication from Duncan Stewart of NTORS, September 1999.

12 Gossop M. NTORS Conference. London, 9 June 1999.

13 Stewart D. NTORS Conference. London, 9 June 1999.

14 It is possible to calculate that clients lost to follow up admitted to a crime rate nearly 90% higher than the follow-up sample, the difference being mainly due to drug dealing. But such differences failed to reach statistical significance due to extreme skewness in the data (personal communication from Duncan Stewart of NTORS,September 1999).

15 Tucker J.A., King M.P. "Resolving alcohol and drug problems: influences on addictive behavior change and help-seeking processes." In: Tucker J.A, Donovan D.M., Marlatt G.A., *eds*. *Changing addictive behavior*. Guilford Press, 1999, p. 97–126.

16 There is a counter-argument that to the degree to which injectable heroin is replaced by leaked oral methadone then the leakage has a therapeutic impact.

17 *Hansard*: 28 July 1998, col. 174.

18 Gerstein D.R., Johnson R.A., Harwood H.J., *et al*. *Evaluating recovery services: the California Drug and Alcohol Treatment Assessment (CALDATA)*. California Department of Alcohol and Drug Programs, 1994.

19 Gerstein D.R., *et al*, 1994, op cit.

20 That prior unsuccessful treatments provide a platform for later ones to be more effective but that not until a successful treatment episode does behaviour stay improved when out of treatment.

21 Hser Y., Grella C., Chih-Ping C., *et al*, 1998, op cit.

22 Stewart D. NTORS Conference, op cit.

23 Stewart D. NTORS Conference, op cit.

24 Marsden J. NTORS Conference, op cit.

25 If the six-month differential is retained, a retention rate of 55% for both types of methadone modalities at one year suggests a rate of 60% or better for the maintenance programmes.

26 Ball, J., Ross, A. *The effectiveness of methadone maintenance treatment*. Springer-Verlag, 1991.

27 McLellan A.T., Arndt I.O., Metzger D.S., *et al*. "The effects of psychosocial services in substance abuse treatment." *Journal of the American Medical Association*: 1993, 269, p. 1953–1959.

28 Edmunds M., May T., Hearnden I., *et al*. *Arrest referral: emerging lessons from research*. Central Drugs Prevention Unit, Home Office, 1998.

How **brief** can you get?

Three pioneering studies which have stood the test of time. All British, they proved that alcohol problems could be reduced without intensive (and expensive) treatments. The implications are immense, the controversy fierce.

by **Colin Drummond and Mike Ashton**

Colin Drummond was an author of the research paper which found that the three studies highlighted in this article were the world's most cited alcohol treatment trials. He is a psychiatrist specialising in alcohol treatment at St George's Hospital in London. Mike Ashton is the editor of FINDINGS

In 1995 three British studies[1, 2, 3] monopolised the medal places in a competitive international league – the world's most cited alcohol treatment trials. They had logged the greatest number of such references in a citation index, reflecting their scientific standing, influence on researchers, and social/political relevance.[4] Among studies of psychosocial interventions, they had also logged the highest *annual* citation rate. Each would have warranted its own *Old Gold* stamp. We decided to treat them as a unit because all three tackled how to do as much as possible with as little as was needed. Together they seeded the 'brief interventions'[5] debate which has grown into such a major issue – perhaps *the* major issue – in alcohol treatment.

KEY SOURCE

Moncrieff J., Drummond D. C. "The quality of alcohol treatment research: an examination of influential controlled trials and development of a quality rating system." *Addiction*: 1998, 93(6), p. 811–823. Found that the most cited alcohol treatment evaluations were all UK studies of brief interventions.

Not only did they seed this debate, they remain central to it. If brief primary care interventions really are now "all the rage",[6] these studies above all created the scientific justification. Together they supported the argument that alcohol interventions could expand beyond the expensive regimes prominent in the '60s and '70s to embrace more drinkers and more settings, promising to help reduce alcohol related problems in the population as a whole.

We'll describe the studies in order of publication – logical in another way, as it takes us from the specialist alcohol clinic through the general hospital and out into the GP's surgery, reflecting the shift since the '70s towards community-based interventions. Finally, we'll briefly assess where the work these researchers pioneered has brought us to today. Along the way readers will find the characteristically modest reflections of the original researchers.

The alcohol clinic

Headed by Griffith Edwards, researchers at London's Maudsley Hospital did most to challenge the '60s orthodoxy that intensive inpatient treatment was required to heal the alcoholic. To caricature, first they showed that the inpatient element could be dispensed with,[7] then 10 years later that the same applied to the treatment.[8] What was left was little more (but the little was probably vital) than a single session of expert advice, yet in some circumstances it could work just as well.

Published in 1977 and titled a test of "advice" versus "treatment", the subjects of the second study were 100 male problem drinkers referred to the Maudsley's outpatient Alcoholism Family Clinic. All were in stable relationships. The couples received a three-hour assessment and an initial counselling session. During this a psychiatrist flanked by a psychologist and a social worker confirmed the man was an alcoholic, advised abstinence, and counselled work and efforts to sustain the couple's relationship. Then the couples were randomised into one of two conditions and reassessed 12 months later.

The control condition was 'treatment as usual': for the men, drug and psychosocial therapies plus specialist inpatient treatment for those who needed it; social work support for their partners. Two-thirds of the men attended at least seven treatment sessions and on average their partners received 18 hours social work contact.

The other half of the draw – the 'advice' group – might well have felt abandoned. After the initial session they were told that "responsibility for attainment of the stated goals lay in their own hands", that there would be no more appointments, and that if the man suffered withdrawal he should contact his GP, not the clinic. A social worker would contact the woman every month, but just to check progress.

After 12 months some measures favoured extended treatment but on none was this statistically superior to advice. Edwards's team, sceptical of the contemporary "tide" of specialised treatments, had found a typical programme no better than a much more modest response.

Those uncomfortable with the findings had straws to clutch at. Strongest were the limited range of clients (men in stable relationships and mostly in work) and of treatments tested. Ten years later Jonanathan Chick and colleagues repeated the essentials of Edwards's experiment with a cohort which included women and single men. After two years the study recorded an advantage for treatment over advice in terms of improved family harmony but not in terms of drinking.[9]

It's true that many of Edwards's advice group received help from elsewhere, while a minority of the treatment group received little treatment, narrowing the gap between the amount of services each experienced. However, this gap remained substantial and there was even greater disparity in the *types* of services received. Certainly the study undermined assumptions about the intensity of specialist input required to stimulate recovery from alcohol dependence, even if that recovery involves help from other sources. In particular, the advice group saw more of their GPs,[10] edging the study into territory later probed by a team including Edwards and the first author of the current article. They found that after assessment and advice at a specialist clinic, patients returned to the care of their GPs did as well as those cared for by the clinic.[11]

While the potential impact of a single intervention session may have been a surprise in the '70s, it should not be now. Today we not only have further demonstrations of the value of brief interventions, but also evidence that longer treatments

Edwards G., Orford J., Egbert S., *et al.* "Alcoholism: a controlled trial of 'treatment' and 'advice'." *Journal of Studies on Alcohol*: 1977, 38, p. 1004–1031. Started the search for quicker and cheaper alternatives to intensive treatment for alcohol dependent patients. KEY SOURCE

often impact so early that the patients have effectively only received a brief intervention. Seen most recently in Project MATCH,[12] this was also evident in earlier studies,[13] sometimes before formal treatment had started.[14]

For Griffith Edwards (below) the findings redirected attention away from specific specialised therapies towards the basic features which many effective approaches share. What he called his "plain treatment" relied on comprehensive assessment, sympathetically and persuasively communicated advice, optimistic goal setting, an emphasis on the patient's own responsibility for their progress, and external monitoring of this progress[15] – features common to many psychosocial therapies.

