

## Findings from the second year of the national Neighbourhood Policing Programme evaluation

**Mark Mason**

### Key implications

- Neighbourhood policing was initially piloted at a ward level as part of the National Reassurance Policing Programme between October 2003 and March 2005. Following the success of this pilot, the three-year Neighbourhood Policing Programme (NPP) was officially launched in April 2005, with every neighbourhood in England and Wales having a dedicated neighbourhood policing team by April 2008.
- The primary aims of the NPP were to increase confidence and satisfaction, reduce the fear of crime and resolve local problems of crime and anti-social behaviour.
- Results from the first year ('Year 1') of the NPP were inconclusive in terms of impact: although there were some positive changes in selected outcome measures, these were not statistically significant.
- Analysis of the Year 2 data focused on the impact of neighbourhood policing on key outcome measures at Basic Command Unit (BCU) and Police Force Area (PFA) level. Overall, there was some evidence that neighbourhood policing was beginning to have a positive impact on outcome measures at BCU level, but none of the changes were statistically significant. No positive changes were found at PFA level.
- The lack of significant change may be a result of the early stage of implementation covered by the analysis (the second year of a three-year programme) when implementation of neighbourhood policing was neither comprehensive or consistent.
- This is reflected in the HMIC thematic report 'Serving Neighbourhoods and Individuals' which found that forces have not yet fully implemented the 'problem-solving' aspect of neighbourhood policing. It is likely that all three neighbourhood policing 'delivery mechanisms' (visibility, community engagement and problem solving) need to be delivered together in the right 'dose' before improvements are realised.
- Neighbourhood policing is deliberately designed to be responsive to the individual needs of local communities. As a result, it might not be possible to identify the impact of a diverse locally delivered programme such as this, using a national-evaluation approach. Another type of evaluation with a more qualitative, local focus may be better suited to measuring the impact of the NPP.

### Home Office Research Reports

Generally consist of three sections:

- Key implications, which highlight the main messages for decision makers from the research;
- a Summary, giving a brief but comprehensive description of the research findings; and
- the main report.

More detailed background and technical information may be included in appendices at the end of the report. Please note that some reports may only contain the Key implications and a Summary.

### Keywords

Police  
Policing  
Community policing  
Research  
Research and development

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## Findings from the second year of the national Neighbourhood Policing Programme evaluation

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### Introduction

This report presents findings from the evaluation of the Neighbourhood Policing Programme (NPP). It continues work previously carried out by Quinton and Morris (2008) covering data from the second year of the programme, up to September 2007, prior to full national implementation.

### Background

#### **Neighbourhood policing**

Neighbourhood policing is an approach that seeks to increase contact between the police and the public in defined local geographic areas in order to make the work of the police more responsive to the needs of local people. It gives prominence to the collective security and shared interests of residents living in the same local area.

Neighbourhood policing activities implemented locally could include, for example, carrying out targeted foot patrols, holding meetings and/or using more proactive engagement methods to find out what local residents think, and using a range of enforcement and prevention techniques to reduce crime and disorder problems in the local area. Neighbourhood policing's key elements can be considered as:

- the presence of visible, accessible and locally known figures in neighbourhoods, in particular police officers and police community support officers;
- community engagement in both identifying priorities and taking action to tackle them; and
- targeted policing and problem-solving to tackle public concerns in neighbourhoods.

The purpose of neighbourhood policing activity has been to trigger these three elements, or delivery mechanisms, to tackle the priorities that are important to residents in their local area. By tackling local priorities in partnership with public and partner agencies, neighbourhood policing is expected to lead to increased public confidence in the police, and to reductions in those types of crime and anti-social behaviour prioritised by the public (Quinton and Morris, 2008).

