Not Rocket Science?

Problem-solving and crime reduction

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Crime Reduction Research Series

The Policing and Reducing Crime Unit (PRCU) is based in the Research, Development and Statistics (RDS) Directorate of the Home Office. The Unit carries out and commissions social and management science research on policing and crime reduction, to support Home Office aims and develop evidence-based policy and practice.

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Foreword

This report describes the findings from research on problem-solving undertaken by staff from the Home Office Policing and Reducing Crime Unit. The work was undertaken in parallel with Her Majesty's Inspectorate of Constabulary's thematic inspection into crime and disorder and crime reduction ('Calling Time on Crime'). The report indicates that, despite widespread support from the police for the concept, high quality problem-solving is still rare in police forces today.

Based on an analysis of questionnaires about problem-solving initiatives received from all forces in England and Wales and visits to eight forces, the report identifies the factors that militate for and against the successful adoption of problem-solving. It also provides forces with a useful 'checklist' against which to measure their problem-solving performance.

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Executive Summary

This report describes the results of an examination of problem-solving in crime reduction, conducted by the Home Office Policing and Reducing Crime Unit (PRCU). Information for the study was collected as part of Her Majesty's Inspectorate of Constabulary (HMIC) thematic study of Crime Reduction, a follow-up to 1998's *'Beating Crime'*. It involved responses to questionnaires and visits to police forces.

For each of the 43 forces in England and Wales, HMIC collected together a range of documents relating to their policies and provisions for crime reduction. Forces completed a questionnaire asking about their overall approach to crime reduction and eight short questionnaires describing four successful and four unsuccessful problem-solving initiatives. Subsequently they were asked to fill in more extensive questionnaires in relation to their nominated initiatives. The initiatives questionnaire asked for information about the focus of, participants in, methods used in, management of, and results achieved from individual problem-solving initiatives.

The inspection team undertook week-long visits to twelve forces, conducting interviews and focus groups at headquarters and three Basic Command Units (BCUs) in each of them. The forces and BCUs were selected to be broadly representative of their kind; they were not selected randomly. Researchers from PRCU went to the headquarters of eight of the twelve forces visited for inspection, and to two BCUs in each of them. PRCU also interviewed those involved in two of the initiatives that had been deemed successful in each force visited, and one that had been deemed unsuccessful, examining the work undertaken in some detail. The initiatives were not selected randomly.

Of the initiatives returned, though equal numbers of successes and failures were asked for, only 42% were deemed by the force concerned to have been failures. The initiatives covered a range of problem types, the commonest targets for problem-solving amongst the initiatives returned were burglary, vehicle crime, drugs, and youth. Only 5% of the 266 responses about initiatives involved the police as the junior partner. Nearly 40% were police only initiatives. The vast majority of the remainder were split between multiple agency efforts with shared responsibility (31%), and partnerships with a single other agency where the police were mainly or equally responsible (20%).

Analysis of the returned initiative questionnaires suggested that:
- Adopting a systematic problem-solving approach improves prospects of self-assessed success in reducing crime and disorder.

- Use of incident data, crime data and local authority data in defining and analysing the source and distribution of problems contributes to claimed problem-solving successes. Use of these data sources requires that provision be in place for relevant data exchange.
- Consultation of the established literature concerning previous efforts to address similar problems and implement similar measures is associated with higher rates of self-assessed success.
- There appear to have been improvements in the thoroughness of problem-solving since *Beating Crime* was published in 1998, though there is still a great deal of room for improvement.
- There was evidence of only a little quantitative analysis in the questionnaire returns, where respondents were given opportunities to show it.
- Evaluation continues to be a major weakness, and raises doubts about the status of the self-assessed successes. There is relatively little systematic evaluation. What there is is generally weak. Few evaluations are independent. Evidence is used selectively. There is undue satisfaction with reduction as an indicator that the initiative was effective without attention to alternative explanations, or to possible side-effects. There is little attention paid to how initiatives may have had their effects.

Information on initiatives contained in the questionnaires was supplemented by interviews with staff involved in the initiatives in the eight forces visited by PRCU. The report identifies a number of initiatives as problem-solving successes. These are briefly described using the established SARA framework (Scanning, Analysis, Response, Assessment), and an alternative acronym 'PROCTOR' (PROblem, Cause, Tactic or Treatment, Output, and Result). Three initiatives are described in detail; methadone dealing and drug related deaths, youth disorder on a housing estate, and unruly children in a park. On the basis of what was found visiting initiatives that were deemed successful, the following general lessons for problem-solving emerge:

- Detailed analysis is needed to help define problems in ways that open them to creative responses. Traditional police definitions of problems are not always the most helpful.
- Detailed analysis needs to be directed at 'pinch points', i.e. at the weakest necessary conditions for the problems to persist.
- Site specific analysis of problems is needed to select responses that are relevant to local circumstances.
- In selecting responses it is crucial to work out in detail how they are expected to produce their intended effects.
- Community consultation and involvement is important to identify interventions that will elicit the co-operation and involvement of residents that is often needed if measures are to be effective.
- Problem-solving, especially for large-scale issues, is facilitated by the establishment of multi-disciplinary/multi-agency teams.
- It is not always in the interests of those best placed to make changes that will reduce problems to do so. It may be necessary in those circumstances to find and apply incentives or levers.

The report also identifies a number of unsuccessful problem-solving initiatives, using the same taxonomy. There are many sources of problem-solving failure amongst which the following were encountered:

Weaknesses in identifying the problem
● Failure to check that a nationally identified problem exists locally
● Failure to check out systematically that perceptions that problems exist are accurate
● Failure to check scale of problem

Weaknesses in analyses of the problem
● Acceptance of definition of problem at face value
● Use of only very short-term data
● Failure to examine the genesis of problems

Weaknesses in working out what to do
● Short term focus
● Failure to read relevant literature
● Picking the solution prior to, or in spite of, analysis
● Failure to plan how the measures could in practice be made operational
● Failure to think through the mechanisms by which the measure could have its impact
● Failure to think through needs for sustained reduction, specifically failure to consolidate following crackdown

Weaknesses in work with partners
● Failure fully to involve partners
● Insensitivity to others' agendas, styles, constraints or ideologies

Weaknesses in implementation
● Narrowly (normally offender) focused response

Weaknesses in lessons drawn from previous experience
● Shortage of good evaluations
● Uncritical transfer of responses used elsewhere

In addition to looking in detail at selected initiatives during the eight force area visits, the PRCU team also discussed problem-solving with headquarters and local area staff. The aim of this part of the inspection was first, to identify the level and nature of support for and participation in problem-solving and second, to find out more about significant enablers and inhibitors of rigorous problem-solving. The following summarises those factors identified as encouraging and enabling problem-solving:

● Presence of a committed, enthusiastic, knowledgeable and involved leadership
● Provision of practical help and advice in planning and doing problem-solving
● Provision of data, analytic software for analysis and competent analysts

- Provision of information, training and experience to inform problem-solving
- Development of methods to disseminate good practice[1]
- Development of structures to encourage problem-solving
- Development of units or task-forces dedicated to specific areas of problem-solving
- Allocation of staff on the basis of their aptitudes
- Use of rewards to incentivise problem-solving

The visits also revealed a number of factors that were deemed to obstruct problem-solving:

- Weaknesses in analysis and shortage of analysts
- Limitations in data sharing and data quality
- Inadequate use of crime reduction specialists
- Inadequate time set aside for problem-solving
- Exclusive focus on local, low level problems
- Crudely operated performance management arrangements
- Inattention to and weakness in evaluations of problem-solving efforts
- Inadequate involvement of partnerships in problem-solving

The report includes a case study identifying significant features of the police force which appeared, of those visited by PRCU, to be most developed in undertaking problem-solving. Issues discussed include culture and policing style, management, capacity building, data and analysis, levels of problem-solving, and outcome.

Overall the report concludes that, despite the almost universal espousal of problem-solving by the police service, high quality problem-solving is still exceptional. Promising examples of small area crime and disorder problem-solving could be found in most forces, yet even here high quality, dependable outcome evaluations were rare. There was little broad-based problem-solving. Most took place at the 'sharp end' of operational policing, and tended to focus on the offender. Similarly there was only a little anticipatory problem-solving.

While the initiatives questionnaires suggested that many data sources were used, visits to forces and examination of individual initiatives repeatedly suggested that data are weak, and routine aggregate data sharing is exceptional and problematic. Analysts are thin on the ground, often used mechanically and for processing management information, and tend to be inexperienced, poorly paid, and with few qualifications for preventive analysis.

If potential benefits from adopting a problem-solving approach are to be yielded, local areas will need to and need to be encouraged to take a hard critical look at their current working practices. The report provides a checklist that can be used to identify points for improvement at a variety of levels. No police area was visited during the inspection where scope for improvement was not found and acknowledged.

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[1] The paucity of most evaluation raises, of course, questions about ways of identifying good practice.

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1.   Introduction

Beating Crime (HMIC 1998) was published by Her Majesty's Inspectorate of Constabulary before the Crime and Disorder Act (1998) came into force. *Safety in Numbers* was published by the Audit Commission (1999) just before the first local Crime and Disorder strategies were published in accordance with the Act, on April 1st 1999. *Calling Time on Crime* (HMIC 2000) is a follow up to these two papers, based on a thematic inspection examining crime reduction as it is developing in the first year following the production of these strategies. The inspection was led by HMIC, but was conducted in collaboration with the Audit Commission, the Local Government Association, OFSTED, the Social Services Inspectorate and the Home Office. This paper is a companion publication to *Calling Time on Crime*. It explores problem-solving and crime reduction, which was the major focus for the Home Office Policing and Reducing Crime Unit's contribution to the inspection.

Problem-solving had been advocated in both *Beating Crime* and in *Safety in Numbers* as an effective and efficient way of reducing crime. Earlier papers have chronicled efforts to make problem-solving a routine part of police work, and the difficulties faced in doing so (Leigh et al 1996, 1998). The purpose of this paper is to look in some detail at problem-solving as it is currently practiced and supported in relation to crime and disorder. It will highlight what has been found to contribute to and enable effective problem-solving and what has been found to obstruct or inhibit it. The paper attends mainly to police work, since this was the chief focus of PRCU's contribution to the inspection.

Method

The information drawn on in this paper has been constructed in and through the inspection process.

For each of the 43 forces in England and Wales, HMIC collected together a range of documents relating to their policies and provisions for crime reduction. At HMIC's request, forces completed a questionnaire asking about their overall approach to crime reduction. They were also asked to complete eight one-sided questionnaires, nominating four successful and four unsuccessful problem-solving initiatives. They were then asked to fill in more extensive questionnaires in relation to their nominated initiatives.

The inspection team undertook week-long visits to twelve forces, conducting interviews and focus groups at headquarters and three Basic Command Units (BCUs) in each of them. Part of the team also had discussions with local authorities and other members of crime reduction partnerships. The forces and BCUs were selected to be broadly representative of their kind; they were not selected randomly. Six forces visited for *Beating Crime* were revisited.

