

# programmes for offenders: guidance for evaluators

# Crime Reduction Programme and Constructive Regimes in Prisons

## Programmes for offenders: guidance for evaluators

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Home Office

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### Aim of the series

The purpose of this series is to provide guidance on the monitoring and evaluation of Government-funded crime reduction initiatives. The impetus for the series comes from the desire of HM Treasury and the Home Office to ensure adequate assessment of the effectiveness and cost-effectiveness of new initiatives funded from the 1998 Comprehensive Spending Review. A major element of the newly funded initiatives is the evidence-based Crime Reduction Programme, for which the Government has committed £250 million over the period 1999-2002. Although much of the material in this series will meet the specific needs of that programme, the series as a whole is intended to have a wider application. It should be of use to evaluators and those planning new initiatives.

### The Crime Reduction Programme

The Crime Reduction Programme will invest resources in projects which offer a significant and sustained impact on crime. The programme is intended to contribute to reversing the long-term growth rate in crime by ensuring that we are achieving the greatest impact for the money spent and that this impact increases progressively. It will do so by promoting innovation, generating a significant improvement in knowledge about effectiveness and cost-effectiveness and fostering progressive mainstreaming of emerging knowledge about good practice. Projects will be carefully selected to ensure that they contribute to achieving these objectives.

The Programme will cover five broad themes:

- working with families, children and schools to prevent young people becoming the offenders of the future;
- tackling crime in communities, particularly high volume crime such as domestic burglary;
- developing products and systems which are more resistant to crime
- more effective sentencing practices
- working with offenders to ensure that they do not reoffend.

All the parts of the Crime Reduction Programme will be independently evaluated to assess their effectiveness and cost-effectiveness in reducing crime and improving the impact of the criminal justice system. Those parts which are successful will form the basis of future mainstream programmes and those which are not will be dropped. Equally, where the Crime Reduction Programme shows that existing work carried out by the criminal justice system is ineffective or less cost-effective than other realistic alternatives, that too will be dropped.

## Constructive Regimes in Prisons

The Prison Service programme for developing constructive regimes also invests resources to expand offender programmes, with a commitment to evaluate their impact on crime in a manner that enables their effectiveness to be compared with projects in the Crime Reduction Programme.

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The Crime Reduction Programme (CRP) and the Prison Service programme for developing constructive regimes have both provided a substantial injection of funds to expand programmes for offenders. With this funding comes a Treasury requirement and a Home Office commitment to evaluate *the impact of the extra spending on levels of crime*. For offenders this means a primary objective of the evaluations must be to look at the impact on reoffending, as measured by reconviction rates.

Whilst this must be the ultimate objective, to be useful to policy development evaluations will need other objectives. Indicators of likely changes in reoffending such as changes in attitudes, substance abuse and employment status<sup>1</sup> should be measured to provide more immediate results and indicate the mechanism for the impact on crime. The effectiveness of implementation in the community or institutional setting will also be important.

There is already general guidance on how to do evaluations contained in the Treasury's "Appraisal and Evaluation in Central Government - The Green Book". Specific CRP guidance for evaluators will also be available ("A Protocol for Independent Evaluators" and "Analysis of Costs and Benefits: Guidance for Evaluators"). For the Probation Service, chapters 6-9 of Her Majesty's Inspectorate of Probation's effective practice guide "Evidence Based Practice", 1998, cover monitoring and evaluation. These guidelines do not attempt to replace or duplicate those publications, but to build on them by identifying key principles and outcome measures that are particularly relevant to programmes for offenders.

The aim is to help both those commissioning evaluations and those carrying them out. The advice here can avoid wasted effort by evaluators 'reinventing the wheel' and can encourage a consistency of approach that will help comparisons between programmes. It is also important that programmes are designed so that they can be evaluated: so this document is also intended for those designing programmes.

There are 3 parts to these guidelines:

- Part 1: general principles to be borne in mind in designing evaluations
- Part 2: key outcome measures and ways they can be measured
- Part 3: how to evaluate costs and benefits

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<sup>1</sup> Past research shows these to have an impact on reoffending - ref. Lloyd et al "Explain Reconviction Rates", HORS 136, and "Explaining Reconviction following a Community Sentence: The Role of Social Factors", HORS 192..

### *Key Points*

- Offender programmes must be evaluated for their impact on crime as measured by a reduction in reconvictions.
- This will involve use of the Offenders Index and possibly the Police National Computer (PNC); evaluators must contact the Offenders and Corrections Unit (OCU) in the Home Office to agree their needs *early* in the design stage. OCU will also advise on the use of the PNC, and evaluators should not approach the PNC direct.
- Intermediate outputs and outcomes known to be related to reconviction should also be measured, e.g. qualifications, jobs, attitude change, etc. The choice of these will depend on what the programme is trying to achieve. This guide suggests ways of measuring outputs/outcomes on a reliable and consistent basis.
- A joint risk/needs predictor and change measure for prisons and probation is being developed by the Prison Service/Home Office and should be available in the second half of 2000. This will provide a sound basis for measuring attitude changes on some of the social dynamic measures known to be related to re-offending.
- Evaluators must assess the cost effectiveness of programmes. The Home Office will carry out a full cost/benefit analysis on the basis of information supplied by those evaluating programmes.