#### **Neighbourhood policing in the National Reassurance Policing Programme**

Neighbourhood policing was initially piloted as 'reassurance policing' in 16 wards across England between October 2003 and March 2005, as part of the National Reassurance Policing Programme (NRPP). When piloted at ward level in the NRPP, neighbourhood policing was found to have a significant positive impact on a wide range of outcome measures, including criminal victimisation, perceptions of anti-social behaviour, and public confidence in the police. Follow-up research found that the vast majority of these improvements were sustained in the longer term. Importantly, three delivery mechanisms – visibility, community engagement, and problem-solving – were all found to be critical in improving the public's confidence in the police (Tuffin, Morris and Poole, 2006).

#### **Neighbourhood policing in the national Neighbourhood Policing Programme**

Following the successful pilot programme, the three-year Neighbourhood Policing Programme (NPP) was officially launched in April 2005. The NPP sought to oversee the introduction of neighbourhood policing to all neighbourhoods over a three-year period (2005/08). It was an attempt to 'scale up' the earlier ward-level pilot and implement its critical elements across England and Wales.

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Implementation centred, again, on the three main delivery mechanisms. The focus of this report is on the second year of the national programme.

## The aims of the national Neighbourhood Policing Programme

The primary aim of the NPP is to increase public confidence in the local police as measured by the British Crime Survey (BCS). Other outcome measures were considered to be secondary within the programme, and it was recognised that the outcomes of neighbourhood policing would vary across the police service because implementation was supposed to be responsive to local conditions. At the local level, possible outcomes were thought to include improved feelings of public safety and improved perceptions of the crime rate. Reductions in crime were also seen as possible outcomes at a local level.

## Approach

A strategy was developed at the planning stage of the NPP to evaluate its effectiveness. The national evaluation sought to measure the implementation of neighbourhood policing over time and examine how it affected changes in key outcome measures. Rather than look at the impact of implementation in an individual area or a small number of pilot sites, the national evaluation adopted a 'whole programme' approach whereby the overall impact of the NPP would be assessed at a national level using standard outcome indicators from police performance management data.

The outcome measures<sup>1</sup> used and the level of data available are shown in Table 1. Some of the key outcomes (such as public confidence) are measured by the British Crime Survey (BCS) and are therefore only available at Police Force Area (PFA) level. Other outcome measures are available at Basic Command Unit (BCU) level. A principal limitation of using measures from the BCS is that the sample sizes at PFA level are relatively small. This means that the size of any change would need to be fairly large to be statistically significant. This is particularly important given that the results reported here refer only to the programme's second year, and that the size of any change in outcomes was expected to be modest given the early stage of implementation.

The measures used for the assessment of impact were the best available to address the aims of the study. As a result, there is a risk that the impact of a locally delivered programme such as the NPP will not be measurable, particularly at PFA level.

This study is a continuation of research into the impact of neighbourhood policing which was first outlined in Quinton and Morris (2008).<sup>2</sup> The methodology used for this analysis is based on that used in the previous report, and follows a two-stage process.

- 1 The selection of some of the outcome measures was partly governed by their suitability for analysis, and was prompted by the lack of suitable indicators at the BCU level.
- 2 The analysis of data from year one of the NPP showed no consistent pattern of change at either a Police Force Area (PFA) or Basic Command Unit (BCU) level. While there was evidence at the BCU level that changes were consistent with those that one might expect from the implementation of neighbourhood policing, no changes were statistically significant and therefore they might have been due to chance. This was also true at PFA level where the pattern of change was less clear.

**Table 1: Outcome measures used in evaluation**

Outcome	Source	Data level
Public confidence in the police	British Crime Survey	PFA
Perceptions of community engagement	British Crime Survey	PFA
Perceptions of problem solving	British Crime Survey	PFA
Victim satisfaction with the police	Police victim satisfaction surveys	BCU
Victim dissatisfaction with the police	Police victim satisfaction surveys	BCU
Total crime rate <sup>1</sup>	Police recorded crime data	PFA & BCU
Violent crime rate	Police recorded crime data	PFA & BCU
Criminal damage rate	Police recorded crime data	PFA & BCU
Detection rate <sup>2</sup>	Police recorded crime data	PFA & BCU

1. Although crime reduction was not a primary aim of the NPP, this measure was included because of the positive results seen in the NRPP evaluation.