How could the benefits of this single advice session match those of extended therapy? One theory is that the impact of the patient's life *outside* the consulting room may overshadow the few hours spent within it, explaining why variation in the number and type of those hours can make so little difference. Ten years later two of the research team re-interviewed many of the former patients from the 1977 study. Compared to the rest of their lives, treatment and formal self-help through AA did not seem major factors in their success or failure.[16] The same trend was seen 12 months after treatment intake, when many of the men spotlighted life changes or changes in relationships and how they felt or thought as the factors which had led to any improvements. Even in the treatment group, relatively few spotlighted treatment.

The general hospital

Edwards's subjects were seeking treatment for their alcohol problem. In next two studies patients attending a medical service for an entirely different reason were identified through a screening process as excessive drinkers and offered an intervention intended to forestall (further) harm. At issue here is whether this results in worthwhile benefits compared – not to more expensive regimes – but to doing nothing.[17]

The general hospital offers a 'captive audience' consisting of a high proportion of heavy drinkers, many painfully reminded of alcohol's physical dangers.[18, 19] But how would they react to an uninvited inquiry into their drinking? First to put it to the test were Jonathan Chick and colleagues in Edinburgh, in a study published in 1985.[20] Outcomes were mixed, but good enough to show that such interventions were feasible and of potential value.

Out of 731 consecutive patients admitted to male medical wards for at least 48 hours, 161 met the study's criteria. All but five agreed to take part. The criteria embraced people whose alcohol problems may have dated back two years, but an average consumption of 10 units a day in the past week suggests current heavy drinking was common. Other criteria would have tended to exclude isolated patients, the least socially stable, and those so obviously in need of psychiatric help that a referral had already been made.

Participating wards fed control and intervention groups in turn, accumulating two fairly evenly matched samples. Screening was followed by nothing at all, or by one hour of counselling aimed at achieving problem-free drinking by leading the patient to reflect on the drawbacks of his current intake. One of the study's strengths was the low attrition rate, raising confidence that any benefits would generalise to male hospital patients as a whole. Low drop out was achieved partly by the seamless provision of screening, assessment and intervention by the same experienced nurse.

When a year later 133 patients were re-interviewed, *both* groups had halved their past-week alcohol consumption, statistically highly significant. Counselling had led to further benefits, but the first question is, why such a dramatic fall after just a brief assessment?

Perhaps before entering hospital these men were at a peak in their alcohol consumption and later simply resumed more normal drinking. Maybe too the focus on drinking in the assessment and their entering a study about "health and drinking habits" provoked some salutary reflections.[21] A further explanation is the very human tendency to behave differently under observation: Chick's patients knew there would be a follow-up interview and roughly when. If so, the (perhaps considerable) costs of monitoring and follow up must be weighed in the cost-benefits balance.

What of the added value of the counselling? Though not apparent in quantities consumed, this *was* seen in greater reductions in alcohol related problems and in levels of a chemical in the blood indicative of excessive drinking, as well as in a composite measure of the proportion "definitely improved".[22] Dr Chick suspects these outcomes had much to do with the 'empathic' character of the nurse involved (p. 26)

A later study also found at least short-term improvements in alcohol-related

KEY SOURCE

Chick J., Lloyd G., Crombie E. "Counselling problem drinkers in medical wards: a controlled study." *British Medical Journal*. 1985, 290, p. 965–967. For the first time showed that screening general hospital inpatients for problem alcohol use and delivering a brief intervention can reduce alcohol-related problems.

HINDSIGHT the alcohol clinic

Mundane matters at the core of the change process

by **Griffith Edwards**
Consultant psychiatrist and Professor Emeritus at the National Addiction Centre in London; editor of *Addiction*

Reflections on his seminal study which showed that less treatment doesn't have to mean less benefit.

Looking back at a paper which one published more than 20 years ago is likely in any reasonably insightful researcher to bring on feelings of discomfort. This study can in retrospect be seen as beset by numerous technical shortcomings: for instance, the outcome measures were primitive, raters were not blind, and no power calculations were made.

The second response is likely to be fond memories for the team with whom one was privileged to work and of the patients. The investigative group was part of the first major alcohol research team to have been assembled in this country and I suspect that Jim Orford was the first psychologist in Britain to have held a full-time research post in this field. So under this second reflective heading I would conclude that team building does matter.

Thirdly, I'm inclined to argue that although our methodology was imperfect, the essential question we asked remains of large present importance. We must continue to study the general factors which can contribute to patient improvement, the words said, the goals suggested, the hope given, the non-specifics, the mundane, rather than focusing only on comparisons of the latest specific treatments. Good luck to specific therapies, psychological or pharmacological, let's not put them down, but at the centre is still the workaday but little understood core of the change process.

problems (and in time abstinent) a year after hospital patients were referred for help with their alcohol problems, though again reductions in consumption did not reach statistical significance.[23] Not until 1996 did a similar study report a statistically significant drop in alcohol use six months after counselling.[24] Its subjects were not severely dependent, the attrition rate was high, and whether the added value of counselling would have persisted is unknown. But at last the full promise of the intervention – reduced problems *and* reduced consumption – had been realised, with a further twist. Those not yet ready to change their drinking (the majority) did better after motivational than skills-based counselling, a clue that the motivational approach is best suited to this environment.

Golden Bullets

Essential practice points from this article

- **More treatment input does not always equate to better treatment outcomes.**
- **Many excessive drinkers seeking treatment will respond adequately to expert assessment and advice which falls short of intensive treatment, enabling limited funds to benefit more people.**
- **But there is no research justification for denying intensive support to drinkers with severe alcohol and/or other problems.**
- **Primary care and general hospitals can make a worthwhile contribution to public health by screening patients for excessive drinking and providing brief interventions.**
- **Realising this potential will require investment in training early in medical careers and (especially in hospitals) in specialist staff. It will be neither easy nor cheap.**
- **Convincing evidence of cost effectiveness in everyday practice will be needed before purchasers will fund, and medical staff embrace, wholesale implementation of such interventions.**

The GP's surgery

When in 1993 the Effective Health Care Team supported brief interventions in the GP's surgery,[25] their primary evidence came from a study published in 1988.[26] Paul Wallace's "carefully executed design"[27] (see his account on p. 28) means his study remains the most convincing demonstration of the potential role of GPs. Effectively his team tested whether primary care interventions *could* work given relatively ideal conditions with pre-selected patients.[28] The answer was a clear 'Yes', but there remained the issue of whether the benefits would survive more routine implementation.

Conducted in 47 group practices across Britain, the results could not be attributed either to individual doctors or to an atypical local population.[29] The randomised and controlled methodology lent confidence to the findings, but also incorporated departures from the conditions in which primary care interventions would normally occur.

Such departures were most evident in pre-intervention recruitment and screening. Researchers first distributed questionnaires to practice patients, then sought to interview the 4203 whose drinking had been excessive or had worried them. The interviews were used to identify patients who in the past week had met the study's criteria for excessive drinking, of whom 909 entered the trial. Despite questionnaire evidence of risky drinking, the remaining 3294 did not participate. Younger and heavier drinkers and men were disproportionately lost to the study, perhaps leaving a sample specially susceptible to intervention.[30]

The GPs had been trained in an intervention which consisted of an assessment of the patient's alcohol use and problems, comparison with drinking norms, information about potential harm, and advice to restrain drinking to safe levels or (if dependent) to abstain. Patients were then asked to monitor their intake via a drink diary and to return at least once to discuss the diary and the results of blood tests.

Half the sample were asked in for this intervention (over 8 in 10 attended), the other half (the controls) received advice only if requested or if blood tests indicated liver damage. Over 80% of both groups were reassessed by research staff six months and a year later. Whether the measure was past-week consumption or the proportion drinking excessively, and in both men and women, the doctor's advice had reduced drinking – modestly, but by enough to create a worthwhile shift to safer levels. By definition, all the patients had been drinking excessively at intake; a year later 45% of the advice group were no longer doing so compared to 27% of controls. Men in the advice group evidenced a small but statistically significant improvement in blood markers indicative of excessive drinking.