The key general principles that should guide programme providers and evaluators are:

- Those setting up programmes must be aware of *the need for evaluation* and have built in, from the start, the necessary infrastructure, e.g. for collecting data.
- *The depth of evaluation* needs to be considered. More detailed evaluations will be required for new programmes, pilots or pathfinders or for those untested in that setting before. Inputs, outputs and outcomes will all need to be covered. Where programmes have been shown to work and are being mainstreamed or expanded then the primary need is to monitor outcomes on a regular basis to check standards are maintained.
- Ensure there is a way of *checking the standard of operation*. For new programmes this will nearly always involve a special study. For proven programmes there may be other checks on whether the programme is run as intended. The Prison Service, for example, uses accreditation panels for its Offending Behaviour Programmes and from the autumn of 1999, there will be a joint prisons/probation accreditation panel under the effective practice initiative for both probation and prisons programmes. For educational and skill courses, this can be done by making sure that courses or certificates are to recognised standards. Even where programmes are accredited, checks should be made on the standard of operation on site.
- Consider obtaining *short as well as long-term outcome measures*. It can take a long time before the impact on reconvictions can be measured (typically 3 years but longer for some types of offender). For programme development it will be essential to have shorter-term outcome measures such as the 'indicator' measures identified in Part 2, e.g. employment, drug abuse, skills, attitude change and qualifications. All these are indicators of potential changes in reconviction rates.
- Choose *outcome measures to suit the intended purposes of the programme*. These measures will then help to identify the mechanism by which change has occurred and whether what was intended has been achieved.
- Ensure that the *numbers being evaluated are sufficient to produce robust results*. Too often in the past programmes have had such small numbers that results are inconclusive. Even good programmes have often only produced small reductions in reconviction rates, typically 5 to 10% lower than would be expected in the absence of the programme. With small numbers it can be

impossible to say this would not have happened by chance. As a guide, the following table indicates the minimum sample sizes for two samples (a control and a programme sample) required for an analysis to detect a significant difference of between 5 and 10%, when the value in each sample is around 50% (a rough approximation for the reconviction rate at 2 years for offenders):

Required to detect a difference of:	Minimum size of each sample <sup>2</sup>
10%	200
9%	250
8%	300
7%	400
6%	550
5%	800

- Aim to *have a control or comparison group* so that robust analyses can be made of the additional effect of the programme compared with what would happen to the offenders anyway. The strongest design for an evaluation is random allocation of subjects and this should be considered and chosen if possible although it is often not achievable in criminal justice settings. If a control or comparison group is not possible, then a second best will be to compare with national trends and on the basis of these to model actual and predicted outcomes.
- Make sure that *selection effects* are accounted for by looking at outcomes for those not selected for the programme or who drop out as well as those who complete it, and by measuring and comparing known risk factors for reoffending e.g. previous conviction history in both control and programme samples. Apparently good results for a programme could reflect the fact that less risky offenders complete it, rather than it has had a real impact.
- Ensure *independent verification* of results from programmes. This means that the evaluators must not be closely involved in running or designing programmes (other than the evaluation framework). This ensures that those evaluating programmes do not have a conflict of interest. This is a Treasury requirement.

<sup>2</sup> Figures for sample sizes have been rounded to nearest 50. These are final achieved samples and allowance may need to be made for non-response. Assumes the samples are independent and the sampling fraction is small.

### The Offenders Index

Researchers undertaking evaluations of Crime Reduction Programme (CRP) funded offender programmes and the Prison Service programme for developing constructive regimes will need information on reconviction rates to evaluate programme effectiveness in reducing offending and thus the level of crime. The main source of data on reconvictions is the Home Office Offenders Index (OI). There are a number of key issues to consider.

### Follow-up period

The usual follow-up period for reconviction studies is two years. The OI is updated quarterly, six months in arrears. *This means that it is normally only possible to obtain information on reconviction rates of offenders passing through programmes after a three-year period has elapsed.* Shorter follow up periods may be possible if Police National Computer (PNC) data can be used (see page 13). In certain circumstances, e.g. for programmes addressing sexual offending, it may be necessary to extend the period beyond 2 years because of the relative infrequency of reconviction.

### Pseudo-reconvictions

The principal reason follow-up periods of two years are recommended for OI samples is that shorter follow-up periods yield an unacceptably high proportion of what are termed 'pseudo-reconvictions' (see Home Office Research Study, 136, "Explaining Reconviction Rates: A Critical Analysis"). These are reconvictions for offences committed prior to the offenders commencing the programme or disposal under study. For example, it has been estimated that for community penalties typically around 25% of reconvictions at the one-year point after commencement are '*pseudo-reconvictions*'. These cannot be identified on the OI, as date of offence is not recorded.

For custody samples the effect of 'pseudo-reconvictions' is less pronounced and it may be justifiable to have a one-year follow-up using OI data.