2. Increased detections were not an intended aim of neighbourhood policing. The outcome measure was included because there was concern that neighbourhood policing might have an adverse impact on detection rates.

- The first stage utilises results from an organisational survey sent to BCU and force representatives every six months, which measures self-reported levels of neighbourhood policing implementation in each force and BCU. A score between zero and one as a measure of implementation is generated from responses to these surveys.
- The second stage then uses this score to model the impact of implementation on the outcome measures listed above. The current analysis utilises data from the first five sweeps of the organisational surveys, covering the period from April 2005 to September 2007. This corresponds to the first two years of the three-year neighbourhood policing implementation programme.

The results reported here are from a modelling approach used to obtain the overall measure of the implementation of neighbourhood policing. It is an area fixed-effects model (linear version of differences-in-differences), and was previously described in Quinton and Morris (2008) as the Intensity Model.<sup>3</sup> Although other modelling approaches were considered, it was felt that the intensity model was the most methodologically sound, as it assumes that implementation is continuous.

<sup>3</sup> Further details of that approach and more details about the two-stage approach and the organisational surveys can be found in Appendix A.

## Results

### **Descriptive results and response rates: BCU-level**

Responses and response rates for the BCU-level organisational surveys are shown below. In all cases 224 BCUs were surveyed except for sweep 4 where the population was 223 as a result of boundary changes.

One-hundred-and-ninety-eight BCUs responded to sweep 1 of the survey. This fell to 163 by sweep 5. This decline in response rate is a common feature of repeat surveys. By sweep 5 the total panel of BCUs having responded to all sweeps was 105. Five of these areas lacked information on certain outcome measures so the final sample panel for analysis was 100 BCUs.

There was a change in the structure of the organisational survey between sweeps 2 and 3 which is illustrated by the change in the number of questions. Some additional questions were introduced from sweep 3 onwards to capture more detail on the implementation of neighbourhood policing.

### **Descriptive results and response rates: PFA-level**

The number of PFAs responding to the survey in each sweep are presented below. In all cases 43 forces were surveyed.

Forty-one forces responded to sweep 1 of the survey. This fell to 35 forces by sweep 5. Again, as with the BCU survey, this is a common feature of repeat surveys. Only 31 forces

**Table 2: Responses and response rates for BCU-level organisational surveys**

Period covered by surveys	Apr 05 – Sept 05	Oct 05 – Mar 06	Apr 06 – Sept 06	Oct 06 – Mar 07	Apr 07 – Sept 07
Survey sweep	1	2	3	4	5
Number of questions in survey	31	31	41	41	41
Number of BCUs responding	198 (88%)	213 (96%)	215 (96%)	196 (89%)	163 (73%)
Number of BCUs responding to all sweeps (% response rate)	198 (88%)	181 (81%)	161 (72%)	138 (62%)	105 (47%)

**Table 3: Response rates for PFA-level organisational surveys**

Period covered by surveys	Apr 05 – Sept 05	Oct 05 – Mar 06	Apr 06 – Sept 06	Oct 06 – Mar 07	Apr 07 – Sept 07
Survey sweep	1	2	3	4	5
Questions in survey	31	31	41	41	41
Number of PFAs responding	41 (95%)	41 (95%)	42 (97%)	43 (100%)	35 (81%)
Number of PFAs responding to all sweeps (% response rate)	41 (95%)	39 (91%)	38 (88%)	38 (88%)	31 (72%)

completed all five surveys by September 2007. The PFA analysis is therefore based on these 31 forces. Again the survey changed between sweeps 2 and 3, with additional questions being added.

As the surveys progressed the implementation scores, of the BCU and force panels, increased consistently.