Later studies have generally also produced positive if not conclusive results, including one in Sydney which trialed a similar intervention.[31] Though screening was shared by research and practice staff, in other respects the process approximated everyday practice. Patients screened in the waiting room as potentially drinking excessively were allocated to non-intervention groups or to one of two interventions. For the intervention groups, GPs were alerted to the screening results and either immediately delivered five minutes of advice, or asked patients to return for multi-session counselling. Six months later alcohol-related problems had fallen significantly among patients allocated the longer intervention[32] but consumption had not, perhaps because just half the patients returned even for a single session. Factoring in this degree of non compliance would reduce the potentially impressive health gains extrapolated from Wallace's study.

Impact on policy and practice

How are these three studies assessed today, and how far have their findings been translated into policy and practice? The short answer is that they have been fundamental in placing brief interventions firmly on research and policy agendas, but that changes in practice have been disappointing. This is partly because research to date has not demonstrated sufficiently convincing and substantial real-world benefits, and partly because such evidence as there is has been subject to confusing and sometimes contradictory interpretations (*Evidence incomplete and confusing*, p. 27). Purchasers will need to be convinced that brief interventions provide value for money before funding their roll out across the entirety of primary care or general hospitals.

Each study's impact relates mainly to its own setting. We'll address each in turn.

Specialist treatment: pendulum swings

The Maudsley study (still "probably the most influential" of its kind[33]) sent enduring shock waves through the treatment system. Those with a vested interest in specialist treatment countered with charges of therapeutic nihilism and methodological weakness; others, critical of treatment resources being absorbed by the minority of severe cases, mocked the emperor's state of undress. This debate has only recently begun to settle as moderating voices have argued that it's not a case of intensive *or* brief, but of which intervention is best for whom

KEY SOURCE

Wallace P., Cutler S. and Haines A. "Randomised controlled trial of general practitioner intervention in patients with excessive alcohol consumption." *British Medical Journal*: 1988, 297, p. 663–668. First convincing demonstration that a brief GP intervention can lead to persisting falls in consumption among patients screened for excessive drinking.

and in what kind of setting.

Edwards's study challenged the assumption that specialist treatment was better than a briefer and simpler intervention. On its back grew an opposing assumption: that specialist treatments could be replaced by brief interventions across the spectrum of alcohol problems. In the early '90s two influential reviews were seen as supporting this radical step.[34, 35]

Such conclusions were immediately attacked as stretching the evidence beyond what it could safely support.[36, 37] Brief interventions had, it was emphasised, not been tested with the more difficult cases who today would be typical candidates for intensive treatment. Furthermore, patients in clinical trials are generally highly selected in terms of the severity of their problems and their willingness to be researched and randomly allocated. Worse, studies of heavy drinkers identified by screening had been conflated with studies of those seeking treatment – groups likely to differ so much that evidence for brief interventions in one cannot be taken as evidence for the other. Finally, some studies *had* found added benefits from more intensive treatment.[38]

British and Australian commentators cautioned against abandoning intensive regimes, especially for the more severely dependent. [39, 40, 41] A few years later, when it seemed that UK purchasers were indeed diverting resources from specialist treatment, Colin Drummond cautioned that broadening the base of services for problem drinkers in the wider population should not entail narrowing the apex.[42]

An unmitigated benefit of Edwards's study was that it encouraged a new rigour in treatment evaluation to replace conjecture and received wisdom. It also redirected attention towards the commonalities between treatments which might account for positive outcomes, fundamentals which Edwards did much to elucidate by stripping treatment down to its effective essentials. The latest British review has described the Maudsley's advice regime as "still highly relevant to modern practice".[43] Recommended practice today is more theoretically based, but major elements were already there in 1977.[44]

The last word should go to Professor Edwards. While maintaining that after "full assessment and careful and agreed goal setting, much may then often be left to the patient and family", he argues for a flexible commitment of time and therapies responsive to the patient's needs and progress.[45]

Hospitals: resistance and progress

Jonathan Chick's study was a landmark in a different continent – the general hospital, then the fiefdom of men in white coats often critical of their patients' drinking. Probably many physicians were surprised that the unassuming figure of nurse Crombie (◤ below) could have had such a significant and lasting impact: then, as now, the order of the day with excessive drinkers on medical wards tended towards therapeutic nihilism and negative attitudes.

No surprise, then, that implementation of alcohol interventions in hospitals has been achingly slow. Chick's study did stimulate addiction liaison services, but these are patchy and concentrated in teaching hospitals. It can take protracted negotiations to overcome the typical objections: there's no time, patients will feel embarrassed and insulted and lie about their drinking.[46] Detection rates are often low if screening relies on regular ward staff.[47] As with GPs, but even more so, the rewards which might sustain enthusiasm for brief interventions are weakened by the high failure rate.[48] Nurses delivering these interventions will rarely even witness the gains made by the minority who do respond.

Practicality is not the main impediment, rather resources and attitudes. Even in the daunting atmosphere and with the transient population of an accident and emergency department, intervention is possible with suitable resources and specialists to deliver the intervention.[49] But just 1 in 10 departments undertake screening of any kind[50] and staff tend to see the patient's drinking

HINDSIGHT the general hospital

Relationships (with staff and patients) are the key

by **Jonathan Chick**
Consultant psychiatrist at the
Alcohol Problems Clinic in Edinburgh

With a little help from the "empathic" Evelyn Crombie, Dr Jonathan Chick pioneered brief interventions with hospital patients.

Our study grew partly out of my first foray into alcohol research which involved interviewing 500 healthy working men sampled from institutions where we knew we would find heavy drinkers, namely the Institute of Directors, Chamber of Commerce, and workers in breweries and distilleries. Many told of developing difficulties and evidenced abnormal blood tests.

What could be done to intercept the development of such problems? Michael Russell had shown that some smokers would respond to brief advice from their GPs.[77] With my colleague Geoff Lloyd, a liaison psychiatrist in a general hospital, we decided to see if heavy but non-dependent drinkers, without serious psychiatric problems, could be identified in the hospital and would reduce their drinking after discussing it with a specially trained nurse. The interview instruments were ready from my previous study.

Mrs Evelyn Crombie did most of the interviewing and intervention. Having worked in our alcohol service, she was used to talking to drinkers and made good links with the ward nurses. She had (and has) a relaxed yet firm manner, and is good at getting on the other person's wavelength – 'empathic'. The characteristics of the 'change agent'[78] were then much discussed; some centres with strong treatment effects employed other 'Mrs Crombies'.

Low drop out between screening and intervention made it possible to extrapolate to actual clinical settings. Then and now the evidence supports a very clear role in the general hospital for nurses specialised in alcohol problems. Ability to form good relations with ward staff is critical, otherwise the only referrals are seriously dependent, revolving door patients. (Though for these patients, advice on identifying and managing alcohol withdrawal is also something specialist nurses can very usefully provide.[79, 80])

However, brief interventions have their cons as well as their pros[81, 82, 83, 84] and can be misapplied. Though the studies they reviewed had mostly excluded dependent drinkers, the Effective Health Care Team[85] made it too easy for purchasers to mistakenly conclude that brief intervention was appropriate for alcohol dependence. As the main text explains, commentators quickly sought to set the research record straight.[86, 87, 88]

Evidence incomplete and confusing

The research initiated by these pioneering studies has accumulated good evidence that brief interventions *can* work in relatively ideal conditions. The main impediment to implementation is that there remains practically no evidence of effectiveness – in particular, *cost*-effectiveness – in everyday settings.

Primary care gains unconvincing

Nick Heather – a leading provider of evidence on brief interventions and a cogent critic of how that evidence has been interpreted – has described a trial organised by WHO in eight nations and in a variety of settings[64] as "perhaps the most powerful evidence yet"[65] for brief interventions in primary care. If this really is the case, it suggests that such interventions will be wasted on all female drinkers, lead just 1 in 10 men to cut their alcohol consumption (compared to screening), and produce an across the board reduction in male drinking of about a unit a day[66] – not enough in this study to significantly curtail alcohol-related problems.