If information on date of offence (see next section) is available then it makes sense to remove 'pseudo-reconvictions' from consideration. If a 'pseudo-reconviction' results in a custodial sentence or results in termination of or severe disruption of an offender's participation in the programme under evaluation then the offender should be removed

from the sample group. They may need to be included in a separate analysis group of those who drop out of a programme (see section on analysing reconvictions).

If information on the date of offence is not available, then comparisons will not be greatly biased providing one does not attempt to compare offenders discharged from prison with those who commence community penalties. If one does compare a non-custodial with a custodial sample, a rough adjustment to two-year reconviction rates would be to decrease the rates for those commencing community penalties by about 4 percentage points (this adjustment is approximate and such adjusted figures should be interpreted with care, e.g. it may not be appropriate for 'high' or 'low' rate offenders).

### Police National Computer Data and other measures of re-offending

It is possible to get earlier data on reconviction rates, at e.g. the 6 and 12 month points by making use of criminal career data from the Police National Computer (PNC or Phoenix), as the date of offence is recorded on the PNC. This makes it possible to directly identify pseudo-reconvictions. Tracing information on the PNC requires an offender's PNC ID or CRO number (Criminal Record Office number, sometimes known as the NIB or NIB number. Please note that this is not the same as the Probation Service's CRN number). To avoid bottlenecks in obtaining this information researchers are strongly advised to record PNC ID and/or CRO number in the course of their evaluation.

The PNC also records information on cautions (from November 1995) and arrests/charges although the latter is eventually removed, if a conviction is not secured.

Experience in analysing PNC data is still limited. It is known that there are some data accuracy problems with PNC data (see Paper 11, Home Office Police Research Group, Special Interest Series). ACPO have set targets for local forces to enter data on convictions onto the PNC within two months and accuracy is thought to be improving. The major advantage of using PNC as a data source for reconviction rates is that information becomes available at a much earlier date than for the OI. To set against that there are the difficulties mentioned above. It is also not possible to make direct use of standard reconviction prediction instruments, as not only are they calibrated at the two year point they are also based on OI data.

An alternative approach to establishing an early indication of reoffending is to use *self-report measures*. If interviewers are skilled enough to establish rapport and trust, self-report measures can provide useful indicators of re-offending, during the course of an order or period of supervision after discharge from prison. A standard methodology has yet to be developed and validated.

A useful approach to obtain an early indication of reoffending adopted in the evaluation of the Prison Service's Welfare to Work Initiative was to ask the supervising probation officer, 3 months after the prisoner's discharge, to indicate whether the offender had been convicted and/or charged with a further offence since release. If an early indication of reoffending is needed for similar programmes, it is suggested that the same measure might be used.

However, these last two approaches are of little value for measurement after the completion of an order or period of supervision, because of the considerable difficulties in locating offenders.

### Liaison with Criminal Careers Section

There will be a need to schedule work within the Criminal Careers Section, of Offenders and Corrections Unit (OCU), Research, Development and Statistics Directorate of the Home Office, particularly if PNC data is required. Analysis of a combined PNC and OI datafile is complex. To assess the significance of differences between control and experimental groups, it generally requires the fitting of a study specific model for reconvictions (the usual procedure is to fit a logistic regression model).

It is anticipated that collaborative work involving Criminal Careers Section and the programme evaluators will be necessary for the initial round of evaluations, as procedures are developed and refined. At a minimum, the section should be involved about the form that the analysis should take and be in a position to comment on the approach to analysis before evaluation reports are written up.

### Local factors and control groups

It should be borne in mind that reconvictions are being used as a surrogate for the unknown level of reoffending. A central problem in assessing the effectiveness of particular offender programmes is that the local environment may have an effect on recorded reconvictions, which is independent of rates of reoffending. Local police cautioning policy will have a bearing on the number of reconvictions recorded (the OI does not record cautions), as will the local efficiency of the Criminal Justice System in obtaining convictions for those charged. The nature of the locality will have some bearing on the chances of reconviction. For example, known offenders living in rural areas may have higher chances of reconviction for a given level of offending than offenders living in cities. Another factor complicating the interpretation of local reconviction rates is the fact that the type of offender appearing before the courts is not the same in all localities. Simple comparison of local rates with national rates may often be misleading.

Such local factors point to the need for some local control groups in assessing the true significance of reconviction rates for local programmes. In rare circumstances it may be possible to set up control groups by random allocation of offenders to the programme of interest and to a control group which does not receive the programme. However, usually such randomised control groups are not possible for practical reasons.

Sometimes reasonable comparison groups can be obtained by drawing a sample of offenders who would have been suitable for the programme, but for whom the programme was not available (e.g. one could sample similar offenders on probation or in prison in the months prior to the establishment of a programme). Alternatively some rationing of the programme may enable some suitable comparison group to be established. It may also be possible to generate suitable local comparison groups from samples of offenders drawn for OCU's regular exercise to monitor reconviction.

The mechanism by which offenders are allocated to programmes should always be examined; a situation where offenders are sentenced to a programme is very different to one where they are asked to volunteer. Where offenders volunteer a suitable comparison group might be obtained by a rationing process that rejects some volunteers on a random basis.