### **Inferential results: BCU-level**

Overall, there was a mixed pattern of observed change. Some outcome measures changed in a direction consistent with neighbourhood policing having a positive impact, but others did not. None of the observed changes were statistically significant.

Table 4 summarises the results from the analysis. Each coefficient shows how much of a change in the outcome was prompted when self-reported implementation was 'switched on', taking into account longer-term trends in the BCU. For example, at BCU level the detection rate increased by three per cent for the BCUs that implemented neighbourhood policing. Overall, the pattern of change across the models was generally encouraging. Apart from overall victim dissatisfaction measures, all the

outcome measures changed in the direction consistent with neighbourhood policing having a positive impact (this was similar to year one).

It was not however possible, to say that the implementation of neighbourhood policing had a positive effect on outcomes. Each result is an estimate of how much change occurred, based on a small sample of BCUs; the 'actual' change experienced by the wider population is likely to lie in a range around that estimate (i.e. the confidence interval). Small changes coupled with relatively wide confidence intervals mean that the actual results may have gone the other way (i.e. the confidence intervals included zero). So, while the model estimated a three per cent increase in victim satisfaction, the confidence interval suggests that it might also have been a decrease. There were signs that outcomes had consistently changed in the right direction, but this improvement was not statistically significant.

### **Inferential results: PFA-level**

As with the analysis at BCU level, there was little pattern of change observed and no results were statistically significant.

**Table 4: BCU-level results**

Outcome measure	Coefficient	Robust standard errors	R-Squared	Change consistent with NP having a positive impact	Significance at 5% level <sup>1</sup>
Crime rate <sup>1</sup>	.009	(.007)	.976	None anticipated	✗
Criminal damage rate	.002	(.009)	.963	None anticipated	✗
Violent crime rate	.007	(.011)	.946	None anticipated	✗
Detection rate	.003	(.004)	.807	✓	✗
Detection rate (criminal damage)	.001	(.003)	.657	✓	✗
Detection rate (violent crime)	.011	(.007)	.819	✓	✗
Satisfaction (overall)	.027	(.015)	.480	✓	✗
Satisfaction (violent crime)	.006	(.005)	.732	✓	✗
Dissatisfaction (overall)	.004	(.005)	.483	✗	✗
Dissatisfaction (violent crime)	-.000	(.006)	.484	✓	✗

1. There is no real anticipated change in the crime rate as a result of neighbourhood policing. It could be the case that the crime rate may be expected to increase due to increased confidence of victims to report crime to the authorities following the introduction of neighbourhood policing, rather than an increase in the actual number of offences. Alternatively it might be the case that the crime rate decreases as a result of more targeted policing.

**Table 5: PFA-level results**

Outcome measure	Coefficient	Robust standard errors	R-Squared	Change consistent with NP having a positive impact	Significance at 5% level'
Confidence	-.003	(.002)	.922	✗	✗
Community understanding	-.001	(.002)	.841	✗	✗
Community priorities	-.005	(.003)	.888	✗	✗
Crime rate	-.003	(.007)	.878	None expected	✗
Criminal damage rate	.006	(.007)	.966	None expected	✗
Violent crime rate	.005	(.010)	.945	None expected	✗
Detection rate	-.001	(.005)	.528	✗	✗
Detection rate (criminal damage)	-.004	(.003)	.762	✗	✗
Detection rate (violent crime)	-.009	(.007)	.856	✗	✗

Again, the same model was developed to test the impact of neighbourhood policing, using three different measures of force-level implementation, on crime, detections, and public confidence. Unlike the BCU model, the force models changed in all cases away from the direction of change that might have been expected with the implementation of neighbourhood policing. However, the confidence intervals were again too wide to be certain about the direction of change, and as a result none of the results were statistically significant.