Public health analysts might prefer the 'half full' end of the findings, and pessimism must be tempered by the study's limitations, but such evidence may never be enough to convince Britain's 35,000 GPs and several hundred hospital trusts to delve uninvited into their patients' drinking habits.

When is brief too brief?

Currently the evidence for brief(er) interventions among treatment seeking populations is too weak and contradictory to justify withdrawal of intensive treatments, at least for the most severely affected. But until planners know just *how* severe, the implications for practice are unclear.[67]

Some commentators hoped that Project MATCH would clarify this issue.[68] This $28 million US alcohol treatment trial found that a four-session motivational intervention was as effective as (and more *cost* effective than[69]) 12 sessions of cognitive-behavioural or twelve-step therapy, even for heavy and dependent drinkers. The restricted range of patients and treatments, and the exhaustive assessment and follow-up procedures, may have prevented the more intensive treatments revealing their worth. Still, MATCH provides the most convincing demonstration yet that a briefer intervention can be just as good as longer therapies.

In Britain a new four-year trial will test a motivational intervention similar to MATCH's against a more intensive intervention based on social behaviour and network therapy. Unlike MATCH, the United Kingdom Alcohol Treatment Trial (UKATT) will include both abstinence and moderate drinking among its treatment goals and will also test a form of pharmacotherapy.[70]

Confusion over value for money

Most of all planners would like a clear-cut pointer to where they can achieve the greatest health gain for the least outlay. Unfortunately they will find the three most recent reviews of cost effectiveness more confusing than enlightening. All three were meta analyses, combining results from relevant studies to rate the cost-effectiveness of different types of interventions.

In a "first approximation", low-cost brief motivational counselling came third in the league table of effectiveness, behind two higher cost options, but soundly beating most familiar high-cost treatments.[71] A later analysis gave greater weight to more rigorous studies, returning an even more convincing victory for brief interventions.[72] But a reworking of the first study recorded a *negative* score for brief motivational counselling (indicative of poor outcomes relative to other treatments) and placed it *tenth* instead of third in the table.[73]

Why the discrepancy? Part of the answer is that all three analyses had confounded studies of *non*-treatment seeking populations with those of treatment seekers,[74] but in different ways. In the first the criterion of effectiveness was neutrally based on the preponderance of positive versus negative findings. The second gave greater weight to studies comparing an intervention to *no* treatment (appropriate for non-treatment seeking populations), while the third did the opposite, giving most weight to studies comparing an intervention to a strong alternative treatment (appropriate for treatment seeking populations).

In any event, such secondary analyses are far less convincing than research which actually sets out to compare the cost-effectiveness of different interventions in the one study. To guide rational health care purchasing, calculations should also to take account of the wider costs and savings to the individual and to society.[75, 76]

as irrelevant to the main business of tackling the presenting condition.[51]

Calls to extend interventions in hospitals and primary care often neglect an important feature of the approach trialed by Jonathan Chick. His model places a specialist nurse within the general medical setting rather than asking physicians or ward/practice nurses trained in the intervention to do the work themselves. This approach carries major resource implications if it is to be applied across the board. It also takes a special kind of specialist nurse to work in what can feel like a hostile and alien setting; recruitment could be a problem.

Studies like Dr Chick's show what *can* be done, opening up possibilities which need to be tested in the complex world of clinical practice. It will take very convincing evidence of effectiveness, particularly cost effectiveness, to persuade the average busy nurse or hospital doctor to spend a few extra minutes to enquire about a patient's drinking and to provide even a brief intervention to those drinking too much.

GPs: response disappointing

Paul Wallace's study did for the GP's surgery what Jonathan Chick's did for the general hospital: it demonstrated the *potential* benefits of brief interventions, posing the challenge of how to realise these in practice. Many similar studies followed; few achieved the same methodological rigour. The policy impact was substantial, but on the ground change has been disappointing.

Despite calls from government and from the Royal Colleges, a recent survey found that few GPs in England and Wales had embraced brief interventions.[52] When heavy drinkers *were* identified, interventions were often less than optimal.[53] Though nearly 90% of respondents saw primary care as an appropriate setting in which to address alcohol problems, and most thought this could be effective, most also felt they lacked sufficient training, support and confidence. Paul Wallace (◤ his assessment overleaf) has himself judged the primary care response to alcohol as "frequently disappointing", recommending more support in terms of materials and staff.[54] One way the latter is happening is by addiction prevention counsellors from specialist drug and alcohol services visiting GP practices[55] – the shared care model which has encouraged some GPs to take on problem drug users.

Some British commentators have tried to see the issues from the GP's perspective.[56] With little concrete evidence of health gain, and no way to target those who *will* benefit, GPs are understandably wary about wholesale implementation of an approach which might alienate patients. As in the USA,[57] GPs equipped with motivational interviewing skills might find it easier to

explore drinking, and the potential for provocation can be reduced by focusing on the patient and their perception of their lifestyle rather than on alcohol.

Perhaps the fundamental barrier to progress is the disjunction between the public health perspective – which values change at a population level even if many individuals fail to respond – and that of primary care, which values changes in individuals.[58] Such considerations undermine extrapolations of health gain based on blanket implementation of GP brief interventions; the blanket may always be patchy.

Out of the dark ages

Like all *Old Gold* originals, these three studies have withstood the test of time, their landmark status sealed by the fact that each was the first to ask a fundamental and difficult question about alcohol treatment, and that the answers contributed to a paradigm shift in the field. They remain very much in the consciousness of the alcohol treatment sector, as well as having had a considerable impact on policy in the UK and internationally.

By highlighting the potential value of well directed assessment, guided reflection, and simple advice, Griffith Edwards's work paved the way for study of briefer interventions, including the work of Jonathan Chick and Paul Wallace. This and later work raised the possibility of worthwhile gains in public health by addressing excessive drinking in the wider community, influencing the development of official safe drinking guidelines[59, 60] and the introduction of alcohol as a target for intervention in the 1990 GP contract. Recent proposals for a national alcohol strategy argued that brief interventions in hospitals and surgeries should feature among England's core alcohol services.[61] Further afield this research has influenced strategies in the USA,[62] Europe and Australasia.[63]

Perhaps it is too much to expect a few studies, no matter how eminent, to have had a major impact on practice. Alcohol treatment specialists are bound to find it difficult to accept that their favourite therapeutic approach has little or no substance, and it would take a great deal to turn around the negative attitudes towards problem drinkers and towards alcohol interventions held by many general physicians and GPs.

Fortunately, the survey which found a lack of confidence among GPs also found this was age-related: recently qualified GPs were more confident and positive about screening and intervention. So a key implementation objective must be to train health professionals early, giving them the tools to achieve change in their patients before nihilism has set in. If such training happens it will owe much to the vision of the authors of the studies reviewed here, and to their fortitude in the face of scepticism. Without them we might still be in the dark ages, seeing the only problem with alcohol as 'alcoholism the disease', and the only response as costly intensive treatment.

HINDSIGHT the GP's surgery

Paul Wallace: first to test whether advice from a GP could curb risky drinking. His work led to the inclusion of alcohol targets in GPs' contracts.

Findings consistent, impact uncertain

by **Paul Wallace**
Professor at the Department of Primary Care and Population Sciences of the Royal Free Hospital School of Medicine in London

In 1985 when we began the pilot work for our study there was much excitement about the potential for general practice to modify lifestyle. Studies had shown that GP advice about smoking led a small but (in public health as well as statistical terms) significant proportion of patients to quit.[89] We were stimulated to explore a similar approach for alcohol consumption. First we had to develop a screening technique to identify at-risk drinkers and a suitable intervention package.

Support from the Medical Research Council's General Practice Research Framework gave us access to practices willing to act as research sites. We hoped the trial would indicate whether intervention could be effective, with what proportion of patients, and how to distinguish those from patients the intervention failed to benefit. In the latter objective we were not very successful, but the trial did show that GP advice in this population was effective. Of this we felt fairly certain because questionnaire responses were backed by biochemical markers related to drinking. With the Health Education Authority and Alcohol Concern we went on to develop packages to support intervention in general practice, hoping this approach would be adopted widely.