Researchers at the Policing and Reducing Crime Unit (PRCU) went to the headquarters of eight of the twelve forces visited for inspection, and to two BCUs in each of them. PRCU also interviewed those involved in two of the initiatives that had been deemed successful in each force visited, and one that had been deemed unsuccessful, examining the work undertaken in some detail. The initiatives were not selected randomly. There was a bias in favour of those that seemed to be addressing an identified problem and which had been operating long enough to achieve some outcomes. The available initiatives did not allow these criteria to be fully applied in all forces.

Concepts

The language used to describe problem-solving and crime reduction varies. The terms 'problem-oriented policing', 'problem-solving policing', 'targeted policing' and 'intelligence-led policing' are in wide currency.

The term 'problem-oriented policing' comes from the United States and was coined by Herman Goldstein in 1979. Goldstein was critical of policing that merely responded to incidents. He advocated attention to patterns and causes of problems coming to the attention of the police (including crime), and efforts to implement preventive responses (Goldstein 1979, 1990). As Goldstein acknowledges, these will sometimes involve action by other agencies.

There has been quite a long history of efforts in Britain to implement problem-oriented policing, some of which have been described in Home Office research reports (Leigh et al 1996, 1998). Core elements of the problem-oriented approach, as Goldstein himself has recognised, are also found in the situational crime prevention work developed by Home Office researchers since the late 1970s (see Tilley 1999).

'Problem-solving policing' is preferred to 'problem-oriented policing' in parts of Britain largely, it appears, on aesthetic grounds. The association with Goldstein's work is generally acknowledged[2].

'Targeted policing' is the term used to refer to one stream in the government's Crime Reduction Programme (CRP). This excludes only issues that are not already covered in other specific streams of the CRP, for example domestic burglary and domestic violence. Bidders are required to evidence a significant problem, to analyse it, and to formulate responses based on that analysis. In this sense, what is required is a problem-oriented approach[3]. The bids can include targeting offenders, victims, hot spots or specific problems.

'Intelligence-led policing' is construed in at least two ways. 'Intelligence-led policing$_1$' emphasises the use of intelligence (or more strictly information) about individual offenders and networks of linked offenders to disrupt and disable crime by focusing enforcement efforts on the key players and their activities. 'Intelligence-led policing$_2$' emphasises the need to

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[2] Ron Clarke, however, has suggested that problem-solving can be distinguished from problem-orientation (Clarke 1998). Whilst problem-orientation involves an analytic approach to patterns, problem-solving may relate only to efforts to deal with individual difficulties.

[3] The analytic, problem-solving approach is also called for in the other streams in the Crime Reduction Programme.

understand what happens and needs to happen in the conduct of specific forms of criminal behaviour in order to determine where each is most vulnerable to effective intervention. In some cases, but not necessarily all, the specific approach will be to identify networks and disrupt the activity of key players, i.e. 'intelligence-led policing$_1$'. 'Intelligence-led policing$_1$' comprises a tactic to be applied when appropriate in the light of analysis. 'Intelligence-led policing$_2$'has clear affinities with problem-solving, problem-oriented and targeted policing, as described here.

For the purpose of this paper, 'problem-solving' will be used to describe the adoption of an evidence-based approach to crime reduction. In practice, this means:

- making use of data to establish the existence and extent of a problem, to analyse its nature and source, to plan intervention measures to reduce it, and to monitor and evaluate the effectiveness of the selected response (whether the interventions have worked, whether they have produced their effects in the expected way, and whether there have been any significant (positive or negative) side-effects),
- drawing on findings from existing research to inform data analysis and choice of responses,
- applying informed lateral thought in developing innovative solutions, and
- using feedback in decisions to adjust, expand, abandon, and maintain initiatives.

2.   An overview of problem-solving initiatives

This section analyses the initiatives questionnaires from all forces, and gives a brief overview of the initiatives looked at in more detail during PRCU visits to force areas.

The initiative questionnaires

The initiatives questionnaire asked for information about the focus of, participants in, methods used in, management of, and results achieved from individual problem-solving initiatives. If all forces had returned eight initiatives along the lines requested there would have been 344 returns. In the event only 266 returns were made.

Only 5% of the 266 responses about initiatives from the HMIC questionnaires involved the police as the junior partner. Nearly 40% were police only initiatives. The vast majority of the remainder were split between multiple agency efforts with shared responsibility (31%), and partnerships with a single other agency where the police were mainly or equally responsible (20%)[4]. Twenty per cent had involved local authority expenditure (with an average of £35,000 each). Twelve per cent had involved private sector expenditure (with an average of £27,000 each). Five per cent had involved voluntary sector contributions (at an average of £3,000 each). Three per cent had involved health authority expenditure (with an average of £14,000 each), and 3% had involved probation expenditure (with an average of £5,200 each).

Because the questionnaires were sent out to police services by HMIC, it is not surprising that the initiatives about which returns were made comprise mainly those with heavy police involvement. There may be much other work going on in which the police play a minor part or none at all. Site visits threw up a number of initiatives in which the involvement of the police was, at most, marginal. Indeed, in some cases, it was not clear that police involvement would add much. One initiative seen by other (non PRCU) members of the inspection team focussed on reducing exclusions from schools and improving children's performance. The stated aims included effecting improvements in behaviour and reducing the risk of criminality, in a low-achieving area. The partnership involved one senior school, two middle schools, seven lower schools and two nurseries. A range of agencies, including the Health Care Trust, Youth Service, Educational Psychology, Educational Welfare and the YOT, were also taking part. Whilst the police were involved their role was a relatively small one.

Of the initiatives returned, though equal numbers of successes and failures were asked for, only 42% were deemed failures. Table 1 shows the types of problems addressed and the numbers that were deemed successful and unsuccessful in the 250 initiatives where assessments of success were made. The table tries to distil the main focus of the initiatives. Many initiatives

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[4] Earlier research on problem oriented policing in two UK police forces found that 31% of responses to identified problems involved the police only, 57% the police and other agencies, 6% the police and community, and 7% the police, other agencies and the community (Leigh et al 1998).

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had multiple elements and multiple aims, though, which are overlooked in this crude classification. The table only lists those categories where at least three cases were found. The remaining problems (miscellaneous in Table 1) were very diverse, ranging for example from agricultural thefts to arson to crime and disorder on buses to rape. What this table shows is that the commonest targets for problem-solving amongst the initiatives returned were burglary, vehicle crime, drugs, and youth. The numbers of successes and failures in relation to types of problem addressed are in most cases too small for any firm conclusions to be drawn. The relatively high failure rate in relation to process issues, basically efforts to improve patterns of practice is, though, striking.

Table 1: Problems addressed by initiatives and their claimed success or failure

Problem	Total	Claimed Success	Failure
Burglary	44	30	14
Vehicle crime	35	22	13
Drugs	17	10	7
Youth	17	12	5
Process issues	17	4	13
Crime	8	6	2
Fuel drive-offs	4	2	2
Crime and schools	4	3	1
Race issues	4	0	4
Repeat victimisation	4	2	2
Shop theft	4	1	3
Antisocial behaviour	3	2	1
Alcohol issues	3	2	1
Criminal damage	3	0	3
Disorder	3	3	0
Domestic violence	3	1	2
The elderly	3	3	0
Housing estates	3	3	0
Harassment	3	2	1
Theft from lorries	3	0	3
Robbery	3	1	2
Student victims	3	3	0
Truancy	3	2	1
Violence	3	2	1
Unclear	7	3	4
Miscellaneous	46	27	19
TOTAL	250	146	104

In analysing problems, the data most commonly said to be used were recorded crimes (61%), followed by command and control incidents (39%), force intelligence (25%), and Local Authority information (22%). Other sources were used only very rarely.

In determining what to do to address the identified problem the commonest source of advice was colleagues in the same force (42%) or a different force (43%). In comparison other, external sources were consulted in only 25% of cases.

Responses to the questionnaires suggested that over 85% of the initiatives were monitored, and 69% were evaluated. Of those monitored almost half (47%) were said to have been modified as a result[5]. What was meant by evaluation was not clear. Of the evaluations, 84% were by the initiative co-ordinator or staff, and only 9% were by an independent external evaluator.

Accepting the self-assessment of success and failure at face value[6], a number of characteristics were associated with higher rates of success. Table 2 shows the difference made to the odds of self-assessed success in this (unrepresentative) sample by adopting a variety of measures in planning the initiative. Thus, there was a slightly greater (though not statistically significant) chance amongst those that consulted that they would be one of the 'successful' initiatives returned than amongst those where consultation had not taken place. However, those where

Table 2: Initiative success associations

Consultation	1.03 ns
Consult those in other forces	1.03 ns
Consult in own force	1.16 ns
Consultation with external, non police sources	1.17 ns
Conduct of analysis of location	1.58 **
Use of recorded crime data in analysis of location	1.47 **
Use of command and control data in analysis of location	1.41 ***
Use of local authority data in analysis of location	1.43 **
Conduct of analysis of offenders	1.22 ns
Use of recorded crime data in analysis of offenders	1.33 *
Use of command and control data in analysis of offenders	1.23 ns
Use of force intelligence in analysis of offenders	1.23 ns
Use of local authority data in analysis of offenders	1.35 *
Conduct analysis of victims	1.27 ns
Use of recorded crime data in analysis of victims	1.16 ns
Use of command and control data in analysis of victims	1.25 *
Use of local authority data in analysis of victims	1.37 *

Note: * p< .05; ** p<.01; *** p<.001

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[5] Claims have to be treated cautiously. Chatterton et al (1997) found that forces which claimed to have made use of quality of service surveys struggled to provide evidence that they had done so.

[6] Of those deemed successful in the preliminary screening questionnaire, oddly according to the second questionnaire 4% did not achieve their objectives at all. Moreover a further 31% claimed only partially to have achieved them.

analysis of location had occurred were half as likely again to be successes as those where analysis of location had not taken place, and this was statistically significant. Use of local authority data seems to enhance chances of success in relation to offenders, location and victims. The message is clear in relation to analysis: it is associated with higher rates of claimed success[7].

There is promising evidence that problem-solving, however formally described, can be an effective approach to reducing crime (Sherman et al 1997, Bayley 1994). The initiatives questionnaires provide suggestive evidence that problem-solving is being used more fully than it was when the fieldwork for Beating Crime was done[8]. It also provides further evidence that problem-solving makes initiatives more effective, at least as judged by the officers making the returns of the questionnaires. Table 3 compares the attrition as the problem-solving process is gone through, as shown by data collected about initiatives for the two inspections. It can be seen that at each stage of the initiatives reported for the Calling Time on Crime inspection, there was a lower rate of loss as the problem-solving process is gone through. Moreover as many as 83% of those that had shown evidence of a problem *and* had undertaken analysis[9] and had monitored the initiative, that is had gone through the whole problem-solving process, had achieved self-assessed success[10]. This compares to a claimed success rate of 58% overall.