## Discussion

The cultural and organisational changes required to fully embed neighbourhood policing are substantial, and will take time and effort to get right. The Her Majesty's Inspectorate of Constabulary (HMIC) thematic report 'Serving Neighbourhoods and Individuals' found that while all forces have done well to implement neighbourhood policing across the country, some forces have not yet fully implemented all three delivery mechanisms (particularly problem-solving). The report also highlighted that progress varies considerably between different police forces, particularly in terms of how forces are engaging with the local community and the type of problem-solving approaches being used. Given these discrepancies, it is perhaps not entirely unsurprising that the results from the second year of the NPP have not shown consistent,

positive changes. When community policing (a variant of neighbourhood policing) was adopted in Chicago, it took over eight years for the benefits to be fully realised; even after ten years it was acknowledged that "all police departments find solving problems difficult because it necessitates high levels of training, supervision, analysis, and organisation-wide commitment".

It is therefore important that police forces continue to focus on embedding and delivering neighbourhood policing, addressing any problems identified by HMIC (again, particularly problem-solving) and integrating the good practice highlighted in the inspection report. The implementation of neighbourhood policing will require continual monitoring by the National Policing Improvement Agency (NPIA) and HMIC.

The impact of neighbourhood policing on key outcome measures such as public confidence in the police will also continue to be monitored through the British Crime Survey. Effective neighbourhood policing is likely to play a key role in enabling police forces to meet the single top-down target set out by the Home Office in the Policing Green Paper – perceptions that the police and local council are dealing with the anti-social behaviour and crime issues that matter in local areas.

The local variation in neighbourhood policing delivery (as identified by HMIC) is also likely to have had a negative

impact on the ability of the evaluation to detect the impact of the policy. The evaluation was designed around a 'whole programme' approach, to assess the ongoing impact of neighbourhood policing on key outcome measures taken from national police performance management data. This was an innovative approach, although it has been hampered by the lack of local-level data available for analysis. It is

therefore likely that neighbourhood policing needs to be examined at a more local level (as in the NRPP evaluation) to allow its impact to be detected. The evolving policy environment also highlights the importance of partnership working and integrating neighbourhood policing within local service delivery. This is an area which would benefit from exploration in the future.

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## Appendix A: National evaluation area fixed effects models

### Design

The approach looked at the changes in outcome measures over time in the BCUs and forces after neighbourhood policing was introduced ('treatment areas'), and compared them to the changes experienced in other areas that had not yet started to implement ('control areas'). The analysis looked at the average effect of implementation on outcomes, taking into account 'fixed area effects' at the start of the programme (i.e. the characteristics of areas that do not vary substantially over time such as deprivation, ethnic composition and crime levels).<sup>4</sup> The national evaluation treated the NPP as a 'natural experiment', but one where the control sites would end up implementing neighbourhood policing by the end of the programme. Appendix D sets out the main limitations of the overall design of the approach.

### Organisational surveys

Influenced by longitudinal studies of police departments in the US (see, for example, Wilson, 2004; and Zhao, *et al.*, 1999), the national evaluation looked to measure the level of implementation in all 43 forces and 244 BCUs in England and Wales at the beginning of the NPP, and then tracked changes over the three years of the programme. Repeated surveys of all forces and BCUs were carried out every six months to create panel data. The first sweep was carried out in October 2005 to coincide with the completion of the programme team's readiness assessments of the 43 Pathfinders, and asked about neighbourhood policing in the period before implementation was formally underway (April to September 2005). The results reported here draw on the first five of the seven total sweeps of the organisational surveys.

An online survey approach was used to minimise the bureaucratic burden placed on forces and to help ensure a high response. The approach involved sending each respondent a personalised email containing a unique hyperlink to a web-based questionnaire. Response rates and summary results could be monitored on an ongoing basis and enabled tailored follow-up work to be carried out with individual respondents who had not completed the questionnaire to boost the overall response rate.

<sup>4</sup> Trends in victim satisfaction were initially controlled for in the force-level analysis as it was hypothesised that satisfaction might affect public confidence independently of neighbourhood policing. No effect was found and, as a result, it was not included in the analysis reported below.