How big an impact has the trial had on practice? In research terms certainly it is frequently cited and has been replicated in a number of countries where, independent of the setting, findings have been remarkably consistent. In practice terms too there have been some successes, notably when health promotion of this kind was recognised in the 1990 GP contract. However, the degree of impact on everyday practice is difficult to ascertain.

On a personal note, it certainly changed the way I approach my patients. I have retained an active interest in the early detection of patients at risk because of their alcohol consumption and use many of the trial's intervention components in my practice.

1 Edwards G., Orford J., Egert S., *et al*. "Alcoholism: a controlled trial of 'treatment' and 'advice'." *Journal of Studies on Alcohol*: 1977, 38, p. 1004–1031.

2 Wallace P., Cutler S., Haines A. "Randomised controlled trial of general practitioner intervention in patients with excessive alcohol consumption." *British Medical Journal*: 1988, 297, p. 663–668.

3 Chick J., Lloyd G., Crombie E. "Counselling problem drinkers in medical wards: a controlled study." *British Medical Journal*: 1985, 290, p. 965–967.

4 Moncrieff J., Drummond D. C. "The quality of alcohol treatment research: an examination of influential controlled trials and development of a quality rating system." *Addiction*: 1998, 93(6), p. 811–823. Analysis included citations up to the end of 1995.

5 Alcohol Concern. *Brief interventions guidelines*. 1997. As opposed to 'minimal interventions' (such as five minutes of advice or just handing out a self-help manual), brief interventions are typically one or two sessions each lasting 30 minutes to an hour.

6 Cameron D. "Keeping the customer satisfied: harm minimisation and clinical practice." In: Plant M., Single E., Stockwell T. *Alcohol: minimising the harm. What works?* Free Association Books, 1997, p. 233–247.

7 Edwards G., Guthrie S. "A controlled trial of in-patient and out-patient treatment of alcohol dependency." *Lancet*: 1967, 1, p. 555–559.

8 Edwards G., Orford J., Egert S., *et al*, 1977, op cit.

9 Chick J., Ritson B., Connaughton J., *et al*. "Advice versus extended treatment for alcoholism treatment: a controlled study." *British Journal of Addiction*: 1988, 83, p. 159–170.

10 Mattick R.P., Jarvis T. "Brief or minimal interventions for 'alcoholics'? The evidence suggests otherwise." *Drug and Alcohol Review*: 1994, 13, p. 137–144.

11 Drummond D.C., Thom B., Brown C., *et al*. "Specialist versus general practitioner treatment of problem drinkers." *Lancet*: 1990, 336, p. 915–918.

12 Project MATCH Research Group. "Matching alcoholism treatments to client heterogeneity: treatment main effects and matching effects on drinking during treatment." *J. Studies on Alcohol*: 1998, 59, p. 631–639.

13 Babor T.F. "Avoiding the horrid and beastly sin of drunkenness: does dissuasion make a difference?" *J. Consulting & Clinical Psych.*: 1994, 62(6), p. 1127–1140.

14 Berg G., Skutle A. "Early intervention with problem drinkers." In Miller W.R., Heather N., *eds*. *Treating addictive behaviors: processes of change*. Plenum Press, 1986, p. 205–220.

15 Edwards G., Orford J. "A plain treatment for alcoholism." *Proceedings of the Royal Society of Medicine*: 1977, 70, p. 344–348.

16 Edwards G., Oppenheimer E. Taylor C. "Hearing the noise in the system. Exploration of textual analysis as a method for studying change in drinking behaviour."

Major reviews of the evidence

The current article is not intended to be a comprehensive review of the evidence but has instead drawn on the reviews below.

Bien T.H, Miller W.R, Tonigan J.S. "Brief interventions for alcohol problems: a review." *Addiction*: 1993, 88, p. 315–336. Seminal review supporting brief interventions for a broad range of clients and settings.

Effective Health Care Team. "Brief interventions and alcohol use." *Effective Health Care*: 1993, no. 7. UK expert consensus and meta analysis emphasising the cost-effectiveness of brief interventions and suggesting routine implementation in primary care settings and hospitals.

Babor T.F. "Avoiding the horrid and beastly sin of drunkenness: does dissuasion make a difference?" *Journal of Consulting and Clinical Psychology*: 1994, 62(6), p. 1127–1140. Argued that the answer to its title question is 'Yes' for those not severely dependent, but also that we have little idea how and why.

Mattick R.P., Jarvis T. "Brief or minimal interventions for 'alcoholics'? The evidence suggests otherwise." *Drug and Alcohol Review*: 1994, 13, p. 137–144. Based on a review and meta-analysis for the Australian Quality Assurance Project. Focuses on whether briefer interventions really are as good as intensive options for treatment seeking alcoholics.

Heather N. "Interpreting the evidence on brief interventions for excessive drinkers: the need for caution." *Alcohol and Alcoholism*: 1995, 3, p. 287–296. Emphasises the distinction between interventions for treatment and non-treatment seeking groups and argues that the evidence is strongest (though far from conclusive) for the latter.

Miller W.R, Brown J.M., Simpson T.L., *et al*. "What works? A methodological analysis of the alcohol treatment outcome literature." In: Hester R.K., Miller W.R., *eds. Handbook of alcoholism treatment approaches*. 2nd edition. Allyn and Bacon, 1995, p. 12–44. Known as the *Mesa Grande* study, this incorporated methodological quality weightings into its assessments of the relative effectiveness of different treatments.

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British Journal of Addiction: 87, p. 73–81.

17 Heather N. "Interpreting the evidence on brief interventions for excessive drinkers: the need for caution." *Alcohol and Alcoholism*: 1995, 3, p. 287–296.

18 Chick J. "Alcohol problems in the general hospital." In: Edwards G., Peters T., *eds*. *Alcohol and alcohol problems*. British Medical Bulletin 50(1). Churchill Livingstone, 1994, p. 200-210.

19 Waller S., Thom B., Harris S., *et al*. "Perceptions of alcohol-related attendances in accident and emergency departments in England: a national survey." *Alcohol and Alcoholism*: 1998, 33(4), p. 354–361.

20 Chick J., Lloyd G., Crombie E., 1985, op cit.

21 Babor T.F., 1994, op cit.

22 However, changes in the blood level of the chemical do not necessarily reflect equivalent changes in drinking (Edwards G., Marshall E.J., Cook C.C.H. *The treatment of drinking problems. A guide for helping professions*. 3rd edition. Cambridge University Press, 1997, p. 195) and, given that self-reported drinking levels were so similar in the two groups, the greater remission of problems after counselling has been queried (Heather N., 1995, op cit, p. 292).

23 Elvy G.A., Wells J.E., Baird K.A. "Attempted referral as intervention for problem drinking in the general hospital." *British Journal of Addiction*: 1988, 83, p. 83–89. These New Zealand patients (even taking into account that some were women) were drinking at far lower levels than the men in Chick's study, so a statistically significant reduction in consumption may have been hard to detect.

24 Heather N., Rollnick S., Bell A., *et al*. "Effects of brief counselling among male heavy drinkers identified on general hospital wards." *Drug and Alcohol Review*: 1996, 15, p. 29–38.

25 Effective Health Care Team. "Brief interventions and alcohol use." *Effective Health Care*: 1993, no. 7.

26 Wallace P., Cutler S., Haines A., 1988, op cit.

27 Babor T.F., 1994, op cit, p. 1134.

28 Heather N, 1995, op cit, p 292–293.

29 However, all the practices had agreed to participate in the MRC's research network, raising a query over how representative they were of all GP practice, and urban practices were under-represented.

30 Edwards A.G.K., Rollnick S. "Outcome studies of brief alcohol interventions: the problem of lost subjects." *Addiction*: 1997, 92(12), p. 1699–1704.

31 Richmond R., Heather N., Wodak A., *et al*. "Controlled evaluation of a general practice-based brief intervention for excessive drinking." *Addiction*: 1995, 90, p. 119-132.