Table 3: Problem-solving in 'Beating Crime' and in 'Calling Time on Crime'

Stages	Beating Crime	Calling Time on Crime
Initiatives deemed successful, of which	100% (234)	100% (146)
There was evidence of a problem actually existing, of which	68% (159)	78% (114)
There was evidence of proper analysis of the problem, of which	27% (64)	32% (47)
A monitoring process was used, of which	20% (47)	29% (42)
Were said to have been successful	7% (17)	24% (35)

Note: the figures for Beating Crime are recalculated from Table 3.1 of that report. For Calling Time on Crime, efforts were made to code the data to allow figures for comparable stages to be calculated.

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[7] Some forces, however, may deem projects successful because they have followed the problem-solving process, and not on the basis of robust evidence of impact.

[8] We cannot be sure that the definition of the stages in the attrition patterns for the two inspections were identical. For the current exercise two PRCU researchers looked through the initiative questionnaires and on the basis of evidence provided in them assessed whether data had been used in identifying or analysing the problem, and whether monitoring had taken place.

[9] The term 'analysis' is used here to refer to systematic efforts to understand the source of the problem. The discussion later in this paper suggests that analytic activity is involved rather more widely in problem-solving.

[10] The data collected through the questionnaires was not sufficiently detailed to allow PRCU to establish whether the success claims were based on rigorous evaluation, providing robust evidence. On the basis of the initiatives looked at in more detail during visits, few self evaluations would survive independent critical scrutiny.

If we look at the whole sample, where there was evidence that each of the stages individually had been followed, we find statistically significant associations with claimed success. Table 4 compares the claimed success rates for those where evidence was provided for activity at each stage compared to the claimed success rates where there was no evidence provided. The figures show the ratio of the difference in probability of success when each activity was considered compared to those initiatives where there was no evidence of the activity.

Table 4: Problem-solving activities and claimed success associations

Evidence of a problem actually existing	1.3 *
Evidence of proper analysis of the problem	1.25 *
A monitoring process had been used	1.5 **
Evaluation had been undertaken	1.57 ***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

The initiatives questionnaires were looked at for evidence of the forms of analysis used in defining and assessing the effectiveness of initiatives. In answering the question, 'Please outline the original problem that prompted the initiative,' only 2.5% presented any hard data. Asked, 'What conclusions were drawn about the nature and extent of the problem?' 12% provided data. Asked to 'summarise the main findings of the analysis using data as appropriate', 5% included data in their response. Asked to 'summarise the findings of the evaluation using data as appropriate', 17% provided data to support their claims to have been successful, of which half referred to the use of comparable before and after time periods, and just 1% provided data to support their failure assessments. Of those using comparable before and after time periods, only half (comprising 4% of the total sample) used specified periods of six months or more. Of the whole sample only 1% showed that they had tried to control for factors separate from the initiative that might have impacted on the problem being addressed. For some 70% of the returns, no hard data were used in answering any of the questions about the level of problems being experienced or evaluation of effectiveness. Of course, the mere presence of data does not mean that they are accurate, or are being interpreted or analysed appropriately.

It is important to distinguish a form that may have been completed hurriedly to meet a deadline (possibly by a person without the full facts to hand) from what may actually have been done. Nevertheless, if the returns come anywhere near to capturing practice they suggest that hard data analysis is currently very limited.

Conclusions

● Adopting a systematic problem-solving approach improves prospects of self-assessed success in reducing crime and disorder.

● Use of incident data, crime data and local authority data in defining and analysing the source and distribution of problems contributes to claimed problem-solving successes. Use of these data sources requires that provision be in place for relevant data exchange.

● Consultation of the established literature concerning previous efforts to address similar problems and implement similar measures is associated with higher rates of self-assessed success.

● There appear to have been improvements in the thoroughness of problem-solving since *Beating Crime* was published in 1998, though there is still a great deal of room for improvement.

● There was evidence of only a little quantitative analysis in the questionnaire returns, where respondents were given opportunities to show it.

● Evaluation continues to be a major weakness, and raises doubts about the status of the self-assessed successes. There is relatively little systematic evaluation. What there is is generally weak. Few evaluations are independent. Evidence is used selectively. There is undue satisfaction with reduction as an indicator that the initiative was effective without attention to alternative explanations, or to possible side-effects. There is little attention paid to how initiatives may have had their effects.

3.   Problem-solving successes

This section and the following one relate mainly to those initiatives that were drawn from the initiative questionnaires returned from the forces visited by PRCU, and then selected for further investigation. Though the commonest comment heard when visiting apparently successful initiatives was, 'It's not rocket science'[11], this modesty disguises some hard thinking, imagination and determination.

Inspection visits to selected initiatives

During visits to force areas, the PRCU team and colleagues involved in the inspection taking part in parallel sessions heard about a range of initiatives. Many of these sounded very promising though it was not possible to examine them in any detail. The range of issues being addressed in the initiatives visited was very wide. They included the following:

*   Fraud and theft at a community college
* \#   Bullying in a small town
* ^   Burglary and nuisance on a housing estate
* *   Crime and disorder on a housing estate

*	Fraud and theft at a community college
#	Bullying in a small town
^	Burglary and nuisance on a housing estate
*	Crime and disorder on a housing estate
*	Youth disorder on a housing estate
^	Repeat nuisance behaviour by youths
**	Dealing in methadone and drug-related deaths
**	Theft of and from vehicles in urban car parks
**	Theft of and from vehicles in rural car parks
#	Arson in schools
#	Under age drinking
#	Repeat domestic violence
#	Property crime and receiving stolen property
*	Troubled and troublesome excluded youths
*	Unruly children in a park
*	Burglary
#	Noise and nuisance near hotels
*	'Cash in transit' robberies

Note: ** initiatives deemed successful by the police where persuasive evidence of achievement was provided

     * initiatives deemed successful by the police where there was limited evidence of achievement

     ^initiatives deemed successful by the police though evidence was not provided.

     # initiatives deemed unsuccessful by police

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[11] Readers may be surprised that ethnographic studies of the detailed work of pure science reveal everyday reasoning at the laboratory bench not so very different from the kind of reasoning used by intelligent police officers and their partners as they deal with crime problems (see, for example, Latour and Woolgar 1979).

There were some impressive efforts at problem-solving. Figure 1 gives an overview of some of them. The presentation uses the familiar SARA headings[12] – Scanning, Analysis, Response, Assessment – though below these are what some may find more helpful designations of what is involved. These produce yet another acronym, 'PROCTOR': PROblem, Cause, Tactic or Treatment, Output, and Result. The rationale for this slight change is to avoid the impression that analysis is only needed at one stage. It is required, in differing forms, throughout the process.

In scanning, potential problem patterns will not always be self-evident. Repeat victimisation, for example, only came to be identified as a problem following sustained empirical research. Its identification in any area will require systematic analysis of data (Bridgeman and Hobbs 1997).

The 'analysis' phase of SARA is about figuring out how the problem is generated. More precisely, it will involve developing a (sufficiently tested) account of crucial factors that might be open to intervention, since a full causal analysis will rarely, if ever, be possible.

The response stage of SARA is concerned with working out, in relation to the defined problem and its causal analysis, what can be done most effectively to change the conditions producing the problem. It too requires an analytic approach.

Finally, 'assessment' includes two elements, both again requiring analysis. The 'output' element involves checking what is done to put the tactic or treatment in place and how it is being received by its targets. The 'result' element involves finding out whether the tactic or treatment produced the expected changes. It also involves finding out whether it produced other, unintended outcomes. Assessment requires systematic data collection and often quite difficult analysis.

Over a period, a problem-solving approach will include feedback processes where definitions of problems are refined following causal analysis, tactics are modified in the light of analyses of outputs, and problem-solving is improved on the basis of developments in understanding as results are analysed.

Case studies

There is much 'devil in the detail' of individual initiatives, illustrated in the following case studies of the first three of the initiatives shown in Figure 1. The work described here does not do justice to all that was discovered during the inspection. The examples do, however, bring out most of the lessons learned from looking in detail at successful initiatives.

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[12] Eck and Spelman (1987) developed the SARA model in their pioneering work on problem-oriented policing in Newport News, to capture the problem-solving process. It has since then been widely used on both sides of the Atlantic and beyond.

Figure 1: Examples of 'successful' problem-solving

Scanning	Analysis	Response	Assessment	
Problem	Cause	Tactic/Treatment	Output	Result claimed
Accidental drug-related deaths involving methadone	Leakage of prescribed methadone into the illicit drugs market	Pressure on doctors to agree changed prescribing practices; incentives to pharmacies to provide supervised daily methadone taking. Monitoring of prescription practices and reminders to those prescribing inappropriately.	Reduced overall prescription of methadone, especially the tablets most associated with deaths, increased daily prescriptions, increased provision for supervised drug taking in pharmacies.	Reduction from 1996 high, and then elimination from 1999 of drug-related deaths involving methadone.
Nuisance and damage by youths on a housing estate during summer holidays	Lack of effective informal social control and lack of recreational opportunities	Two nights a week, two league, seven a side football provision, with responsible managers and points deducted for trouble with police when not playing, providing incentives and peer pressure to behave.	150 children participating in regular football events throughout summer holidays; up to 200 present on any evening.	Lower level of reported summer holiday nuisance and disorder than that for previous five years.
Children terrorising users of community huts in park	Lack of readily available alternative attractive opportunities for children	Divert children with sufficiently attractive alternative facilities that they would no longer create a nuisance.	Consultation with children about their wants, and provision of new facilities in the light of their ideas.	Elimination of the problem.
Disorder late at night at pizza parlours	Irritation at waiting whilst pizzas cooked, whilst those waiting under influence of alcohol	Enable customers to avoid waiting around to collect their orders after closing time, when disturbances are apt to take place.	Pizza parlours install direct lines from pubs to pizza parlours for customers to make orders.	Reduced late night fast food pizza parlour troubles.