The questionnaires gathered detailed self-reported information about the policies, systems, procedures and (to a lesser extent) practices that were reported to be in place, rather than respondents' views on, or subjective assessments of, implementation. Survey respondents were usually the chief officer responsible for neighbourhood policing and BCU commanders (or neighbourhood policing project managers). Different questionnaires were developed for forces and for BCUs, and were revised slightly for sweep three to reflect changing implementation requirements as forces and BCUs moved closer towards implementation. They were based primarily on the programme's guidance documents.

The surveys only captured self-reported levels of implementation. While data were triangulated against the ACPO programme team's assessments and HMIC's inspection results, limited independent checks were carried out to confirm what BCUs and forces reported to have in place.<sup>5</sup> While such surveys provide an estimation of change over time, they provided no insights about how well various aspects of neighbourhood policing had been implemented or the quality of what was reported to be in place (Corder, 2004). It was recognised from the outset that respondents may over- or under-state the level of neighbourhood policing implementation, although they were encouraged to be accurate. Caution is, nonetheless, required in interpreting the results of the self-report survey particularly in light of previous qualitative fieldwork that has revealed there are sometimes differences between what is thought or supposed to happen and what actually happens on the ground.

### Measuring implementation of neighbourhood policing

The organisational surveys were used to measure neighbourhood policing implementation in two ways. First, individual questions were identified as proxy measures for self-reported implementation to test the modelling technique and were taken to represent the 'minimum requirement' for areas to be 'implemented'.

- BCU level – reporting that neighbourhood policing resources had been deployed to all neighbourhoods and were targeted, and that neighbourhood policing priorities were mainly set by local people.

<sup>5</sup> It was not possible to correlate the self-reported measures with other sources because the ACPO and HMIC data were not gathered systematically at the BCU level.

- PFA level – reporting that force-wide implementation of the Practice Advice was underway or complete (not a measure of full implementation).<sup>6</sup>

The survey responses were used to develop an overall ‘implementation score’. A range of questions were identified in order to distinguish areas that had implemented neighbourhood policing from those that had not. The questions were scored ‘theoretically’, based on what full implementation was expected to look like in a BCU or force.<sup>7</sup> The ‘threshold’ for implementation was based on the requirements set out in, for example, the Practice Advice, and what the programme team considered to be an acceptable standard of implementation.<sup>8</sup> Not all questions were suitable for scoring. Even though changes were made to the questionnaires in sweep three, similar thresholds were applied to ensure that the standard of implementation was maintained between the sweeps.

BCUs and forces were scored somewhere between zero and one for each sweep depending on their reported level of implementation (i.e. neighbourhood policing is not simply ‘switched on’ or ‘off’, but was on a sliding scale that reflected its intensity).<sup>9</sup>

### **Overall assessment of the impact of NP: Econometric approach**

This evaluation used a ‘differences-in-differences’ approach. However, this design relies on the policy having been implemented in certain areas (‘treated’ areas) but not in others (‘control areas’). This was not the case for NP as it was launched nationally from early 2005. However, local police authorities took different amounts of time in implementing the policy across the country.

6 This was based on a question asked only in the first two sweeps. As only one force had not responded positively by sweep two, it was assumed that force-wide implementation was at least underway in all areas by sweep three.

7 ‘Marked-up’ questionnaires are available on request.

8 Staffing levels were not included in the score because too few areas responded consistently over time.

9 This ‘normalised’ implementation score was achieved by dividing an area’s total score by the number of questions.

This information is recorded in the ‘Implementation Survey’ which all BCUs and PFAs were asked to complete every six months to inform the Home Office on various aspects of NP which were in place in their area. The results were then used to distinguish between areas where it was assumed the NPP was implemented (NP = 1) and others where it was not (NP = 0) based on answers to questions in the survey.