## Analysing Reconvictions

One can have much greater confidence in results from any reconviction study - and draw more useful conclusions - if reconviction histories have been obtained not only for the group of offenders subject to the offender programme of principal interest but also for the control or comparison group. Factors such as age, gender and previous criminal history are known to have an important bearing on reconviction rates and a comparison of groups needs to take this into account.

It is possible to make adjustments in order to do this. For example, weighting-up or boosting numbers in the control group so the distribution by age group is the same in the control as for the offender programme being evaluated. One can also fit models for reconviction that take account of these factors; *this requires knowledge and experience of the relevant statistical modeling techniques*. Although applying reconviction models to the data is complex it has a number of advantages. It is possible, for example, to use social variables (e.g. recorded drug addiction problems) as explanatory factors for reconviction in addition to the usual criminal history, offence and demographic information.

It is important in making comparisons between control and experimental groups that offenders who drop out of a programme are not ignored. Such dropouts are likely to be riskier cases in terms of reoffending. Estimates of the overall effect of a programme will tend to be biased in favour of the programme if they are excluded from any analysis.

### Actual versus predicted reconviction rates

An alternative approach is to *use a standard reconviction predictor to produce predicted rates* of reconviction for those offenders on the programme of interest, control groups, etc. The "Offender Group Reconviction Scale (OGRS)" based on Offenders Index data can be used for this purpose. The current version makes use of samples of offenders commencing orders or discharged from prison in 1990. The latest version of OGRS based on 1995 data is now in development. Ways of making this available to researchers are being considered e.g. via CD-ROM.

One should not necessarily expect the predicted reconviction rate for an offender to be closely matched by the actual rate. The OGRS is based on criminal career information from samples of offenders from all parts of England and Wales and may not closely correspond to those in a particular locality (see the above discussion on local factors). This means that the difference between the predicted versus the actual reconviction rate for any particular group of offenders could easily fail to give a good indication of programme effectiveness.

It is important to have results for a control group since this provides a means of allowing for the effects of local factors. So, for example, one could look at the difference between actual and predicted reconviction rates for two groups in order to make any judgement as to the relative effectiveness of the programmes applied to them.

### Measuring Re-Conviction - Summary

- The Home Office's Offenders Index (OI) is the main source of reconviction data.
- Reconviction is usually measured over a period of 2 years but evaluators need to allow up to 3 years to obtain data, analyse and report
- Data from the Police National Computer may be used to provide earlier reconviction results but experience with this data source is more limited and there are some data quality concerns. Evaluators should collect PNC Ids and/or CRO numbers if they wish to use these data.
- Criminal Careers Section of the Offenders and Corrections Unit of the Home Office must be contacted at the design stage of evaluations to discuss use of either source.
- Control or comparison groups, created using random allocation or as closely matched as possible, should be established to take account of local and other factors.
- Comparisons of reconviction rates between programme and control or comparison groups needs to take account of previous criminal history and other characteristics known to affect the likelihood of reconviction.
- This is likely to involve the fitting of logistic regression models. Alternatively predicted and actual rates of reconviction can be compared using the Offender Group Reconviction Scores (OGRS).
- Those who drop out of programmes should be included in the consideration.

### Indicators of reduced offending

There is already evidence that factors such as substance abuse, education, employment, finances, attitudes, etc can impact on re-offending, e.g.:

Prison Service assessment of the impact of different regimes on dynamic criminogenic factors suggests that well-targeted basic skills education has a measurable impact on reconviction rates. There are similar encouraging indicators for accredited cognitive skills programmes which seek to change attitudes and behaviour.

An analysis of reconviction following community sentence (Home Office Research Study, 192, "Explaining reconviction following a community sentence: the role of social factors") showed that there was a relationship with re-conviction for drugs use, employment status and financial problems, and that the predictive power of a logistic regression model was increased when these factors were added to criminal history variables.

So measuring factors such as these, appropriate to the programme that is being provided, can give an earlier indication of likely reductions in reoffending and can confirm the mechanisms by which this is being achieved. Some of the issues to be addressed in the measurement of these factors are set out below.

### Risk Assessment

There is fairly strong evidence emerging that changes in scores for risk assessment tools such as LSI-R and ACE are associated with changes in reconviction rates. If these results are confirmed then it is relatively straightforward to collect these data at the start and end of a programme. A joint risk/needs predictor and change measure for prisons and probation is being developed by the Prison Service/Home Office and should be available in August 2000. This will provide a sound basis for measuring attitude changes on some of the social dynamic measures known to be related to re-offending. Tools such as LSI-R or ACE may need to be used as an interim measure.

### Employment

The evaluation of the Welfare to Work for prisoners initiative has measured employment status since release by asking, via a postal survey, probation officers to record the duration of work in the 3 months since release. Probation officers are also asked whether the offender has entered full-time education or training, and whether they have entered the New Deal Gateway. Where a programme is aiming to improve employment prospects, this approach could be adopted to evaluate outcomes. However it is only possible for those under probation supervision and the period that can be covered is limited by the offender's period of supervision (3 months was chosen in the Welfare to Work evaluation as this is the minimum period of supervision for all young prisoners on release).