Figure 1: Examples of 'successful' problem-solving (continued)

Scanning	Analysis	Response	Assessment	
Problem	Cause	Tactic/Treatment	Output	Result claimed
Domestic burglary	Networks of prolific offenders available to conduct criminal business at low risk	Target prolific offenders to disrupt networks, incapacitate active offenders, re-apprehend quickly reoffenders on release, and foreshorten criminal careers.	Collection of intelligence, profiling of offenders, analysis of crime patterns, and maintenance of up to date information on networks of offenders. Consequential police deployment and arrests.	Year on year fall over seven years in monthly domestic burglaries, leading to a 75% reduction overall.
Suspected fraud in senior management, internal theft and high number of recorded external thefts at a community college	Criminogenic college design, open access, corrupt weak and corrupt management, poor record keeping, general poor standards of behaviour, including some fraudulent claims to external thefts	Reform management practices removing corrupt management and providing for better record-keeping and better examples to staff and students, reduce ease of access, improve physical security.	New management team introduced, some access restriction, some target hardening.	Reported crimes at college dropped from 14 per month to 3-4 per month; drop in value of property stolen from £15,000 per month to less than £500 per month.
Theft from unattended vehicles left in isolated recreational area	Inability to provide specialist surveillance at all 12 car parks; lack of natural surveillance in car parks; ready supply of vehicles with attractive goods left in them from Easter; proximity to areas known to house active offenders	Target advice on those at risk; divert cars to limited number of car parks where surveillance was easier; increase natural surveillance; attempt to repel likely offender; promote risk of apprehension in areas thought to house offenders.	Advice targeted at information centres shown most commonly to be visited prior to visit; targeted stop and search on those not looking likely to be in the area for recreational purposes; set decoy of type of vehicle found most to be at risk; closure of high risk car parks where surveillance difficult; provision of picnic benches in car parks for natural surveillance; vendors licenced to operate in car parks to provide natural surveillance.	Lowest number of thefts from vehicles in eight years; 48% reduction on previous year.

Case study one: Dealing in methadone and drug-related deaths

This was an effort to deal with a major problem. Crimes were clearly taking place though the crime was of less concern than the fatal consequences following from it.

The problem addressed was that ten of eleven accidental drug-related deaths in 1996 in the area had involved taking methadone. Moreover, in every case the methadone had not been prescribed for the victim but had come from other sources. In 1997 eight of nine accidental drug-related deaths again involved methadone. The aim was to reduce the number of deaths in which methadone was involved.

The analysis undertaken looked at how methadone leaked out to those to whom it had not been prescribed. This framed the problem not as one of illegal drug dealing, requiring enforcement and disruption (a frequent approach in this force), but as one of harm minimisation, through opportunity reduction.

The approach adopted was to try to prevent prescription practices that would enable potentially lethal amounts of methadone to be obtained by individuals who could then sell on some or all of it.

Doctors prescribe methadone to addicts as an alternative to heroin. The idea is that they can be weaned off heroin, lead more regular lifestyles, hold down a job, and meet their drug habit needs other than through crime. Drug users evidently sometimes present at surgeries in an aggressive or disorderly way, and doctors can be persuaded to prescribe methadone hastily to get rid of them. Moreover, they have incentives to prescribe enough for several days to avoid a return visit. They can also be persuaded to prescribe methadone to visiting patients solely on the basis of the patient's claim to have a need or dependency. Doctors apparently cherish their rights to prescribe as they think fit, and some are reluctant to take advice. Some doctors were evidently deemed soft touches, and addicts gravitate to those from whom they may elicit generous prescriptions ('scripts'). One couple collected close to three litres of methadone from one visit! Moreover, the Health Authority was reluctant to issue strong guidance.

The strategy involved a high profile campaign supported by senior officers at Head Quarters to change prescribing practices. This ran from late 1996. The campaign involved seminars, workshops, visiting 50 practices and three postgraduate centres, as well as articles in the newspapers. A thirty-minute television programme was also broadcast, stressing the dangers of methadone and its availability to those to whom it has not been prescribed. The Health Authority capitulated to pressure to do something and sued for peace, asking the police to 'turn down the heat'. The quid pro quo was co-operation in persuading doctors to change their prescription practices. A voluntary ban on prescribing tablets was agreed by the Health Authority in September 1998 (circulated in November 1998). Strong guidance was issued in December 1998 by the Primary

Care Effectiveness Group, which also included a drug user's contract with the doctor. Doctors were encouraged to prescribe for daily collection of a daily dose. Moreover, arrangements were made for supervised taking of the drug at a number of pharmacists. A contract was drawn up with the user, who had to sign up to come at certain times and to behave in specified ways.

The apparent effects have been quite dramatic. In 1998 three of 11 accidental drug related deaths involved methadone. In 1999 none of the six accidental drug-related deaths involved methadone. The one accidental drug related death in the area so far in 2000 did not involve methadone. The numbers are quite small, of course, and there may be alternative explanations for the decline in drug and methadone related deaths.

There is continuing monitoring of pharmacies' dispensing of methadone. Doctors who over-prescribe are contacted and pressure put on them to cease doing so. The data show a dramatic change in prescribing habits. Quarterly figures are shown in table 5:

Table 5: Changing prescription practices to reduce drug related deaths involving methadone

Quarter	1-3 98	4-6 98	7-9 98	10-12 98	1-3 99	4-6 99
Ampoules	4994	3875	4348	3409	3766	2700
Tablets	24,039	20,891	19,519	9,346	2,718	2,484
Mixture 1mg/ml l	260	267	295	272	282	269

The tablets are the major problem. They can evidently be crushed and injected in concentrated form, and the reduction has been most dramatic for them.

This initiative is a good example of problem-solving in relation to a major issue. It has involved some careful analysis of the problem (understanding accidental drug related deaths), as well as imagination. The scheme architects have used experience and expertise from elsewhere (especially from Glasgow and York University). There has been good partnership between the police and the local Drug Action Team. Strong and sustained leverage has been applied to a reluctant partner. There were sustained efforts to produce change, an apparently high impact, and continuing monitoring to maintain the effects.

The measures have been largely situational – reducing the opportunity to traffic in methadone by reducing its supply especially in trafficable form[13].

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[13] Other work by the two police drugs workers addresses drugs problems in other ways. These involve education (focused especially on 10-11 year olds), local research having shown that children typically start dabbling at this age and if they don't start before they are 16 they are unlikely to do so). Two drugs referral schemes are also being piloted. The particular initiative focused on in the text here, however, involved a targeted effort to deal with a specific problem that affected only a few people but did so fatally.

Case study two: Youth disorder on a housing estate

This scheme attempted to deal with large numbers of calls made annually to the police, complaining about juvenile nuisance on a poorly designed (Radburn lay-out), run down, overspill housing estate during the Summer holidays. Table 6 shows the numbers of complaint calls between 21st July and 3rd September for 1993 to 1997, the year before the initiative was put in place.

Table 6: Annual numbers of complaints of juvenile nuisance July 21st - September 3rd, 1993 - 1997

Year	Number of incidents
1993	318
1994	271
1995	350
1996	409
1997	356

The estate provides little space for juveniles to play football where they would not offend residents either through making a noise or causing damage. What at first sight seems a conventional football scheme was devised and run by the local beat officer for the holidays in Summer 1998. Two seven-a-side leagues were operated. The first was for under 13 year olds, with eight teams, and the second was for under 16 year olds with six teams. Each team had to have a manager. Games were played on two evenings a week on an all-weather pitch, when most participants would play. There was a match fee of £3 per game, and contributions by the local council, a local sports shop, and voluntary organisation covered all remaining costs apart from police time. The clever and innovative part of the scheme was the provision to deduct points from the teams if any of the players were in trouble with the police. Players and managers, keen to do well, were persuaded to try to dissuade members of their teams from misbehaving. Thus they applied 'informal social control'.

The apparent result was a fall to 266 complaints during the summer holiday period corresponding to the dates for the figures given in Table 6. Whilst the problem had by no means disappeared, the figure was low by previous standards, providing suggestive evidence of real success. In a nearby town a football scheme was also run in 1998, but without the provision for points deduction and no fall in crime and disorder incidents was achieved. In the following year the successful football scheme was developed and expanded to provide a wide range of recreational opportunities, involving several agencies. This was evaluated by the local analyst, who showed it to have had no impact, despite its popularity with parents and agencies alike. The widened scheme did not incorporate means to trigger informal social control whilst the scheme was not operating.

Case study three: Unruly children in a park

This initiative aimed to reduce the incidence of youth disorder by a small group of six to 12 secondary school age boys, who were causing damage to and terrorising users of a scout centre and St John's Ambulance centre based in a park. A new constable, supported by a superintendent who was committed to problem-solving, undertook a manual analysis of the issue, looking at command and control records. At its worst, there were 30 calls reported in one summer month in 1997.

A community-based working group was set up to tackle the problem. This resulted in a range of actions being identified. The project followed a crackdown and consolidation approach in which the first six weeks consisted of high visibility policing. A school liaison officer also spoke to classes about anti-social behaviour faced in the area. Following the crackdown, environmental changes agreed with residents were made. A decision was also made to improve the facilities in the park. To find out what was wanted school children were asked to draw designs for the park and local residents were surveyed. Many of their plans were forward-thinking and showed that they empathised with others in the area (for example the elderly and single parents). The posters were judged and the mayor presented the winners with certificates. Plans were made for a football pitch, basketball hoop and skateboard park. The evidence collected by the working group was sufficient to lever significant funding out of the district council who paid for the developments in the park. Improved lighting and CCTV were also installed in the two community centre buildings. The outcome was a major decline in reports of incidents in the park and a significant increase in the use of the park's facilities.

Mistakes were identified through monitoring, and adjustments made to the initiative. For example, mounds of stones had been used in creating provision for BMX-riding, and youngsters began throwing them at people and buildings. The mounds were removed and police presence was again increased temporarily until the problem subsided.

Though no full independent evaluation was conducted, the local constable graphed the decrease in anti-social behaviour and crime that had occurred as a result of the initiative. Much qualitative/anecdotal evidence was also collected indicating a decrease in crime, and increase in community involvement in addressing local problems.

These case studies bring out what seem to be important factors in achieving success in crime reduction problem-solving.

Though the initiative addressing the problem of accidental drug-related deaths involving methadone was primarily a police initiative in the first instance, it did not adopt a traditional police-definition of the issue, even though it took place in a service that had quite a strong

focus on enforcement. The problem was understood in terms of lost lives, not criminal behaviour. The analysis identified the pinch point for the problem, that is the point at which intervention might be expected to have the longest term and widest impact. The officers involved worked out that the best point of intervention in this particular drug problem concerned the supply. Here drugs were reaching the illicit market through legal channels. Those in a position to change, however, had no interest in doing so. Indeed, the notion that they were doing anything wrong was anathema to them. Moreover, suggestions that they change implicitly challenged their traditional professional autonomy, and suggested that they were not competent.

The police were, thus, led to a position where they needed to try to apply leverage, since asking and provision of information and advice had proved insufficient. They enjoyed the support of senior officers at headquarters. They applied heavy pressure. In the end they succeeded. Health organisations capitulated and began to collaborate. They also helped develop incentives for pharmacies to make it easier to supervise the daily doses that were preferred for addicts. Moreover they have put in place routines to monitor prescribing practices and to provide prompts for further intervention if necessary, which should maintain the effects of the measures introduced. The approach adopted made sense in the local conditions. The leverage applied by the police was needed because there was no obligation on the health authority to attend to the crime side effects of their policies and practices.