The outcome measures considered for the evaluation are local area crime rates (overall and for two crimes which are more likely to be susceptible to being a priority of NP, criminal damage and violent crime), detection rates per crime, satisfaction and dissatisfaction with the police (at the BCU level) and confidence in the police, community understanding of the police, and respect of community priorities (at the PFA level, as only available from the British Crime Survey).

Five sweeps of organisational survey data are available from April 2005 to September 2007, and as they are six-monthly all the data are aggregated to match this timeline. The econometric model used to obtain the estimates is a simple area fixed effects one (linear version of differences-in-differences) which can be written as follows:

$$Outcome_{at} = \alpha_a + \beta NPOn_{at} + \gamma Sweep_t + v_{at}$$

Equation 1: Overall assessment of the impact of NP.

Outcome is the various outcome measures considered:

- $\alpha$  = area fixed effects;
- $\beta$ s for each model are the coefficients measuring the impact of the policy and are reported in the results;
- $NPO_n$  = dummy for having the policy in place or not. Four versions of this dummy for joint implementation of all the three delivery mechanisms and individual implementation of each of them are considered;
- $Sweep$  = sweep dummies;
- $v$  = error term; and
- subscripts ‘a’ = the area, and ‘t’ = the time period.

## Appendix B: National evaluation results: BCU results of NP implementation based on total and weighted survey scores between 0 and 1<sup>1, 2, 3, 4</sup>

Panel A: Implementation scores between 0 and 1 (results normalised to 1 standard deviation = .158)					
Dependent Variables	NP On	Sweep dummies	R-Squared	Observations	Areas
Log (crime rate)	.009 (.007)	Yes	.976	500	100
Log (criminal damage rate)	.002 (.009)	Yes	.963	500	100
Log (violent crime rate)	.007 (.011)	Yes	.946	500	100
Detection (crime rate)	.003 (.004)	Yes	.807	500	100
Detection (criminal damage)	.001 (.003)	Yes	.657	500	100
Detection (violent crime)	.011 (.007)	Yes	.819	500	100
Satisfaction (overall)	.027 (.015)	Yes	.480	500	100
Satisfaction (violent crime)	.006 (.005)	Yes	.732	500	100
Dissatisfaction (overall)	.004 (.005)	Yes	.483	490	98
Dissatisfaction (violent crime)	-.000 (.006)	Yes	.484	490	98
Panel B. Implementation scores between 0 and 1 (weighted results normalised to 1 standard deviation = .161)					
Dependent Variables	NP On	Sweep dummies	R-Squared	Observations	Areas
Log (crime rate)	.009 (.006)	Yes	.976	500	100
Log (criminal damage rate)	.001 (.009)	Yes	.963	500	100
Log (violent crime rate)	.009 (.010)	Yes	.946	500	100
Detection (crime rate)	.002 (.003)	Yes	.807	500	100
Detection (criminal damage)	.002 (.003)	Yes	.657	500	100
Detection (violent crime)	.010 (.007)	Yes	.819	500	100
Satisfaction (overall)	.023 (.013)	Yes	.480	500	100
Satisfaction (violent crime)	.006 (.004)	Yes	.732	500	100
Dissatisfaction (overall)	.004 (.005)	Yes	.483	490	98
Dissatisfaction (violent crime)	-.003 (.006)	Yes	.484	490	98

1. Robust standard errors in parenthesis.

2. Fixed-effects models weighted by area population.

3. In all cases \*\* significance at the five per cent level.

4. In some cases the number of observations may differ depending on the availability of data for that outcome measure.

## Appendix C: National evaluation results PFA results: of NP implementation based on total and weighted score between 0 and 1<sup>1,2,3,4</sup>

