

Measuring the Costs of Drug Misuse: a note

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Introduction

There is a well-established *association between offending and drug misuse*. Evidence on the association comes from a variety of sources, three of which are reviewed very briefly here.

A high proportion of individuals arrested for certain kinds of offences (including acquisitive crime such as theft and burglary) test positive for Class A drugs. Under the UK's Drug Interventions Programme (DIP) persons arrested for certain kinds of 'trigger offences' can be required to be tested for the Class A drugs, heroin, cocaine and crack. Evidence reported recently reveals that 38% of those arrested in 2006-07 for offences of theft tested positive for heroin and/or crack cocaine¹. This figure may be an under-estimate because some of those arrested for these offences were deemed unfit to be tested, in some cases at least because of having recently consumed large amounts of drugs and/or alcohol.

In a survey of detainees in police custody in London in 2003 seen by a forensic physician 30% were dependent on heroin or crack cocaine: Payne-James et al (2005). Of this group 82% had previously served a term of imprisonment and 54% had used drugs in prison.

A high proportion of individuals on drug treatment programmes report themselves as offending. In a study of 103 adolescents attending drug services Beckett et al (2004) found that 60% had been arrested at some point in their lives, although nearly 30% reported themselves as having committed crime prior to starting to take drugs. This arrest proportion is much higher than would be expected amongst the population at large in this age group.

The implication of this evidence is that a substantial amount of crime is attributable to individuals who are misusing drugs. This applies particularly to the group referred to as 'problematic' drug users as distinct from 'recreational' users or older individuals who have been using drugs for a long time. Of course, an association between offending and problem drug use is not sufficient to establish that it is drug misuse that is causing the offending. Some studies (Beckett et al, 2004, for example) have, however, suggested that there is evidence that the development of problematic drug use tends to result in increasing amounts of offending.

Although there remains uncertainty as to the proportion of offending that can be described as a direct consequence of offending, there is a consensus that drug misuse imposes costs on the economy that include costs of drug-related crime.

¹ Hansard Written Answers, 7 March 2008, Column 2842W

Economic and Social Costs of drug misuse

In models of the economic and social costs of drug misuse the costs of crime play a significant role, although they are far from the whole story. Other prominent costs of drug misuse include costs of premature death, recurrent health and social care costs, costs of impaired driving and the loss of productivity: Godfrey et al (2003).

Establishing the extent of offending associated with drug misuse helps analysts make a preliminary estimate of the crime costs associated with drug misuse. There are a number of ways in which this can be approached. One way is to take the total costs of crime and to make an estimate of the proportion accounted for by drug users. If we take theft for example then one possible route would be to use the proportion of theft arrests involving those testing positive for Class A drugs as a proxy for the degree of involvement of problem drug users in theft. This is crude, but does provide a first approximation.

A different, more widely-used, approach is to estimate the number of drug users and to combine this with survey evidence on their offending. In Godfrey et al (2003) this is done by reference to the results from a cohort study of treatment outcomes, NTORS, which tracked offending and other behaviour before and after drug treatment: Gossop et al (1996). Account is taken of the costs of drug possession offences (CJS costs only) and of the full range of economic and social costs² of the crimes respondents reported having committed. As an indication of scale, the average cost of offending during the year prior to treatment is estimated (based on Brand & Price cost of crime estimates for 2000) at an average of around £30,000 per annum.

The numbers of problem drug users at these different stages in the treatment cycle are estimated from other sources, and total costs aggregated for each group. Separate estimates are made for recreational and other groups of drug users.

Policy evaluation

Finding an association between offending and drug misuse is not sufficient to establish that eradication of drug misuse would contribute a cost saving equivalent to the total offending costs. Drug misuse and offending may both be symptoms of some common factor, so while reducing drug misuse might contribute to a reduction in offending the impact might be weaker than expected, as other adjustments are prompted. For example a jump in the price of a drug might induce a switch to alcohol or to other kinds of substances. The net result might be a reduction in the incidence of particular kinds of drug misuse without a reduction in offending.

In any event it is essential to think about the costs of crime associated with drug misuse in a model that treats offending costs as just one of a number of costs associated with misuse. These offending costs are then put alongside other costs (such as the costs of premature death, health service costs and productivity loss) to assemble an estimate of a total cost for drug misuse.

² Based on the normal range of costs in anticipation of crime, costs as a consequence of crime plus costs in response to crime.

From a policy evaluation perspective the key issue, which can be tackled directly via the Godfrey (2003) kind of approach, is the difference between average costs before and after treatment programmes. The reduction in the costs of offending (and other negative outcomes) brought about by treatment can be compared with the costs of the drug treatment programmes to make an assessment of the return on these programmes. A similar kind of method could be applied to look at other interventions targeting drug misuse such as prisoner resettlement programmes with a substance misuse component or the development of specialised drug courts.