At a much more local level, the second example shows what can be achieved by a bright and committed officer working on his own, though the force and division in which he worked was one where problem-solving was being actively promoted. Here the community beat officer taking the lead knew the estate well and, whilst happy to make arrests when necessary, was sympathetic to the young people living there. He had a history of involvement in youth work, and was anxious to improve the youngsters' lives as well as the lives of the residents who were suffering from these youngsters' inconsiderate behaviour. He used his head, his heart and his personal skills to put in place a scheme that spoke to the lives and interests of these young people and the ways in which they could be influenced. He realised that they were less likely to be directly affected by figures of authority than by each other. Moreover, he had an inkling of how he could catalyse that influence in the interests of the community. He incentivised informal social control. His was a well thought out scheme that knowingly activated a relevant change mechanism in the context of the estate where the project operated. The clarity of purpose and vision was not sustained as partnership kicked in, when well-meaning general provision of recreation replaced targeted social control. Where partnership tries slavishly to incorporate diverse missions and ideologies, there seems from this case to be a risk that focus can be lost.

The third case study highlights the success of a response to a local problem, where once again there was active support from senior colleagues. As with the previous example, it also turned on a committed and capable individual, using her personal skills, and using imagination in

finding a solution to the problem. This time, consultation with relevant parts of the community and partnership with other agencies was crucial to developing and implementing an analysis-based response to the problem. The problem was defined by systematic analysis of incident data, accomplished even though the technology was in this case not helpful. The residents and the children, whose behaviour had to change if the problem were to be reduced, were heavily involved in thinking through what might be done. The local authority was happy to play its part in helping put in place targeted measures, as were other voluntary and private sector organisations which made significant contributions. Monitoring revealed a weakness in the initial implementation of the response, and adjustments were made accordingly. Shared interests were found between the police, local authority, children, members of the community and other organisations. These were built on in developing the scheme.

The remaining examples listed in Figure 1, show bespoke analysis, sometimes rather specific to particular local problems (as with 'Disorder late at night at pizza parlours' and 'Suspected fraud in senior management…'), and sometimes of a more general kind with broadly based problems (as in 'Domestic burglary'). They also seem to show that larger problems often need the participation of teams to conduct the analysis and put in place responses. For example the 'Theft of and from vehicles in car parks in seaside resorts', and 'Theft from unattended vehicles left in isolated recreational areas' involved teams of officers dedicating significant amounts of time to analysing the problem and working with other organisations (in some cases following leverage/incentivisation) to implement preventive measures. They all show measures introduced that are tailored to a well-defined problem and a plausible analysis of aspects of its genesis. They all seem to show that a useful 'pinch point' had been found, i.e. a point where a measure can be introduced that can squeeze out the problem behaviour, or re-channel it at an accessible point. Most offer prospects of sustainable (though not necessarily permanent) responses, excepting perhaps the 'Nuisance and damage..' example which speaks to a seasonable problem and would need to be reapplied (and possibly adapted) seasonally.

Implementation of the planned measures was not always straightforward. In some cases those best placed to apply preventive measures were reluctant to do so. They had no statutory duty to try to reduce or preempt crime, or indeed to consider the crime consequences of their ways of working. Here it was necessary to apply leverage or offer incentives. Levers included shaming, threats to shame, and advice to people not to use those facilities where preventive measures had not been applied and where users were at heightened risk.

The examples given here may seem rather obvious and pedestrian efforts to deal with small, local difficulties. Hindsight, however, is easy. These are not mindless measures mechanically applied, but relatively thoughtful and imaginative responses tailored to the specifics of local conditions as these were understood. That they seem so simple in retrospect is a tribute to the hard work and imagination of those who put them in place, especially in view of the large volume of costly routine practice with no more (and often less) evidence of effectiveness.

Conclusions from successful initiatives

On the basis of what was found visiting initiatives that were deemed successful, the following general lessons for problem-solving emerged:

● Detailed analysis is needed to help define problems in ways that open them to creative responses. Traditional police definitions of problems are not always the most helpful.

● Detailed analysis needs to be directed at 'pinch points', i.e. at the weakest necessary conditions for the problems to persist.

● Site specific analysis of problems is needed to select responses that are relevant to local circumstances.

● In selecting responses it is crucial to work out in detail how they are expected to produce their intended effects.

● Community consultation and involvement is important to identify interventions that will elicit the co-operation and involvement of residents that is often needed if measures are to be effective.

● Problem-solving, especially for large-scale issues, is facilitated by the establishment of multi-disciplinary/multi-agency teams.

● It is not always in the interests of those best placed to make changes that will reduce problems to do so. It may be necessary in those circumstances to find and apply incentives or levers.

4.   Problem-solving failures

Figure 2 shows a series of initiatives that were seen to be unsuccessful. These and analysis of the questionnaires concerning successful and unsuccessful initiatives point to a number of common shortcomings.

Unsurprisingly, initiatives in which there was no identified or measured problem had little chance of being successful. Yet putative problems were not always verified empirically, and national figures were often assumed to be applicable locally without checking. The first and second cases in Figure 2 provide examples. More generally, good published advice seemed largely to have been ignored (e.g. that of Ekblom 1988, Shapland et al 1994, and Read and Oldfield 1995).

In some cases, assumptions were made about the cause of the problem without making them explicit or testing them. Again, where this happened it was not surprising that errors were made and ineffective tactics were introduced. The third case in Figure 2 is an example.

In many of the forces visited there was a near-obsession with recency of data – anything more than two days old was deemed useless. There is evidence that incidents are clustered by time and place and hence it does make sense to attend to these short-term fluctuations (Curtin et al, forthcoming; Shaw and Pease 2000). Nevertheless, sight can be lost of more enduring, longer-term patterns that offer preventive problem-solving opportunities.

Replicating the achievements of past projects is fraught with difficulties. It requires an understanding of how the original measure brought about its effects in the context in which it was introduced and making an accurate judgement about the salience of the similarity in presenting conditions (Tilley 1993). The relatively little benefit in terms of success-probability gained from consulting others is testament to the problems in transferring lessons. Moreover much evaluation is technically weak. A sense of success is very different from real achievement. Problem-solving can fail with the uncritical acceptance of success stories and the unreflective application of techniques that seem to have been effective in one place, in another. The best evidence we now have, for example, in one of the currently most popular crime reduction measures, closed circuit television, is that its effectiveness is highly contingent on context (Painter and Tilley 1999). In regard to the third case study in Figure 2, diversionary activities will only divert if they are relevant to the interests of those diverted. Also, they will only spill over in their effects beyond the period of the diversionary activity if attention is paid to the incentives and opportunities, as happened in the second successful case study described earlier.

In some cases measures are adopted without any clear orientation to the problem, to an understanding of the problem, or to how they might impact on it, but simply because of

Figure 2: Examples of 'unsuccessful' problem-solving

Scanning	Analysis	Response	Assessment	
Problem	Cause	Tactic/Treatment	Output	Result claimed
Rumoured bullying	Not clear	Invite reports, anonymously if victim so chooses	TV and print media coverage of opportunities to report, posters, widespread provision of forms to report incidents	One form returned, by an adult
National research concerning risks of arson in schools	Not investigated locally	Encourage neighbourhood watch to keep an eye on the schools: use the schools during the day, for summer schemes and so on, to increase natural surveillance	Not clear	No change in rates of arson, no arson before or after scheme
Nuisance and damage by youths on a housing estate during summer holidays	Lack of constructive activities	Provision of diversionary activities	Football one evening a week	No change in rate of nuisance and damage
Repeat domestic violence	Lack of co-ordination between agencies	Police development of multi-agency group	Some acrimonious meetings	Scheme collapse
Street drug dealing	Surveillance, undercover officers, identification of dealers	Co-ordinated test purchases from dealers		Short term, 33 dealers arrested. Longer term drug dealing persisted

conventional wisdom. The third example in Figure 2 is a case in point. The multi-agency group had become an end in itself without attention to how it could make women safer from repeat attack. This case also showed how a failure properly to understand the ways of working of partner organisations can lead to frustration and failure to implement or achieve anything.

The fifth example in Figure 2 shows the weakness of large-scale enforcement (crackdown) interventions that are not followed up with subsequent consolidation. They have a relatively short shelf life. Measured on a number of indicators this example could be cited as a success rather than as a failure. The police force in question collected a great deal of intelligence about the problem, and were able to make a large number of arrests as a result. However, little consideration appeared to have been given to how the impact of these arrests could be capitalised upon. The resource implications of the test purchasing operation were costly, both in financial terms and in the time officers involved had to spend in preparing case files subsequently. In the longer term, because the force was unable to build upon the initial disruption of the market, dealing on the street remained a problem.

Though short of a convincing example of their own, the crime reduction department of one force visited had been pressing for a crackdown and consolidation approach. In one area visited, it was encouraging to find that an estate where this sort of approach had been adopted in the early 1990s (Tilley and Webb 1993) was no longer considered a problem.

Evaluation is technically difficult to do well. It was no surprise to find few assessments that would survive informed critical scrutiny. A little high quality work had been contracted out to external agencies or universities, and external funders had arranged some independent evaluations. Beyond this, systematic evaluation was rare. Moreover, there was little evidence of awareness or use of advice that has been issued over the past decade to make good shortcomings in evaluation (e.g. HOCPC 1992, Berry and Carter 1992). Agencies are poorly placed to conduct sophisticated evaluations, which are seldom warranted by the size of the initiative. What is more realistic is the arrangement for data collection that would provide a plausible indication of initiative impact, tailored to its specific expected effects. Even this was uncommon.

Conclusions from unsuccessful initiatives

There are many sources of problem-solving failure amongst which the following were encountered.

Weaknesses in identifying the problem
●   Failure to check that a nationally identified problem exists locally
●   Failure to check out systematically that images that problems exist are accurate
●   Failure to check scope of problem

Weaknesses in analyses of the problem
- ●   Acceptance of definition of problem at face value
- ●   Use of only very short-term data
- ●   Failure to examine the genesis of problems

Weaknesses in working out what to do
- ●   Short term focus
- ●   Failure to read relevant literature
- ●   Picking the solution prior to, or in spite of, analysis
- ●   Failure to plan how the measures could in practice be made operational
- ●   Failure to think through the mechanisms by which the measure could have its impact
- ●   Failure to think through needs for sustained reduction, specifically failure to consolidate following crackdown

Weaknesses in work with partners
- ●   Failure fully to involve partners
- ●   Insensitivity to others' agendas, styles, constraints or ideologies

Weaknesses in implementation
- ●   Narrowly (normally offender) focused response

Weaknesses in lessons drawn from previous experience
- ●   Shortage of good evaluations
- ●   Uncritical transfer of responses used elsewhere

5.   Conditions for problem-solving

In addition to looking in detail at selected initiatives during the eight force area visits, the Policing and Reducing Crime Unit team also discussed problem-solving with headquarters and local area staff. At headquarters, efforts were made to speak to representatives of the ACPO team, and also the force crime manager, the head of crime intelligence, the force crime prevention officer, the head of corporate affairs, and the head of community affairs, or their functional equivalents. In each local area visited (two per force) arrangements were made to interview the BCU commander and a sector inspector. A focus group was also held in each BCU. It was hoped that one would include a group of officers working in the highest crime rate beat, and the other a group of officers working in the highest crime residential beat. In each case, subject to availability those asked to attend included the beat officer, a local CID officer, a Scenes of Crime Officer, a Crime Prevention Officer, a local patrol officer and a sergeant with some geographical responsibility for the beat. The PRCU team also took the opportunity to have discussions with others who were available or to whom it was suggested that we speak.