The Welfare to Work evaluation is also obtaining longer term information on employment related variables from the DfEE's New Deal Database. This contains data on entry to New Deal, periods of unemployment and movement into jobs where the Employment Service knows this. It could be a good source of data for young offenders and others eligible for New Deal. Evaluators wanting to use this data source should contact the Offenders and Corrections Unit in the Home Office for advice in the first instance.

If neither of the above methods are possible then employment may be measured by self-report to independent researchers, providing offenders can be traced.

Evaluators will need to take account of differing local labour market conditions in their evaluations. They should also aim to assess the quality of jobs obtained, e.g. duration of employment, whether full or part-time, nature of work and wages, etc.

### Literacy/numeracy skills

Within the Prison Service there is a standard methodology for measuring literacy and numeracy skills, which could also be used by evaluators. They have used the Basic Skills Agency's definitions, which is also used by some Probation Services:

“By basic skills we mean the ability to read, write and speak in English and use mathematics at a level necessary to function at work and in society in general.”

The screening test is designed to meet Basic Skill National Standards in reading and writing. The Agency has made an approximate mapping of these standards to NVQ key skills levels and National Curriculum levels in English and mathematics:

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Basic Skills Standard in reading and writing	NVQ	National Curriculum in English and mathematics
Foundation level	-	Level 2/3 (7 or 8 year old level)
Level 1	Level 1*	Level 4/5 (11 year old level)
Level 2	Level 2	Level 6

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\* Lowest level of achievement for accessing and keeping employment.

### Substance abuse

Substance abuse, particularly of drugs, comes out in previous research as strongly linked to reconviction. Measuring it and changes in it should be part of the assessment of life styles and background factors in evaluations. There are several possible methods for measuring substance abuse or the risk of substance abuse:

- self-reporting by offenders to independent researchers
- reporting on behalf of the offender by probation officers or drug counsellors (although their knowledge may be imperfect).
- test results from mandatory drug testing in prison, Drug Treatment and Testing Orders or drug-free wings in prisons
- risk of substance abuse as recorded on sentence planning forms.

### Attitudinal changes

Attitude and assessment data for the programme group (and comparison groups) could be collected to assess the starting attitudes and abilities of those going on the programme and resultant changes. Ideally this could involve end re-tests and tests some months after completion but the latter may not be feasible or only possible for a small sample.

Home Office Research Study, 171, "Changing Offenders Attitudes and Behaviour: What Works?" suggests that in the case of sex offender treatment programmes offenders can be scored on a range of psychometric tests before and after therapy designed to measure changes in attitudes likely to contribute towards reducing re-offending. For other treatment programmes besides sex offending, changes on psychometric measures before and after have also been found to be effective, for example the Prison Service Reasoning and Rehabilitation programme.

There are now a good number of standardised psychometric measures of attitudes and traits<sup>3</sup>, which are related to re-offending. For example, the Barrett Impulsiveness Questionnaires, Novakos Anger Inventory, Spielbergers Inventories, Gough Socialisation Scale, and the Hogan Empathy Scale (the latter two being sub-sections of the MMPI). Instruments designed specifically to pick up criminal attitudes include CRIMEPICS, the Andrew's Criminal Sentiments Scale, and the Psychological Inventory of Criminal Thinking. However, evaluators should be aware that many of the better psychometrics are controlled instruments and should only be administered by those who have the appropriate testing certification recognised by the British Psychological Society. They should also consider carefully which instruments to use and select only those which measure areas where they would theoretically expect change.

There are also standardised inventories for measuring improvements in cognitive behavioural skills such as interpersonal negotiation and problem solving. For example the Adolescent Problem Solving Inventory, which can be used to assess the immediate impact of programmes. The PCL-R and the DSM4 are usually used as selection measures rather than assessment measures as there is now a strong body of evidence that individuals with

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3 See page 31 for references

psychopathic personality disorders do not benefit from cognitive behavioural or psychodynamic type programmes and may well be made worse by these. Alternatively they may be used as covariates to account for differences in response to programmes between individual subjects.

The Prison Service and Probation Service are jointly developing a tool to assess offenders needs and the likelihood of future offending. The system includes assessments of attitudes to offending as well as other factors that affect the risk of re-offending. In due course this tool could be used to measure changes over time in offenders' attitudes. It is currently being piloted and a computerised version will be available in the second half of 2000.

### Anti-social behaviour

In institutional settings there are some established measures of anti-social behaviour which can be used to assess programme impact, for example the PBRs (Prison Behaviour Rating Scale) which is shown to be linked to later reconviction and the CIRCLE developed by Blackburn. Measures of anti-social behaviour are more difficult in the community but "partner" ratings have been used to assess domestic violence offenders on programmes. Supervising probation officers may also be a source of information.