32 But only at six months. The trend at 12 months was in the same direction but not significant.

33 Mattick R.P., Jarvis T. "Brief or minimal...", 1994, op cit, p. 138.

34 Bien T.H., Miller W.R, Tonigan J.S. "Brief interventions for alcohol problems: a review." *Addiction*: 1993, 88, p. 315–336. This review strongly recommended brief interventions for non-treatment seeking populations but was actually more circumspect about replacing intensive with briefer interventions for treatment populations. Here its most confident recommendation was that brief interventions should be provided to those on the waiting list for treatment as an alternative to merely waiting.

35 Effective Health Care Team, op cit, p. 1

36 Heather N, 1995, op cit.

37 Mattick R.P., Jarvis T. "Brief or minimal...", 1994, op cit.

38 Babor T.F., 1994, op cit.

39 Heather N., 1995, op cit.

40 Mattick R.P., Jarvis T. "A summary of recommendations for the management of alcohol problems: the quality assurance in the treatment of drug dependence project." *Drug and Alcohol Rev.*: 1994, 13, p. 145–155.

41 Chick J. "Brief interventions for alcohol misuse." *British Medical Journal*: 1993, 307, p. 1374

42 Drummond D.C. "Alcohol interventions: do the best things come in small packages?" *Addiction*: 1997, 92(4), p. 375–379.

43 Raistrick D., Heather N. *Review of the effectiveness of treatment for alcohol problems*. Final draft. Mimeo: June 1998.

44 Barnes H.N, Samet J.H. "Brief interventions with substance abusing patients." *Medical Clinics of North America*: 1997, 81(4), p. 867–879.

45 Edwards G., Marshall E.J., Cook C.C.H, 1997, op cit, chapter 15.

46 Perry M. "Alcohol screening and early interventions in the medical setting." *Alcoholism*: 1999, 18(2), p. 3–4.

47 Chick J., 1994, op cit, p. 204.

48 Chick J., 1993, op cit.

49 Smith S.G.T., Touquet R., Wright S., *et al*. "Detection of alcohol misusing patients in accident and emergency departments: the Paddington alcohol test (PAT).". *Journal of Accident and Emergency Medicine*: 1996, 13.

50 Waller S., *et al*, 1998, p. 355.

51 Herring R., Thom B. "Resisting the gaze? Nurses' perceptions of the role of accident and emergency departments in responding to alcohol-related attendances." *Critical Public Health*: 1999, 9(2), p. 135–148.

52 Deehan A., Templeton L., Taylor C., *et al*. "Low detection rates, negative attitudes and the failure to meet the 'Health of the Nation' alcohol targets: findings from a national survey of GPs in England and Wales." *Drug and Alcohol Review*: 1998, 17, 249–258.

53 Deehan A., Templeton L., Taylor C., *et al*. "How do general practitioners manage alcohol-misusing patients? Results from a national survey of GPs in England and Wales." *Drug and Alcohol Review*: 1998, 17, p. 259–266.

54 Wallace P, Jarman B. "Alcohol: strengthening the primary care response." In: Edwards G., Peters T., *eds*. *Alcohol and alcohol problems*. British Medical Bulletin 50(1). Churchill Livingstone, 1994, p. 211-220.

55 Henricson C. *Proposals for a national alcohol strategy for England*. Alcohol Concern, 1999. See p. 87.

56 Rollnick S., Butler C., Hodgson R. "Brief alcohol interventions in medical settings. Concerns from the consulting room." *Addiction Res.*: 1997, 5(4), p. 331–342.

57 eg, Barnes H.N, Samet J.H., 1997, op cit.

58 Heather N. "Using brief opportunities for change in medical settings." In Miller W.R., Heather N., *eds*. *Treating addictive behaviors*. 2nd edition. Plenum Press, 1998, p. 133–147.

59 Royal College of Psychiatrists. *Alcohol: our favourite drug*. Tavistock, 1986.

60 Department of Health. *The health of the nation: a strategy for health in England*. HMSO, 1992.

61 Henricson C., 1999, op cit,

62 Barnes H.N, Samet J.H., op cit.

63 Mattick R.P., Jarvis T. "Brief or minimal...", 1994, op cit.

64 WHO Brief Intervention Study Group. "A cross-national trial of brief interventions with heavy drinkers." *American J. Public Health*: 1996, 86(7), p. 948–955.

65 Heather N., 1995, op cit, p. 293.

66 WHO Brief Intervention Study Group, op cit, 1996, p. 953.

67 Heather N., 1995, op cit, p. 295.

68 Mattick R.P., Jarvis T. "Brief or minimal..." 1994, op cit, p. 143.

69 Cisler R., Holder H., Longabaugh R., *et al*. "Actual and estimated replication costs for alcohol treatment modalities: case study from Project MATCH." *Journal of Studies on Alcohol*: 1998, 59, p. 503–512.

70 *British Scientific and Medical News*: 1998, 87. http://www.london.press.net/issues/8/87/pagefive.htm

71 Holder H. Longabaugh R., Miller W.R., *et al*. The cost effectiveness of treatment for alcoholism: a first approximation." *Journal of Studies in Alcohol*: 1991, 52, p. 517–540.

72 Miller W.R, Brown J.M., Simpson T.L., *et al*. "What works? A methodological analysis of the alcohol treatment outcome literature." In: Hester R.K., Miller W.R., *eds*. *Handbook of alcoholism treatment approaches*. 2nd edition. Allyn and Bacon, 1995, p. 12–44.

73 Finney J.W., Monahan S. "The cost effectiveness of treatment for alcoholism: a second approximation." *Journal of Studies in Alcohol*: 1996, 57, p. 229–243.

74 Heather N., 1995, op cit, p. 287–289. This refers only to the Holder study but the later two are no different in this respect.

75 Drummond D.C., 1997, op cit.

76 Heather N., 1998, op cit.

77 Russell M.A.H., Wilson C., Taylor C., *et al*. "Effect of general practitioners' advice against smoking." *British Medical Journal*: 1979, p. 231–235.

78 WHO Brief Intervention Study Group, 1996, op cit.

79 Chick J., 1994, op cit.

80 Chick J. "Policies in general hospitals for alcohol use disorders." In: *Hospital Management International*. Sterling Publications, 1997, p. 172–173.

81 Chick J. "Emergent treatment concepts." *Annual Rev. Addiction Research and Treatment*: 1992, 2, p. 297–312.

82 Bien T.H., *et al*, 1993, op cit.

83 Heather N., 1995, op cit.

84 Heather N. "The public health and brief interventions for excessive alcohol consumption: the British experience." *Addictive Behaviors*: 1996, 21, p. 857–868.

85 Effective Health Care Team, 1993, op cit.

86 Chick J., 1993, op cit.

87 Heather N., 1995, op cit.

88 Heather N., 1996, op cit.

89 Russell M.A.H., *et al*, 1979, op cit. Interestingly, the same studies inspired Jonathan Chick.

False dawn for drug-free schools in Taiwan

Performance indicators are fine, unless someone – perhaps everyone – is fiddling the figures. But when the pressure is on and resources can't be made to square with expectations, that's just what can happen.

by **Mike Ashton**
FINDINGS Editor

With the doors closing on their markets in Japan, in the late '80s Taiwanese amphetamine traffickers 'developed' their own youth market. By 1991 their success had led the Ministry of Education to launch a national anti-drug drive in schools – 'Spring Sun'. It too appeared a success; appearances were deceptive. Only an afterthought study, intended to learn the lessons of the programme's success, revealed that rather the lessons were of its failure.

Far away and a very different culture, but the reasons why it all went wrong are not entirely irrelevant to Britain: centralised target setting with sanctions for failing to deliver; the primacy of watching your own back; the imperative of avoiding the stigma of a 'drug-riddled' school; resources failing to match expectations; and the availability of a simple expedient for squaring the circle – fiddling the figures.