The aim of this part of the inspection was first, to identify the level and nature of support for and participation in problem-solving and second, to find out more about significant enablers and inhibitors of rigorous problem-solving.

Headline findings about problem-solving include the following:

●   In only one of the eight forces was problem-solving not actively being endorsed and advocated by headquarters staff.
●   Headquarters staff in all but one of the forces where it was promoted recognised that they were at the quite early stages in institutionalising a problem-solving way of working.
●   Few individual staff were critical of problem-solving in principle as they saw it, though many doubted its practicability in their circumstances. In only one force was it clear that there was commitment to problem-solving by all staff and belief by all of them that it could be done.
●   BCU policing practices, including their implementation of problem-solving varies widely. Indeed, in the one force area where problem-solving was not being actively promoted by the headquarters staff seen, staff seen in one of the local areas were amongst the most enthusiastic advocates of and participants in problem-solving seen across all eight force areas!
●   Only one force appeared not to have difficulty in attracting and retaining competent analysts.
●   At least five of the forces had problems with inadequate data recording and/or analytic software.

- There was very little evidence that staff engaged in day to day problem-solving were aware of or drawing on evidence-supported practice, except in exceptional circumstances.
- By far the commonest approach to problem-solving was to try to target, detect and deter local offenders in high crime areas.
- High quality, independent evaluation was normal nowhere. It was rare everywhere.
- Training provision for problem-solving was very variable, from none at all to training for all, including practical exercises and with follow-up.
- Progress in implementing problem-solving varied widely. There was scope for further development in all. In only two of the eight forces and in three of the 12 BCUs in the remaining seven visited was there evidence that problem-solving as described in this report had come to be widely practised at all levels, and in none of these was problem-solving working without any difficulty.

These findings confirm previous research which has shown that implementing problem-solving is difficult and is a long term process (Leigh et al 1998). In most areas it was recognised that the changes required are wide-ranging. They cannot simply be effected overnight by an order introducing problem-solving as the style that will be adopted!

Visits to force areas identified a number of ways in which the development of problem-solving practices was being encouraged or enabled.

Ways in which problem-solving was being encouraged and enabled

1. Presence of a committed, enthusiastic, knowledgeable and involved leadership

Clearly support for the concept of problem-solving by senior officers will encourage it. More than that, though, problem-solving seemed to be commoner the more knowledgeable and directly involved the senior officers were in the work of their staff. Where senior officers acted as mere managers, with little or no knowledge of the policing problems being faced by those under their command, there seemed to be less problem-solving. Moreover, knowledge of the problems being faced by staff increased with length of tenure. In those BCU's where problem-solving examples seemed to be most prolific the same BCU commander had been in post long enough to know the area, the officers and local partner organisations well and had developed a sense of responsibility to them. They were able to talk in detail and with conviction about the specific problems in their areas and their sources, the qualities and capacities of their staff, and the qualities and capacities of local organisations and their leaders. They could and did take some responsibility for their actions and bore (or enjoyed) their longer term consequences.

2. Provision of practical help and advice in planning and doing problem-solving

In one force visited, a headquarters team headed by a retired but energetic and well-respected BCU commander, had been set up to help problem-solving in relation to identified issues in BCUs. This was intended not only to address the presenting problem, but also to 'show and tell' local officers what could be achieved. In other forces, headquarters staff provided consultancy, and in one this was also replicated in BCUs.

3. Provision of data, analytic software for analysis and competent analysts

In some areas data sets had been provided for search by all through the intranet. In one, live data were available to many within the force for up to date interrogation. Software development was occurring in several forces to bring together data sets, and to facilitate their routine analysis, even though in most it was not yet working properly. In most forces posts for analysts both in headquarters and in BCUs had been established.

4. Provision of information, training and experience to inform problem-solving

Some forces had provided training, sometimes including locally based practical exercises to take officers through the problem-solving process. One had invited members of other agencies in a joint training exercise. In one BCU all probationer officers had to undertake a five week attachment with the problem-solving team as part of their introduction to the division to inculcate problem-solving habits of work and thought. The intranet was in some cases being used to make text materials relevant specifically to problem-solving available. One area had prepared a document summarising research findings about problem-solving. It also produced a short and accessible handy executive summary.

5. Development of methods to disseminate good practice[14]

In one force previous problem-solving efforts were being made available through a database accessed via the intranet. Officers were being encouraged to record their problem-solving in a structured way and their efforts were accessible to colleagues. In other forces the ACC acted as a go-between as he regularly visited BCUs and picked up what he deemed interesting and effective problem-solving which he then spread to other BCUs. In a third there had been internal seminars/conferences at which problem-solving experience had been exchanged.

6. Development of structures to encourage problem-solving

In one BCU the area commander had developed a problem-solving tasking and filing system based around the SARA methodology. Details of identified problems were kept in files colour-coded in terms of the type of response deemed appropriate (short, medium or long term). The file contained a record of the problem addressed, the actions taken, and the officer tasked with undertaking the activity. The use of the files ensured that a 'mix' of responses could be adopted to treat an identified problem, and where this had been done, a record of responses kept. In addition a 'field intelligence' proforma had been developed to collect details of analysis undertaken on the problem (analysis normally undertaken at the problem location).

7. Development of units or task-forces dedicated to specific areas of problem-solving

In one BCU visited, in relation to large and long-term problems, task-forces were set up. These looked in detail at the problem, visited other forces that had evidently addressed it successfully, considered the elements most relevant to the local conditions, came up with a menu of

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[14] The paucity of most evaluation raises, of course, questions about ways of identifying good practice.

promising ways of reducing the problem, and set about implementing them. In another force a new unit had been set up, yet to become fully operational, that was charged with trying to anticipate problems on the horizon and to develop pre-emptive responses.

8. Allocation of staff on the basis of their aptitudes

In some forces it was recognised that different individuals (and agencies) have different aptitudes and skills. For example, problem-solving teams were created in which those belonging had different, but complementary contributions to make. Police officers who appeared ill-suited to working closely with community groups were used for response duties. In another case a Divisional Commander was quite open that he had 'hand-picked' officers to form his community policing team to give it the best possible chance of success.

9. Use of rewards to incentivise problem-solving

In some forces visited, problem-solving was being incentivised by providing commendations to officers thought to have been especially effective in addressing a particular issue.

Ways in which problem-solving was being inhibited or disabled

Visits also revealed a number of factors that were deemed to obstruct problem-solving.

1. Weaknesses in analysis and shortage of analysts

Analysis is at the heart of problem-solving. If it is going to be done well imagination, technical skill, experience, and knowledge of the relevant literature in criminology and crime reduction is needed. Given their low salary and poor prospects, there is a high turnover of dedicated analysts. It seems that they are often recruited young, learn to be useful in the eyes of the police and then soon leave for higher salaries. Their origins and training vary – many focus on offender profiling, using standard packages in standard ways. This is not sufficient for crime reduction purposes. Moreover, the role of analysts is often not to do analysis to inform reduction. Some were confined to producing routine data on crime distribution. Some were mainly producing performance returns for the BCU commander. The most active were said to shape the work of the tasking and co-ordination group. In some forces analysts were available to all officers, and in others they were available only to senior staff. If problem-solving is to be conducted seriously, the status, prospects, pay, and education and training of analysts will have to be substantially improved, or police officers will need to spend a significant amount of time and effort mastering analysis skills, or external analysts will need to conduct analysis on behalf of police and partnerships.

2. Limitations in data sharing and data quality

There continue to be widespread frustrations in relation to data sharing and the quality of the data collected. Problem-solving clearly depends on the availability of robust data. In a few places protocols for data sharing exist, but its practical exchange continues to face serious obstacles.

3. Inadequate use of crime reduction specialists

It was surprising that crime prevention officers and architectural liaison officers had been sidelined in most forces as the language of problem-solving and crime reduction had come to take centre-stage. There is a risk that their specialised skills in understanding crime events and preventing them become under-utilised. For example in one force area where there was a substantial amount of new development. Though architectural liaison officers were commenting on plans, opportunities were not being taken to preempt potential problems by their full involvement in designing out risks of crime and disorder.

4. Inadequate time set aside for problem-solving

During focus groups with officers, though the notion of problem-solving was widely endorsed in principle, in practice many officers complained that they lacked time to be involved in it. This was most commonly the case where officers with 'first response' responsibilities were being asked to assume 'geographical' responsibilities at the same time and to solve problems in their geographical areas. Their complaints are consistent with previous research (Chatterton 1995), which showed that it is not so much time as such, but usable time that is necessary for problem-solving and it is this that is normally unavailable to officers whilst they are on response duties. Some officers, it seems, need some time set aside for making longer term problem-solving routine. There are clearly different models to achieve this.

5. Exclusive focus on local, low level problems

Problems may exist at any of a variety of levels. They exist at the level of the particular case, for example an individual, household, or organisation that has suffered a crime. They may also exist at the level of the beat, for example a spate of commercial burglaries in a local patch. They may exist at the level of the local authority, for example the vulnerability of cars in publicly owned car parks. They may exist at the level of a force, for example a pattern of robbery occurring in Public Houses. They may exist at a national level, for example domestic burglaries involving loss of cash from prepayment meters.

Efforts to find out whether problems at one level also existed at another were rare. There was also little scope to pass problems up. Problems are overwhelmingly identified, defined, analysed and addressed at a low level. Even when local officers suspected that they existed at a higher level, and might usefully be addressed at that higher level, there was little help or apparent interest.

Crime in hotel car parks is one such example, driving away without paying for petrol (bilking) is another. In no force visited was bilking not mentioned as a local problem. In one, the officer dealing with a single petrol station in his patch realised that the problem might be more widespread. His hunch was that forecourt layout of the particular oil company made bilking easy and that reductions could be achieved by modifying it. Commendably, he was trying to persuade the company to change its policy. He had had no real help beyond his immediate

colleagues. He had had no opportunity to analyse patterns across the force, region or country. He had had no guidance on a range of possible preventive methods. He was unlikely to be able to wield the pressure needed to persuade the company to adopt his preferred solution. Other officers in other areas were also trying to deal with bilking as a series of isolated problems, the motivation often being that it inflated crime figures and its significant inhibition could play a large part in achieving reduction targets. In some places the activities were not defined as a recordable theft, it not being certain that the person not paying had intended not to do so – they might simply have forgotten! In no case was the problem being passed up for attention at a higher level. On the basis of what was encountered during the inspection, it looks as though bilking might be a national issue, requiring national leverage on powerful multinational companies. This suggests that crime reduction problem-solving by government departments might be appropriate. The role here is not one of incentivising local partnerships, or of allocating funds, but one of doing reduction through hard-headed problem-solving.