#### Indicators of reduced reoffending - Summary

- Risk assessment tools such as the LSI-R and ACE can be used to measure a likely change in reoffending. A joint prisons/probation risk assessment tool is being developed and should be available by August 2000.
- Employment can be measured by asking supervising probation officers for information. Data from the DfEE's New Deal database may also be used for those eligible for New Deal. For the latter data source, evaluators should approach OCU first for advice.
- Literacy/numeracy should be measured by using the Basic Skills agency standards and tests.
- Substance abuse can be measured through self-reporting to independent researchers or from reports by supervising probation officers or drug counsellors. Indicators of risk of substance abuse may be drug test results while in prison or on a DTO and risk as recorded on sentence planning forms.
- There are now a good number of psychometric measures of attitudes and traits, which are related to reoffending, although some require professional administration.
- Changes in anti-social behaviour can be assessed through established tests in institutional settings. In community settings, information from others such as supervising probation officers and partners may be used.

## Process or Performance measurement

Any project aimed at addressing offending behaviour will need to look at process or performance measurements. Each programme should have measures of involvement and progress for offenders. This will need to address:

- whether offenders turn up when required and the number of hours they put in (attendance);
- Whether they do what they are asked to do (compliance);
- Whether they complete their order or programme (completion);
- Why offenders drop out of programmes (reasons for drop out).

Work is underway within the Probation Unit and HMIP of the Home Office to define a set of core data items for the 'Pathfinder' CRP projects for the Probation Service. Evaluators should contact the Probation Unit for advice.

Data on *background characteristics* known to have a potential impact on outcomes will need to be collected / recorded. For example ease of finding work and rates of reconviction are known to vary with factors such as age, sex and offence type and these factors will need to be taken account of in assessing the impact of the programme. Past criminal history, particularly the rate of reoffending, has been shown to be strongly correlated with reconviction, and will need to be taken into account when analysing the impact of a programme. Data on previous criminal histories can be obtained from the Offenders Index.

As far as possible evaluators will be asked to work to a standard set of definitions and classifications when measuring variables such as age, ethnicity, offence type and disability (if appropriate). Age and offence breakdowns should match those used in Criminal statistics. Ethnicity should be recorded using the definitions currently used by the Prison and Probation Services. OCU can advise if you are uncertain of the details. Wherever possible, evaluators should use existing data sources and avoid duplication of data collection.

How participants and programme providers feel about the delivery and utility of the programme could be measured through satisfaction surveys or qualitative work.

Community or institutional factors that contribute to the success or otherwise of the programme should particularly be noted as these will have implications for the roll out of programmes. Such factors could include the backgrounds and qualities needed in providers, training given, accommodation requirements and administrative support to programmes. It is also important to take account of other work with offenders on the programme being evaluated, which addresses their behaviour.

### Process or Performance Measurement - Summary

- Key performance measures for programmes should cover attendance, compliance, completion and reasons for drop out.
- Background characteristics of offenders, such as previous criminal history, must be collected and taken account of in assessing the impact of programmes.
- As far as possible, evaluators should use the standard classifications for variables such as age, offence, ethnicity, etc.
- Satisfaction surveys or qualitative work can be used to find out about the delivery and utility of programmes.
- Community or institutional factors that would contribute to the success or otherwise of a roll-out should particularly be noted.

The Economics and Resource Analysis Unit of the Research, Development and Statistics Directorate of the Home Office have produced this part. It gives details of requirements for the analysis of costs and benefits of offender programmes.

It is intended for use in conjunction with the guidance document '*Analysis of Costs and Benefits: Guidance for Evaluators*'. Home Office, 1999. This guidance provides more detailed information on the principles, techniques and definitions involved in the cost-benefit analysis of Crime Reduction Programme projects. Programme evaluators are strongly advised to consult it.

### Evaluation

All initiatives should be independently evaluated to assess their effectiveness and cost-effectiveness in reducing crime. In particular, evaluators need to:

- indicate the replicability of an intervention - this is a requirement of accreditation;
- specify the contexts, mechanisms and processes essential to its success;
- indicate, at an early stage, the likely requirements for and consequences of larger scale implementation; and
- quantify its cost-effectiveness.

### Supporting documentation

In order to support this process the Home Office will provide evaluators with:

- Guidance on analysing costs and benefits setting out the principles, techniques and accounting conventions to be used by evaluators (Home Office "Analysis of costs and benefits: Guidance for Evaluators").
- A spreadsheet (currently under development) identifying the cost and outcome information which it is essential to collect to allow a comparative analysis to be undertaken.

## Cost-effectiveness analysis

Measuring the cost-effectiveness of interventions is a central part of the CRP evaluation strategy and all evaluations will need to include a cost-effectiveness analysis (CEA).

CEA involves the following steps:

- i. define the intervention, its objectives and the mechanism through which inputs have led to impacts and outcomes;
- ii. identify inputs;
- iii. identify outputs and outcomes;
- iv. quantify inputs;
- v. quantify attributable impacts and outcomes;
- vi. value inputs (costs);
- vii. compare input costs with outputs and outcomes.

In the cost-benefit analysis, carried out by the Home Office, two additional steps are required:

- viii. value outcomes (benefits)
- ix. compare costs with benefits.

## Input information required

To allow comparisons of cost-effectiveness between interventions, valuation methods and cost and outcome information will need to be consistent. Data will be reported to the Home Office in a consistent and systematic way. As with all information for the evaluation, resource input data for the programme needs to be collected on an on-going basis and reported periodically to the Home Office team.