Incredible success

Spring Sun was ambitious. Schools were supplied a list of behaviours symptomatic of adolescent drug use. Pupils thus identified were referred for further investigation. If drug use was confirmed they had to attend counselling sessions with one of the school's teachers who had been specially trained by the Ministry. Other pupils might be caught by regular urine tests. Drug using drop-outs were to be pursued and brought back to school for classes and counselling. Monthly returns from each school of the number of drug users were Spring Sun's key performance indicator.

To Western eyes the programme might seem overly prescriptive, but it did have the virtue of engaging teachers in a caring response to young drug users, with the emphasis on keeping them at school. Its scope was universal, promising to produce a cadre of trained and eventually experienced teachers in every school, and a simple measure would regularly check progress. Above all, something was being done, done quickly, and (by using school staff) done cheaply.

It seemed a resounding and rapid success. Within months the 3850 students identified in the first month had plunged to under 200. Success was confirmed by the Ministry's outcome evaluation and the programme was lauded by the media. To inform future developments, officials decided to document just how the transformation had been achieved. In 1992 they invited a US-based researcher to investigate the programme's implementation ('process' evaluation). His work, the key source for this paper, exposed flaws which showed the outcome evaluation to have been an entirely misleading guide to the campaign's impact.

> *Within months the entire nation's middle schools could identify just 55 drug using pupils*

Suspicions aroused

Even the Ministry had its suspicions. Within months of the programme's launch the entire nation's middle schools could identify just 55 drug using pupils. Officials reminded schools of the need for rigorous reporting. Soon the numbers had increased tenfold. About a year later the process evaluation was initiated. Researchers spent a day at each of 31 schools representative of the 734 in the programme. Intensive interviews, focus groups and questionnaires involving staff and pupils were used to document what had happened. Unlike the figures returned to the Ministry, the data was confidential to the research team; no school or teacher had anything to lose by being frank.

The evaluation uncovered a programme so poorly implemented that its reported success was literally incredible. Spring Sun had been foisted on schools without consultation and with little explanation, leading to communication difficulties. For the schools, the premium was less on reducing drug use, more on not being seen to fail. Problems hidden from the authorities were revealed to the researchers, to whom teachers admitted that they felt ill-equipped to counsel pupils. For continuing cases, the average 10 minutes spared by staff with other priorities – like the exam results their schools were judged on – lacked structure and purpose. Perhaps luckily, it seems most of their 'clients' were well-behaved pupils for whom drug use was an occasional lapse: there were insufficient resources to reach out to those in greatest need.

All this might have come out sooner had the monthly returns revealed something was wrong. But the statistics were fatally vulnerable to manipulation at source and urine tests were insufficient to act as a check. Even honest reporting risked being meaningless: a drug user was considered 'cured' after a negative urine test, but since most were occasional users this could easily be achieved with no change in their drug use. Even the fact that following the campaign arrests of school pupils for drug use increased by 80% did not dent Spring Sun's credibility. Police had their own priorities, and the prospect of performance credits had shifted these towards arresting amphetamine users. For police the desired trend of drug user identifications was up, for the schools it was down; both got their way.

Nobody, as far as we know, opened the police's 'black box', but this *was* prised open for the schools through interviews with five programme leaders who were guaranteed anonymity and with whom the researchers had established mutual trust. Such was the climate of suspicion that simply asking all schools to confidentially confirm their figures was considered a waste of time.

What would you like to hear?

The five trusted correspondents told how schools which at first had frankly reported a large number of drug using students were immediately denounced by officials and parents: they quickly learned not to report

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KEY SOURCE

Huey-tsyh Chen. "Normative evaluation of an anti-drug abuse program." *Evaluation & Program Planning*: 1997, 20(2), p. 195–204.

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the real numbers. Press reports that Ministry officials had considered cutting staff salaries in 'failing' schools did not improve reporting standards. Schools adjusted their returns so as not to seem out of line with neighbouring schools and to evidence an encouraging but not suspiciously dramatic improvement. It was this collective and spiralling deception which appears to have led to the national toll of 55 drug users which rang warning bells in the Ministry.

For the lead evaluator his results illustrate the need for study of what comes *out* of a programme – the outcomes – to be accompanied by a study of what goes on *inside* it. It's a salutary thought that without such an investigation, Spring Sun might have still be masquerading as a resounding success – salutary, because many evaluations do lack a thorough investigation (or at least a detailed description) of how the intervention wrought the outcomes observed.

Spring Sun shows how an authoritarian, top-down implementation strategy tends to create mistrust and communication breakdown. Frontline workers are left no role other than to follow orders with no way to challenge and adapt these if they are unrealistic or under-resourced. What they do have is the choice of seeming to carry out the orders, or admitting they cannot and being denounced as responsible for a failing institution; many will choose deception. In a vicious circle, back at the centre policymakers are fed misleading data which seems to confirm their plans are working and worth pursuing even more vigorously.

It couldn't happen here?

Overbearing policymaking from on high and dramatic deception from below seems far removed from UK traditions. But lest we become too complacent, it's worth reminding ourselves again that elements of a Spring Sun scenario are to be found in Britain. With respect to drugs, the UK is firmly set on the road of adopting numerical performance indicators as an 'objective' means to evaluate drug policy.[1] Target setting has become increasingly centralised both across government[2] and down to local areas,[3] and the iron fist of threatened resource withdrawal for poor performance is ungloved as never before.[4]

All this, of course, comes at the end of an energetic consultation process, and implementation in the UK is devolved to drug action teams and other authorities less isolated and more secure than the unfortunate Taiwanese teachers. However, our own decision-makers would do well to realistically appraise the pressures on reporting bodies to make the figures look good, and the opportunities they have to do so.

1 UK Government. *Tackling drugs to build a better Britain*. April 1998.

2 Cabinet Office. "Targets set for tackling drugs misuse – Cunningham." *News Release*: 16 December 1998.

3 UK Government, op cit, p 32–33.

4 Cabinet Office. "Government's largest-ever push to tackle drugs menace." *News Release*: 1 September 1998, and remarks by Keith Hellawell at the associated press conference.

Spring Sun – the anti-drug campaign that was literally too good to be true.

GLOSSARY

Technical terms relating to evaluation

Standard definitions may have been adapted to fit the context of evaluations of interventions in the drug and alcohol fields. Terms defined elsewhere are italicised.

Attribution Attributing *impacts* to causes. Usually whether a *statistically significant* result was caused by the *evaluated* intervention. The degree of confidence in this attribution will depend on whether alternative explanations can credibly be eliminated and whether the intervention can credibly be seen as the cause.

Attrition The number of subjects recruited into the study who did not receive the intended intervention or were not assessed. Can occur at various stages from recruitment to follow up and may threaten the continued comparability of *treatment* and *control groups* and otherwise weaken the *internal validity* of the study.

Blinding NEW See *double-blind.*

Comparison group See *control group.*

Control group A group of people ('controls'), households, communities or other *units of analysis* who do not participate in the intervention being evaluated. Instead, they receive either no intervention or none relevant to the *outcomes* being assessed, or an alternative intervention (for the latter the term *comparison group* may be preferable). Observations made on the controls form the baseline against which changes in the *treatment group*(s) are assessed to determine whether the intervention had an *impact* and whether this is *statistically significant*.

Cost effectiveness The more cost-effective an intervention is the greater are the desired *outcomes* for a given expenditure on intervention.

Double-blind NEW Research designs in which neither the subjects nor those involved in taking measures from them know which intervention (if any) the subject has received, eliminating bias due to expectations or preconceived views. Blinding can also be applied to other variables knowledge of which might result in bias, such as characteristics thought to make subjects more or less receptive to interventions. See *placebo*.

Drop-out See *attrition*.

Effectiveness The degree to which an intervention produces the desired *outcomes*. When contrasted with *efficacy*, the extent to which it does so under conditions typical of those in which it will usually be applied.

Efficacy The degree to which an intervention produces the desired *outcomes* under relatively optimal or ideal conditions such as with expert, well trained staff, and selected subjects. Contrast with *effectiveness*.