6. Crudely operated performance management arrangements

Performance review has clearly become an effective driver for policing in many forces. Officers are held to account for addressing problems of concern. This appeared to bring focus to policing and problem-solving efforts. Moreover, in spite of fears from those who have not been subject to this discipline, the PRCU team found little hostility to it or opposition from those seen. Staff had confidence that they knew what was expected. Performanance indicators and targets gave clear direction to their work. There were rewards for success, and most management teams were open to reasonable explanations in the event of shortfalls.

The difficulty with regard to local problem-solving lies with the way performance measurements were constructed. They almost invariably focussed on force objectives, and did not include those set by local partnerships. Crime and Disorder partnership concerns thus consistently came second. Indeed, they only rarely seemed to figure in officers' thinking about the targets for which they were held accountable. This is notwithstanding current Home Office priorities set for the police which include, after all, 'reduction of crime and disorder in partnership with local authorities and other agencies and the public'[15]. This priority needs to be reflected in the creation and use of locally targeted performance indicators if problem-solving is to be incentivised.

7. Inattention to and weakness in evaluations of problem-solving efforts

Problem-solving is demonstrably successful where the result attributable to the interventions introduced comprises an elimination or reduction of a problem, or the pre-emption of a problem that could otherwise reasonably have been expected, without unacceptable identifiable side-effects. This is a tough success-criterion. None of the initiatives visited had unequivocally produced the problem-reductions or problem-eliminations shown, nor had any

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[15] Some performance management induced attention to national issues may bring benefits. PRCU saw some problem-solving that was oriented to national objectives, but in relation to victim groups that were unlikely to be prioritised by local partnerships, most notably travelling victims. Students, hotel visitors, holidaymakers, day trippers, shoppers etc appeared quite often to be highly victimised groups, but their risks are less likely to be prioritised in local partnerships than the risks faced by residents.

of the evaluations discussed apparently identified and measured all plausible side-effects. To do this for any initiative would be technically difficult and very costly.

The scarcity of and shortcomings in much crime reduction evaluation work have been highlighted in the past (Ekblom and Pease 1995, Sherman et al 1997, HMIC 1998, Audit Commission 1999). Many of those spoken to during the inspection were concerned to meet evaluation expectations and said they wanted 'proper' evaluation. Most knew that their evaluations were weak, even where they were conducted. Few had a strategy for deciding what was worth evaluating at what level and at what cost. Several were making occasional use of universities and consultancies on an ad hoc basis. Some were occasionally tasking analysts with evaluation. Some set aside a budget centrally for evaluation priorities. Yet none had managed to make good evaluation routine.

Currently, there are unrealistic expectations about what can reasonably be undertaken by way of evaluation. These need to be scaled down. Police and partnerships could benefit from further sensible and practicable advice about what to evaluate for what purposes, what resources to allocate to evaluation, how to commission or conduct evaluations of various kinds, and how to make use of evaluation study findings. Hough and Tilley (1998) propose a tiered arrangement, which could be built on.

8. Inadequate involvement of partnerships in problem-solving

The need for partnership in problem-solving is well established. Resources, competence, and capacity to make a difference are not all lodged in one organisation. Amongst the police, however, other agencies were most often valued for their participation in implementing or funding the implementation of measures to address the problem. They were rarely seen to be central to the whole problem-solving process. Opportunities to work more effectively with other agencies were being missed. Some hasty decisions might have been avoided with greater partnership involvement. In some cases crackdowns had not been followed by consolidation. Consolidation to yield longer term crime reduction following crackdowns will normally need partnership activity[16].

Notwithstanding the emphasis on partnership, problem-solving was not always deemed to need the full involvement of partners at all stages. Partnership involvement in deciding what to do was seen to sometimes lead to fudging schemes, as partnerships lose focus accommodating the varying interests, and ideologies of partners are satisfied at the expense of clear thinking and targeted action. There is a risk that partnership in all things is fetishised as an end in itself. It may be sufficient in some cases that partnership organisations collaborate in delivering responses that have been thought through by knowledgeable members of one agency. In other cases shared definition and analysis of a problem may be followed by action by just one agency. For some issues involvement of partnerships in the whole process is likely to be needed. Though shared high level oversight will be needed, forms of partnership in addressing specific problems need to be appropriate to their individual needs.

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[16] Partners can also play a part in crackdowns. Housing, environmental services, and trading standards are just three examples.

A case study

Significant features contributing to problem-solving in the force where it appeared to be most developed include the following:

Culture and policing style

● Leadership: There was explicit commitment to problem-solving from ACPO levels downwards. This was expressed consistently in service documentation.
● Culture: There was a clear focus on crime reduction amongst all staff in all specialisms and at all ranks, with collective pride in what was being delivered and achieved. Cultural change had been identified as an issue to be addressed. Performance indicators had been developed to motivate and capture progress in effecting changes in culture.
● Prevention and detection: All staff made a clear link between crime detection and crime reduction. All crimes were attended for detection and repeat incident prevention purposes. A high detection rate was advertised to offenders on cell walls to market perceived risk. Restorative conferencing was aiming to divert offenders identified early in their crime careers.
● Staff perspective: There was a high level of corporate identification combined with generally high morale. There was all-rank commitment to crime and disorder reduction through problem-solving. There were strong informal working relationships with officials from other agencies, notably the local authority.
● Commitment to agency partnership and community involvement was expressed by all.

Management

● Headquarters and local areas: There was devolvement of almost everything except the staff budget to BCUs. At the same time there was a high degree of corporacy. This was achieved by consistent credible messages from headquarters and positive feedback from successes.
● Administration: Supervision practices provided officers with ownership of crime problems and also held them to account for addressing them. BCU commanders knew about, advised on, and were involved in problem-solving in their BCUs.
● Performance monitoring: A regime was in place where data were used to hold officers to account for their actions and achievements. Extensive quarterly monitoring data were prepared relating to crimes and detections. Returns included comparisons with previous year, by BCU, sector, and Local Authority Areas. The analyst provided a useful commentary on the patterns and on the data to inform their interpretation. (For example, in one issue it was noted that 'although criminal damage to a vehicle shows a decrease of 71 crimes it begs the question are crimes being recorded under vehicle tampering which has increased by 156 crimes or 247%'). Long term (five-year comparisons) were made to put performance trends in context. There was regular monitoring of rates of repeat victimisation.

Capacity building

- Officers were trained in problem-solving, using practical examples.
- Aide memoirs had been provided for dealing with repeat victimisation.
- The use of research studies was promoted. Attention had been paid to HMIC reports notably *Beating Crime*.
- HQ was providing written and personal advice on problem-solving.
- HQ provided forms for capturing problem-solving, which were collected together for dissemination.
- Time for problem-solving: Efforts were made to maximise time available for problem-solving, for example through the introduction of a specialist file-preparation unit, involving minimal use of front line staff time.

Data and analysis

- Information Technology: A user-friendly intranet was logged on to daily by all staff seen, bar one. It included a wide range of material including a data warehouse covering incidents and recorded crimes and access to surrounding force recorded crime data.
- Analysis: Analysts were employed at headquarters and local levels, conducting analyses for and with officers. Special data collection exercises took place for major problems. For example in recreational areas suffering car crimes photographs were sent to victims to try to find out exactly where they were parked so that preventive measures could better be targeted.
- Problem anticipation: Some interrogation of past crime and disorder patterns had been undertaken to inform efforts to pre-empt expected problems, for example bank holiday, half term, and carnival weekend disorder, spring motorcycle crime and lawn mower theft, and end of season holiday caravan vulnerability.

Levels of problem-solving

- All-level problem-solving. Force-wide, BCU, sector, beat and individual victim problem-solving was occurring. Emerging problems were being identified. Efforts were being made to anticipate and pre-empt future problems.

Outcome

- Outcome. There was a low crime rate by national standards which had been falling over long period, and was being further reduced[17]. There were plentiful examples of initiatives where substantial falls seemed to have been achieved. Overall success and achievements of individual initiatives were reinforcing the problem-solving philosophy and activity.

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[17] According to recent published crime data, covering October 1998 to September 1999 this force was not experiencing the highest rate of fall (Povey and Cotton 2000). It was however achieving a fall from a very low base. This is tricky. Reduction below a level that is low by normal standards becomes increasingly difficult. This is sometimes referred to as a floor effect. The other force which was implementing problem-solving widely had achieved the highest fall in recorded crime of all forces visited.

Even here, however, where problem-solving was most advanced there were still obstacles to it. These included the following:

● Staff allocation systems that left busy areas short-staffed over long periods inhibiting scope for active problem-solving.
● Failure to work effectively with all local authorities (or other agencies) at a strategic level.
● Missed opportunities for research and analysis to inform problem-solving, coupled more generally with a shortage of analytic capacity.
● Scarcity of robust evaluations of individual initiatives.
● Failure always to take advantage of previous well-researched experience to inform problem-solving.

Different areas face different problems in institutionalising problem-solving. It was not found to be straightforward anywhere.

The forms of encouragement and enablement , discouragement and disablement discussed in this section speak mainly to police participation in problem-solving since this was the main focus of the PRCU contribution to the inspection. Nevertheless, issues of analysis, leadership, opportunity, capacity, staff allocation and so on are likely also to be important for problem-solving partnerships more widely.

6. Conclusions

Problem-solving in crime reduction was found to be almost universally espoused within police services. It had been advocated by HMIC and by the Audit Commission. No-one seen during the inspection was against it. BCU commanders consistently advocated it. It is difficult to see how anyone would not be in favour of problem-solving. It is plain common sense. It really isn't rocket science. Yet high quality problem-solving is still exceptional.

Promising examples of small area crime and disorder problem-solving could be found, however, in most force areas, some of which are described in Section 3. Yet even here high quality, dependable outcome evaluations were rare. Only one of the 24 initiatives looked at in detail came close to producing evidence that would reach the normal standards expected in academic social research. The data reviewed from the initiatives questionnaire likewise suggests that high quality evaluation is very uncommon. It will not be possible to evaluate everything properly. Hough and Tilley (1998) suggest there is a need to evaluate activities at an appropriate level. At present guidance on what this might mean for problem-solving is lacking.

Only two forces were beginning to conduct broadly based problem-solving. A few senior officers in BCUs were both knowledgeable about and involved in problem-solving. They are an inspiration to their staff, and some excellent efforts of work conducted by, with and under them were seen during the inspection. They have much to teach the rest of the service. Short-term staff exchanges between forces may be a way of spreading the practice and experience of the most talented problem solvers and problem-solving leaders.