Evaluators will need to identify, quantify and value all resources that are mobilised as part of an offender programme. Resource inputs can be physical, financial or human. Comprehensive and accurate information on resource inputs may be difficult to collect, but it is vital to do so. Without knowledge of all the resources used in an intervention, it is not possible to assess the costs of replicating an intervention in another area. Furthermore, unless costs are fully documented, the results of any cost-benefit analysis will be biased,

since costs are underestimated in relation to benefits. Common comparison of cost-effectiveness across offender programmes or CRP programmes more widely will also be impossible.

It is important that evaluators provide a clear *baseline* of resources upon which supported activities will be expected to act. A clear baseline is as important to the cost-effectiveness analysis as accurate resource input information on an intervention. The baseline is defined as what would have happened in the absence of the intervention. Resources committed to prison and probation work with offenders that would have been committed in the absence of the intervention should be excluded from the CEA calculation, since they represent resources, which would have been committed anyway. Although not a direct part of the CEA, these resources should still be identified and noted as part of the context within which the intervention takes place.

Evaluators will need to identify all *additional* resources in the intervention. Additional resources are those incurred over and above any baseline level of resources, and which would not have been mobilised in the absence of the project. For example, supervision of community service placements may not be additional, since the same level of supervision may have been undertaken in the absence of the intervention. However, the cost of training supervisors in more effective interaction with offenders, as part of the intervention, is clearly an additional cost.

Evaluators will also need to identify *levered-in resources*. These are all external (non-programme) resources mobilised as a result of, and in support of, the intervention. Examples include the payment of fees by a local authority for an offender enrolled on a college course, or the increased use of childcare facilities by women on a new programme. Levered-in resources may be provided by another government department, local authorities, community or voluntary groups or the local business community. Again, these additional resources will need to be distinguished from existing resources.

## Valuation of resource inputs

All interventions should be fully costed. To value resources used in an intervention it is necessary to attach economic costs to those resources. The economic cost of an input may differ from its financial cost. The economic, or opportunity, cost of using a resource is the value of its next most valuable alternative use. In most cases the market value of a resource is assumed to reflect its opportunity cost. Even where no cash transaction takes place, resources should be valued accordingly. For example, an office can be used for several purposes. If it is utilised as a programme co-ordination room, its alternative uses have been foregone. The cost of the room is therefore measured by the value of its next best use. In this case, this would normally be its rental value.<sup>4</sup>

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<sup>4</sup> Note that even if the room is donated and there is no actual financial transaction to hire or buy it, there is still an economic cost. It is important that this cost is included not only to ensure that the economic costs are fully captured but also to determine the replicability of an intervention.

The calculation of unit costs will be undertaken in consultation with the central Home Office team. For example, uniform hourly salary rates for voluntary time spent will be derived. Evaluators will therefore be expected to record and report the purpose and nature and *quantify* the input (e.g. training two probation officers in basic skills assessment for 3 hours each) and to consult with the Home Office on the valuation of these inputs.

Not all resource inputs will involve an explicit financial transaction. For example, the intervention may necessitate additional activities by police, prisoner escort services or voluntary groups. These resources may not be included in the project expenditure plan. They should nevertheless be included in the cost-effectiveness analysis.

A draft list of resource input information that should be routinely collected by evaluators of offender programmes is provided in Annex A.

#### Data sources and methods of collection

Maximum use should be made of existing sources that can yield the input information required or can be modified to do so. Possible sources of data include central management costing tools and systems or standard commercial prices (e.g. for rental values, assessment tools). This does not mean that additional information should not be collected if there is no existing source. Evaluators will need to make an early assessment of available data, identify any limitations and suggest alternative sources.

Information on time spent by staff may have to be gathered through an activity sampling analysis (e.g. by asking all staff to keep diaries of time spent on activities for a two week period). In many cases, it will be necessary to track both the staff involved in the delivery of a programme, and staff (e.g. field probation officers, senior management) who are not directly involved in a programme but may have more work as a result of the programme. This will ensure that all resource inputs involved with an offender on a programme are captured. It may be possible to add to or adapt existing activity sampling exercises for these purposes. Where activity sampling is to be undertaken, evaluators will need to consult with the central Home Office team on the design specification of such an exercise.

For some programmes it may prove simpler to break the costs into startup costs (e.g. equipment, recruitment, publicity and training) and recurrent costs (e.g. staff time, assessment, premises and utilities). In others it might be easier to work by cost category, and in others it might be easier to assess costs in chronological order.

Some of the costs may be very small in relation to the burden of collecting information. Evaluators should use their judgement to estimate such costs, and explicitly record the assumptions made in arriving at any estimate, so the central team can make them consistent with other evaluations if necessary.

## Outcome information required

The principal outcome measure is typically the observed 2-year reconviction rates of offenders on the programme compared with those on alternative/no programmes. This will often be compared to a baseline outcome level, such as the predicted reconviction rate for an offender on the programme. A reduction in reconvictions will rarely be the only identifiable outcome of an intervention. Frequently, other outcomes will include, for example, better employment and earnings prospects, better health outcomes or benefits to the community through CS. These outcomes should be identified and an estimate made of their magnitude if possible, but since the primary outcome is a reduction in crime, they should not enter the CEA or CBA calculations.