Panel A. Implementation scores between 0 and 1 (results normalised to 1 standard deviation = .181)					
Dependent Variables	NP On	Sweep dummies	R-Squared	Observations	Areas
Log (crime rate)	-.003 (.007)	Yes	.878	155	31
Log (criminal damage rate)	.006 (.007)	Yes	.966	155	31
Log (violent crime rate)	.005 (.010)	Yes	.945	155	31
Detection (crime rate)	-.001 (.005)	Yes	.528	155	31
Detection (criminal damage)	-.004 (.003)	Yes	.762	155	31
Detection (violent crime)	-.009 (.007)	Yes	.856	155	31
Confidence	-.003 (.002)	Yes	.922	155	31
Community understanding	-.001 (.002)	Yes	.841	155	31
Community priorities	-.005 (.003)	Yes	.888	124	31
Panel B. Implementation scores between 0 and 1 (weighted results normalised to 1 standard deviation = .174)					
Dependent Variables	NP On	Sweep dummies	R-Squared	Observations	Areas
Log (crime rate)	-.001 (.006)	Yes	.878	155	31
Log (criminal damage rate)	.006 (.007)	Yes	.966	155	31
Log (violent crime rate)	.004 (.010)	Yes	.945	155	31
Detection (crime rate)	-.005 (.005)	Yes	.529	155	31
Detection (criminal damage)	-.005 (.003)	Yes	.766	155	31
Detection (violent crime)	-.013 (.007)	Yes	.860	155	31
Confidence	-.004 (.002)	Yes	.923	155	31
Community understanding	-.000 (.002)	Yes	.841	155	31
Community priorities	-.006 (.003)	Yes	.889	124	31

1. Robust standard errors in parenthesis.

2. Fixed-effects models weighted by area population.

3. In all cases \*\* significance at the five per cent level.

4. In some cases the number of observations may differ depending on the availability of data for that outcome measure.

## Appendix D: Limitations of the national evaluation

There are a number of limitations to the design of the national evaluation and the econometric modelling approach; the main limitations are as follows.

- The organisational surveys provided a measure of self-reported levels of implementation, and did not capture information about actual implementation. They also focused primarily on the policies and systems that had been implemented rather than the quality and consistency of neighbourhood policing activity carried out in the area.
- While the questionnaires focused on whether BCUs and forces had implemented specific aspects of the guidance, there was scope for respondents to misreport what was in place. Limited follow-up checks were carried out.
- While the repeated surveys created panel data, the panel was of the organisational unit (i.e. the BCU or force) not of the individual respondents. Where different respondents answered the questionnaire for an organisational unit in subsequent sweeps of the survey (e.g. because of a change in BCU Commander), there was scope for that respondent to interpret the questionnaire in a different way.
- There may be bias among those BCUs and forces that did not respond to the survey, particularly among those that did not provide a response over numerous sweeps.
- The size of the sample was small by virtue of there being only 244 BCUs and 43 forces at the outset of the programme. The sample size was further reduced by attrition in respondents over sweeps of the survey (i.e. not all areas provided responses to all sweeps of the survey). Small sample sizes would result in it being harder to detect changes that were statistically significant.
- The implementation scores treat implementation as if it is a one-dimensional trait. In practice, neighbourhood policing is multifaceted and consists of a wide range of different component parts and aspects, each of which are likely to be implemented to a different standard in different BCUs or forces. The approach used will effectively average out some of these important differences, and may mask the crucial aspects of implementation that are associated with a change in outcomes.
- While the questionnaires captured data on neighbourhood policing staffing levels, they were not included in the modelling work because data were not provided consistently over time.
- The outcome measures included in the national evaluation were limited. Few measures were available at the BCU level, and some did not directly relate to the programme mechanisms. The use of recorded crime as an outcome measure would also have been susceptible to reporting and recording changes over time.
- The model examines, separately, the effect of implementation at a BCU and force level. A multilevel approach, which would use data at the most local level (e.g. BCU) and possibly data at higher levels, would take account of the 'nested' structure of the data in assessing the impact of the programme and significance levels, and would simultaneously assess random and fixed effects at different levels.