References

- Beckett H, J Heap, P McArdle, E Gilvarry, J Christian, R Bloor, I Crome & M Frischer (2004) 'Understanding problem drug use among young people accessing drug services: a multivariate approach using statistical modelling techniques', *Home Office Online Report* 15/04
- Brand, S. and R. Price (2000). The economic and social costs of crime, London, Home Office.
- Dubourg, R., J. Hamed, et al. (2005). The economic and social costs of crime against individuals and households 2003/04. *Home Office Online Report*.
- Godfrey C, G Eaton, C McDougall & A Culyer (2003) 'Economic and Social Costs of Drug Misuse', *Home Office Research Study*, 249
- Godfrey C, S Stewart & M Gossop (2002) *National Treatment Outcome Research Study: Economic Analysis of the Two Year Outcome Data*, Report to the Department of Health
- Payne-James J J, I J Wall & C Bailey (2005) Patterns of illicit drug use of prisoners in police custody in London, UK, *Journal of Clinical Forensic Medicine*, 12, 196-198

1. Introduction

This Annex proposes an indicator intended to capture the burden on a society represented by the crimes committed by those misusing drugs.

It relies on the idea that this burden increases proportionately with any of the following components while other things remain constant:

- An increase in the number or seriousness of the offences committed by drug misusers
- An increase in the economic and social costs of offences
- An increase in the proportion of the population misusing drugs
- A fall in the average national wage

2. Specification

The indicator makes use of the following variables:

- DU number of drug users (typically the number of ‘problem’ drug users)
- X_j average number of offences of type j per annum committed by drug users
- C_j estimated economic and social costs of offence type j
- N country’s population
- w country’s average annual earnings
- u (=DU/N) proportion of the population using drugs

Construct the average cost of offending per drug user, Z, where:

$$Z = \sum_j X_j C_j$$

The indicator, I, of the burden of offending is written as:

$$I = DU * \sum_j X_j C_j / w * N \quad \text{or more simply as: } I = uZ/w$$

The indicator thus measures the average costs of offending by drug users multiplied by the proportion of the population using drugs divided by the average annual earnings. This construction ensures that:

The costs of offending by drug users reflects local costs of offending but is adjusted for local living standards, and can therefore be used to compare the burden across countries.

The costs of offending will tend to increase as incomes rise, but the indicator only increases through time if the costs of offending rise relative to incomes.

This makes the indicator sufficiently powerful for both cross-sectional and time-series analysis.

3. Data requirements

The data requirements (and likely sources) of the indicator are as follows:

Average earnings level (from national economic statistics or an international source such as Eurostat, IMF or OECD)
 The number of problem drug users in the country as assessed from surveys (and available via national reports to organisations such as ECMDDA or UNODC)
 Country estimates of the economic and social costs of crime derived from MMECC or other standard cost of crime estimation methods
 Evidence on the offending profile of drug misusers (derived from self-reported surveys or similar)
 Population data from a standard national (or international) source

4. Example

We demonstrate the computation of the indicator for the UK in 2003.

Average earnings ³	£23,857	New Earnings Survey, Office for National Statistics
Number of problem drug users ⁴	337,350	Godfrey et al (2002)
Population ⁵	51,897,000	Office for National Statistics
Economic and social costs of crime per drug user ⁶	£31,321	Estimates from Godfrey et al (2002) based on cost estimates of Brand & Price (2000) and evidence from National Treatment Outcome Research Survey (NTORS)

Indicator (UK, 2003) = 0.0085

5. Applications

The indicator can be used for comparative purposes. In countries where the value of the indicator is relatively high, offending by drug misusers is imposing a higher burden than it is elsewhere.

The indicator can equally well be used for purposes of time series analysis. In a country where the indicator is rising year on year, offending by drug misusers is imposing an increasing burden.

6. Limitations and caveats

Like most indicators, this is not a perfect way of capturing what is required. Its limitations include the following:

It identifies a single group of ‘drug users’ whereas in practice there are known to be many different types of users, some of whom represent a significantly higher offending risk than others. Use of the term ‘problem’ drug users, to distinguish a

³ Average gross annual earnings, England & Wales, 2001

⁴ Class A problem users in England and Wales: medium estimate, Godfrey et al (2002) at p vi

⁵ Population datum from, Revised Population Estimates England & Wales 1990-2000, Office for National Statistics (2003)

⁶ The sum of criminal justice costs (£2,366m) and victim costs (£8,190m) using the medium estimates of the number of Class A problem users.

group whose drug using has significant external costs for other citizens, may not be very tractable from an empirical perspective. There may be 'recreational' (non-problematic) users whose behaviour does sometimes impinge on others. And equally there may be some heavy users who do not impose significant external costs on others, for example because they are wealthy and do not engage in acquisitive crime to raise cash to buy drugs.

It requires a substantial amount of data to estimate the indicator. For many countries there are no reliable existing estimates of the costs of crime. In addition, knowledge of the extent of problem drug misuse may be incomplete or unreliable. In such cases it is quite unlikely that there will be reliable estimates of the scale of offending by misusers.