In analysing costs and benefits there are two techniques available - cost-effectiveness analysis and cost-benefit analysis. Cost-effectiveness analysis relates the input costs of a programme to a quantified outcome. It aims to find the input costs required for, say, a one per cent reduction in reconvictions. Evaluators will be required to carry out their own cost-effectiveness analysis and to report costs and outcomes to the central Home Office team on the spreadsheet that will be provided.

Cost-benefit analysis takes this one step further and attempts to value the outcome in monetary terms. The valuation of outcomes will be undertaken by the central Home Office team. Evaluators wishing to undertake their own CBA may want to consult with the central team on the approach taken.



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### *Psychometric measures - References*

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The Adolescent Problem Solving Inventory is described in "A Social, Behavioural Analysis of Skills Deficits in Delinquent and Non-Delinquent Adolescent Boys" in the Journal of Consulting and Clinical Psychology 48 (pages 448-1462), B F Freedman, L Rosenthal, C P Donahoe, D G Schulundt, and R N McFall (1978)

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The Andrews Criminal Sentiments Scale reported in D A Andrews and J Bonta "The Psychology of Criminal Conduct" published by Anderson, Cincinnati, Ohio (1994)

CRIME-PICS - a measure of an individual's inclination to commit an offence, Neil Frude, Terry Honess & Michael Maguire, published by Michael & Associates (1990)

CRIME-PICS II, Neil Frude, Terry Honess & Michael Maguire, published by Michael & Associates (1994)

### Offender-based programmes - Draft list of input information required for cost – effectiveness analysis

#### *A. Staff*

All staff costs, in all locations and involved in all aspects of the project, must be accounted for. This includes probation, community service and prison service officers, tutors, mentors, volunteers and agencies etc delivering or supervising programmes and carrying out assessments. It also includes all staff, centrally, remotely or on-site, involved in administration or management of the project.

Accounting conventions for valuing Public Servant inputs (e.g. probation officers, administrators) on a common basis will be provided by the central Home Office team. Public Servant inputs therefore need to be separately identified.

The following information should be recorded:

- Nos. of staff and their responsibilities
- Time spent on programme activity (include all time spent, e.g. in group and 1:1 sessions, pre-and post-session preparation, meetings)
- Salary including all employer contributions
- Travel and subsistence costs

#### *B. Training for staff*

For each type of training, the following information should be recorded separately.

- Purpose of training (e.g. awareness of basic skills deficits of offenders, filling out pre-sentence reports, how to screen for suitability for an anger management programme)
- Type of training (e.g. workshops, individual guidance, reading of documentation etc.)

- Financial cost of training per trainee or salary of and time spent by trainer(s)
- Number of people trained
- Description of trainees (e.g. volunteer mentors, probation officers)
- Time spent by trainees
- Salaries of trainees

This information allows calculation of both the direct financial costs of training and the opportunity costs of staff time 'lost' through training. Care should be taken to include only that training that is additional as a result of the intervention.

### *C. Premises*

- Description of premises used for programme (type e.g. office, hall; location; size, square metres)
- Description of use for programme purposes (e.g. group sessions with offenders, tutoring work, management of project, meetings, etc.)
- Tenure - i.e. whether rented/owned/free-use
- Time spent using premises for the programme activity (i.e. apportioned time to the programme)
- Rental value of premises / cost per unit (e.g. per square metre)
- Overhead costs of premises apportioned to the project (e.g. water, cleaning, insurance)

All premises mobilised as part of an intervention, even standard office space, should be identified, quantified and valued, if the use of these premises has an opportunity cost (i.e. it prevents use for other purposes).

### *D. Other running costs*

- Communications (e.g. telephones, mobile telephone charges)
- IT costs associated with project management (hardware and software)

- Membership and registration costs (e.g. for enrolment in college courses)
- Utilities (e.g. gas, electricity)
- Stationery
- Offender expenses and travel costs
- Other (specify)

### *E. Equipment for implementation*

- Description of type of and need for equipment
- Whether bought or rented
- Life expectancy of equipment
- Number of units
- Cost per unit
- Installation costs
- Maintenance costs

### *F. Commissioned research and data collection for project implementation*

The evaluation of the intervention should not be counted as a cost of the intervention. Only research and data collection required as part of the implementation of the intervention should be included.

- Description and purpose (how supports project implementation)
- Survey costs
- Analysis costs (e.g. cost of commercial assessment tools)
- Travel and subsistence

## *G. Documentation*

- Production costs (e.g. printing of information booklets, certification)
- Dissemination costs (e.g. posting, handing out leaflets, broadcasting)

## *H. Levered-in resources*

These are additional resources that would not have been deployed in the absence of the project, but are external to the project. Separate initiatives, which would have taken place without the intervention, should not be included here. Each source should be identified separately i.e. other government department, local authority, private sector, police, voluntary organisation, charity, other.

- Source
- Nature of resource
- Link with intervention
- Staff costs (see A above)
- Premises costs (see C above)
- Equipment for implementation
- Other overheads
- Estimated value of resource

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