Evaluation One formal definition is: "The systematic application of social research procedures in assessing the conceptualisation and design, implementation and utility of social intervention programmes." Less formally, the systematic attempt to assess an intervention in terms either of its feasibility or whether or how it contributes to desired *outcomes* or other *impacts*.

Experimental group See *treatment group*.

External validity UPDATED The degree to which what is evaluated (and the conditions under which it is evaluated) in a study permit us to assume that similar *impacts* will be observed when the intervention is applied as intended. Normally the extent to which research findings can be extrapolated to everyday non-research contexts. Can be maximised either by limiting the claims made for the study's *generalisability* or by employing more *naturalistic* research designs. Contrast with *internal validity*.

Generalisability NEW How far an evaluation's findings will be replicated in similar situations not actually studied. Normally the main issue is whether the results will apply outside the research context to everyday conditions, in which case *naturalistic* designs may be appropriate.

Hypothesis The predicted *outcome* of the intervention, normally based on theory, unstructured observations or previous research.

Impacts All the consequences of an intervention including intended *outcomes* and unintended consequences either for the *target* group or more broadly.

Instrument A structured method for collecting information such as questionnaires, interview and observation schedules and biometric tests of urine and saliva. In qualitative research, instruments should be *objective*, *reliable* and *valid*. For its results to be subject to *statistical testing* the instrument should produce a numerical score or a means of ranking or categorising the phenomenon it purports to record.

Internal validity The extent to which the research design enables conclusions to be drawn about whether the intervention caused the observed *impacts*. The higher this is, the more adequately can the study test the *hypothesis*. Depends on there being no relevant differences between *treatment* and *control* conditions other than the intervention. Achieving this may adversely affect *external validity*. Internally valid studies are usually best suited to demonstrating *efficacy*. Contrast with *external validity*.

Longitudinal NEW Research designs which aim to assess and reassess the same subjects at several time periods. In an evaluation context the benefit of such designs is that normally (by linking measures to subject identifiers) they permit changes in each subject to be assessed against earlier measures taken from the same subject. See *prospective*.

Mediating (or intermediate) variables Variables lying between the intervention and the anticipated *outcomes* in a hypothesised causal chain. With respect to drug and alcohol use, some examples are intention to use drugs (prevention), treatment retention and therapeutic alliance (treatment), and intoxication (community safety).

Meta-analysis A study which uses recognised procedures to amalgamate quantitative results from several studies of the same or similar interventions to arrive at composite *outcome* scores. Usually undertaken to enable the intervention's *effectiveness* to be assessed with greater confidence than it could have been on the basis of each individual study.

Milestones Key stages in the intervention process which underpin later *outcomes* and which can be documented and monitored. In treatment, may be numbers attending for assessment, retained for a minimum period, or engaging in aftercare. In prevention similar stages may be identified such as proportion of the target group reached, retaining awareness of the intervention's message, or engaging in recommended activities.

Naturalistic NEW Study of an intervention in 'real-world' conditions, eg, without randomising subjects and allowing the intervention to occur as it would outside the research context. Such studies typically observe and measure what happens normally rather than manipulating inputs in order to link these to *outcomes*. Most appropriate to *effectiveness* trials. Often the only feasible approach in the light of resource constraints and ethical considerations which preclude allocating subjects to potentially inappropriate interventions or to none at all.

Null hypothesis The assumption tested by *statistical* procedures that a set of observations occurred purely by chance. In the current context, the null hypothesis usually amounts to the assertion that an intervention produced no *outcomes* or that there was no difference in the *outcomes* produced by two or more interventions.

Objectivity With respect to an *instrument*, the degree to which different people applying or scoring it in the same circumstances on the same subjects would register similar values. An aspect of *reliability*.

Outcome evaluation An *evaluation* (or the element of an *evaluation*) which systematically records whether and to what degree the intended *outcomes* of the intervention were achieved. Colloquially, whether the intervention 'works'. Contrast with *process evaluation*.

Outcomes The intended end product of the intervention or service, eg, changes in substance use or problems, infection control, reduced crime. To be distinguished from changes in *mediating variables* and *outputs*.

Outputs Records or indicators of the level of throughput or activity of a service such as counselling sessions provided, level of occupancy of a residential service, training sessions provided and attended. To be distinguished from changes in *mediating variables* and *outcomes*.

Placebo NEW A dummy intervention which mimics but lacks the presumed active ingredient of the intervention. Used to prevent subjects' expectations or preconceptions of the intervention systematically biasing *outcomes*. It is often impossible to construct a placebo condition when testing psychosocial interventions. See *double blind*.

Process evaluation An *evaluation* (or the element of an *evaluation*) which systematically documents the planning, implementation and delivery of an intervention. This may be as part of an attempt to establish its practicality (a feasibility study) or to elucidate how and why any observed *impacts* may have occurred. Such observations can be important in *attributing* both *outcomes* and *impacts*. Colloquially, *how* the intervention 'works' or why it did not. Contrast with *outcome evaluation*.

Prospective NEW A study in which the subjects are recruited (and normally baseline measures taken) before the intervention takes place. Advantages over retrospective designs (when measures are taken only after an intervention) usually include enabling *attrition* to be accounted for and the *impacts* to be assessed through a before and after comparison.

Randomised controlled trial A study in which subjects are allocated at random to different interventions and/or to intervention and *control* groups. The intention is to eliminate the possibility that any *impacts* arose due to systematic differences between subjects receiving and not receiving the intervention(s). Such studies are rare and may suffer from low *external validity* as self-selection or referral to interventions is more usual in natural settings.

Reliability A highly reliable *instrument* will deliver near identical results in repeated data collections with the same subjects tested under the same conditions, even when (see *objectivity*) the people administering and/or scoring the test are different. An *instrument* is unreliable to the degree to which measures taken with it may vary even when the phenomenon being measured has not changed.

Spontaneous remission Also termed 'regression to the mean'. The tendency for relatively extreme or unusual behaviour (or attitudes, etc) to revert to more usual levels without formal intervention. Particularly relevant to therapeutic interventions as people often seek help when their problems have become unusually severe.

Statistical significance A set of observations is accepted as statistically significant when it is highly unlikely to have occurred by chance. The cut-off point is set by convention, normally at less then 1 in 20, expressed as a probability of less than 0.05 or '$p<0.05$'. If lower probabilities emerge from a well-designed study it is acceptable to conclude that something other than chance caused the results, ie, to reject the *null hypothesis*. However, there remains the issue of *attribution* – establishing what the 'something' was.

Statistical tests Accepted arithmetical methods to determine the probability that a set of observations (measures, scores, categories, ranks) occurred by chance. When this probability is below a certain level the observations are accepted as *statistically significant*. Such tests are important in *outcome evaluations* as extraneous causes of variation in *outcomes* could lead to unjustified conclusions about how well the the intervention worked.

Target group The people, households, organisations, communities or other identifiable entities which an intervention is intended to affect. The degree to which the intended changes occur in this group constitute the *outcomes* of the intervention. However, *impacts* may also be seen in non-targeted groups.

Treatment group People, households, organisations, communities or any other identifiable entities which receive an intervention as opposed to the *control group*. The term 'treatment' does not imply a medical or therapeutic intervention and may be replaced by 'experimental' or 'intervention'. Contrast with *control group*.

Unit of analysis What constitutes a 'case' or 'subject' in the study. Often an individual, but may be a group, a service, a family, a class or a school. To avoid mistaken *statistical* conclusions, the unit used in *randomising* to *treatment* and *control* groups should correspond to the unit used to measure *outcomes*.

Validity With respect to an *instrument*, the degree to which it measures or otherwise reflects the phenomenon it purports to record. For example, whether the results of a questionnaire intended to measure recent drug use correspond to accepted or more direct indicators of the same phenomenon, such as a pre-validated *instrument* or urinalysis results. With respect to an *evaluation*, the degree to which conclusions drawn from the data correspond to reality. See *internal validity* and *external validity*.

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