There is only a little anticipatory problem-solving. Opportunities are being missed to anticipate and forestall problems. Unless anticipated and pre-empted from the start, new developments (from new towns, to housing estates, to car parks, to service delivery arrangements by public bodies, to housing estates, to supermarkets, to schools location, design and management, to roads lay-outs, to drugs prescription arrangements etc) risk creating new crime opportunities and incentives for crime. This report has identified inadvertently created crime and disorder problems that could have been forestalled with foresight.

The initiatives questionnaires suggested that many data sources were used. Visits to forces and examination of individual initiatives repeatedly suggested that data are weak, and routine aggregate data sharing is exceptional and problematic. Analysts are thin on the ground, often used mechanically and for processing management information, and tend to be inexperienced, poorly paid, and with few qualifications for preventive analysis. Most of the problem-analysis conducted in bids for funding under the Crime Reduction Programme has been very limited (see Tilley et al 1999). This seems to reflect a general lack of capacity for analysis in most areas.

There was little broad-based problem-solving. Most took place at the 'sharp end' of operational policing, and tended to focus on the offender. High impact problem-solving will need a broader approach both in incorporating place and victim more fully and in working at a more 'strategic' level. It will also require more problem transfers up and down police and other agencies to achieve more comprehensive and more joined up crime and disorder problem-solving.

If potential benefits from adopting a problem-solving approach are to be yielded, local areas will need to and need to be encouraged to take a hard critical look at their current working practices. Table 7 comprises a checklist that can be used to identify points for improvement. It can be used both by individual agencies, notably local authorities and police services at BCU level, and by partnerships as a way of assessing progress towards problem-solving. No police area was visited during the inspection where scope for improvement was not found and acknowledged. It will be clear that much of the checklist can also be applied at wider, police force, regional and national levels.

Table 7: Problem-solving checklist

Problem identification/ Scanning	Y/N
Are repeat calls for service and repeat crimes routinely scanned?	
Are efforts to identify and analyse past and emerging problems routine?	
Are simple emerging problems allocated to individuals for their response, either on their own or in conjunction with other agencies?	
Are more complex emerging problems identified/prioritised in routine discussion amongst partners?	
Do partnerships routinely try to anticipate and forestall future problems?	
Causal analysis/Analysis	
Are adequate data collection and sharing arrangements in place to be used in problem identification and analysis?	
Are local analysts available who are familiar with relevant theory, crime reduction literature, and analytic techniques to identify and analyse problems?	
Do analysts have the hardware and software they need to do their job?	
Do analysts have a competent source of advice and supervision for their analytic work?	
Do analysts work in partnership with same agency colleagues responsible for dealing with problems, and with those in other agencies and their analysts?	
Do staff in supervisory positions have training and experience in analysis?	

Table 7: Problem-solving checklist (continued)

Tactic or treatment/Response	Y/N
Do partnerships addressing agreed problems have sources of informed advice on possible promising responses?	
Do members of partnerships have a joint budget to implement or pump prime responses to agreed problems?	
Are members of partnerships adaptable in their service delivery patterns where doing so may comprise a promising response to a problem?	
Do those allocated problems have sources of informed advice on possible promising responses?	
Are external sources of advice in problem-solving being drawn on when needed?	
Output monitoring/Assessment	
Are all problem-solving efforts within the BCU/authority area systematically monitored?	
Are initiatives adjusted in the light of monitoring?	
Is an evaluation strategy in place?	
Are reputable independent evaluators used where significant resource allocation decisions turn on evaluation findings?	
Is care taken not to give unqualified support to extending initiatives that have not been subject to independent competent evaluation?	
Are provisions in place to conduct 'light' in-house or student evaluations where only suggestive findings are needed?	
Incentivisation/enablement	
Do members of partnerships encourage their staff routinely to participate in problem-solving?	
Are individuals allocated problems given training in their analysis and in forms of response?	
Are individuals allocated problems given reasonable time to address them?	
Are specialist skills being drawn on and used in problem-solving?	
Does the partnership provide a forum for mutual leverage in problem-solving?	
Does the partnership have agreed ways of applying leverage where necessary to third parties in implementing responses to problems?	
Is the work of the partnership monitored regularly and members held to account for their problem-solving?	

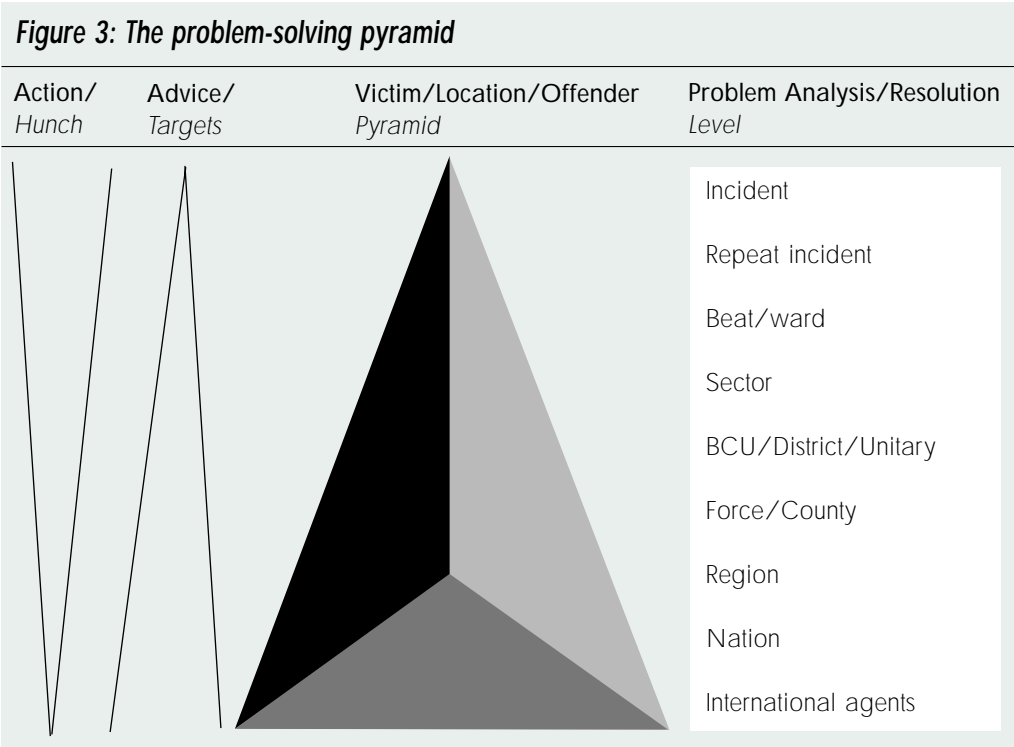## Table 7: Problem-solving checklist (continued)

Are individual agencies being performance measured for their local problem-solving work as well as their attention to national priorities?	Y/N
Do supervisors help subordinates with problem-solving and monitor their problem-solving work?	
Are staff oriented to problem-solving, with selection, training and rewards to encourage and enable them?	
Do senior members of agencies know of and understand the problems being addressed?	
Problem-communication to and from other levels	
Is day to day problem-solving monitored and are efforts made to identify broader problems?	
Are problems identified within the area that may reflect broader problems passed 'up' for analysis and attention at 'higher' levels?	

A model of comprehensive problem-solving

Figure 3 represents a generalised problem-solving approach to crime reduction. The central pyramid base is three sided. The sides refer to 'victim', 'location' and 'offender' familiar to many as the Problem Analysis Triangle.[18] The apex of the pyramid represents the crime event. It shows that an incident occurs where and when a suitable victim encounters a likely offender in a context where there is nothing to stop the offensive or offending behaviour. The broadening downwards describes the wider generators and contexts for events to occur. These stretch to a global base triangle, where trans-national companies, supra-national political bodies, and organised international criminal organisations are key players. Comprehensive problem-solving would involve all levels. We are currently a long way from this, though there is some activity at all levels.

Incidents may be patterned in numerous ways, giving clues to potential problem-solving interventions at levels below the individual incident. There is now ample evidence that incidents are good predictors of future incidents, especially in the short term. This provides a focus for problem-solving at the level of service delivery. Incidents are also patterned at wider levels, providing further opportunities for problem-solving. They can be patterned by time (of day, day of the week, time of year, time of moving house etc); by place (nearness to junction, street, street side, part of town etc); by victim attribute (sex, age, ethnicity, organisation type, income, type of residence, household type, security levels etc); by *modus operandi* (victim route to offence, escape from offence, mode of and direction of entry, type of attack, goods

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[18] This draws its inspiration from 'routine activities' theory, first developed by Cohen and Felson (1979), and subsequently further elaborated by Felson (1998). The problem analysis triangle is used to examine features of the offender, victim and location to make sense of crime and disorder problem patterns and to identify those elements in relation to which intervention may take place (see Leigh et al 1996).

Figure 3: The problem-solving pyramid

Action/ Hunch	Advice/ Targets	Victim/Location/Offender Pyramid	Problem Analysis/Resolution Level
			Incident
			Repeat incident
			Beat/ward
			Sector
			BCU/District/Unitary
			Force/County
			Region
			Nation
			International agents

stolen, means of disposal etc); or by offender attribute (education, sex, age, co-offending practices, network of associates, form of organisation, lifestyle, drug and alcohol taking habits, etc). They can also, of course, be patterned by mixes of these sorts of attribute. Different crimes will show different patterns in different places. Informed and imaginative analysts, supplied with good data from a range of sources, will be needed to tease out patterns identifying problem-solving needs and opportunities. Preventive problem-solving opportunities emerge from identifying, analysing, and anticipating patterns. Differing levels and types of organisation can problem-solve at differing levels, as illustrated in the box on the right of Figure 3.

Bodies operating lower in the pyramid can advise and support problem-solving at higher, narrower levels. They can monitor and evaluate that problem-solving to check progress and to discern transferable lessons. They can incentivise problem-solving for those at the sharper end through rewards and sanctions. They can allocate resources needed for problem-solving by those working at narrower levels. They can pick up and further interrogate patterns identified at narrower points, to identify opportunities for their own, wider problem-solving. They can

pick out patterns across wider areas that may not be discernible in smaller areas. They are often well placed to apply leverage to those creating conditions for problems to surface. This is represented in the upward spike on the left of Figure 3.

Subordinate bodies and individuals, working towards the sharper end, have a role to play in informing those shown supporting them in Figure 3. The problems they encounter can be passed along for wider attention. Signs of emerging problems will often surface at the sharp end. Those working there will often pioneer problem-solving methods that can be evaluated and findings then made available for others to apply to their circumstances. This is represented in the downward spike to the far left of Figure 3.

Police services, counties, BCUs and district level/unitary authorities can be seen in Figure 3 to be at the heart of problem-solving: picking up and passing on problems, incentivising others and being incentivised. It is at these levels, too, that statutory responsibilities operate. Problem-solving benefits will be maximised where those at each level conduct their own analysis and problem-solving effectively, where they draw on those towards the sharper end and pass up issues for attention at wider levels, and where they provide support and incentives to those over whose activities they have responsibility or can exert leverage.

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INTRODUCTION