



Report prepared for Brå by  
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# Effectiveness of Neighbourhood Watch In Reducing Crime

**brå**

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Swedish National Council for Crime Prevention

# Effectiveness of Neighbourhood Watch In Reducing Crime

*Report prepared for*  
The Swedish National Council for  
Crime Prevention

## **Brå – a centre of knowledge on crime and measures to combat crime**

The Swedish National Council for Crime Prevention (Brottsförebyggande rådet – Brå) works to reduce crime and improve levels of safety in society by producing data and disseminating knowledge on crime and crime prevention work and the justice system's responses to crime.

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Printing: Edita Norstedts Västerås 2008

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ISBN 978-91-85664-91-7

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# Foreword

Neighbourhood watch schemes are a common method used to prevent crime in residential areas. But how well do they work? What does the research tell us? There are never sufficient resources to conduct rigorous scientific evaluations of all the crime prevention measures employed in individual countries. Nor has an evaluation been conducted in Sweden of efforts employing neighbourhood watch schemes to prevent crime. For this reason, the Swedish National Council for Crime Prevention (Brå) has commissioned three distinguished researchers to carry out an international review of the research published in this field.

This report presents a systematic review of the effects of neighbourhood watch that has been conducted by Professor Trevor H. Bennet, Dr. Katy R. Holloway, both in University of Glamorgan, United Kingdom and Professor David P. Farrington of Cambridge University, United Kingdom, who have also written the report. The study follows a rigorous method for the conduct of systematic reviews. The analysis combines the results from a number of evaluations that are considered to satisfy a list of empirical criteria for measuring effects as reliably as possible. The analysis then uses the results from these previous evaluations to calculate and produce an overview of the effects that a given measure does and does not produce. Thus the objective in this instance is to systematically evaluate the results from a number of studies from different countries in order to produce a more reliable picture of the possibilities and limitations associated with neighbourhood watch initiatives in relation to crime prevention efforts. Studies of this kind are also valuable when assessing which circumstances contribute to a certain measure producing a positive effect.

In this case, the research review builds upon a relatively small number of evaluations and examines mainly evaluations that have been conducted in the United States and the United Kingdom. A number of questions concerning the potential crime preventive effects of neighbourhood watch in a country like Sweden thus remain unanswered. But the study does offer the most accessible overview to date of the use of neighbourhood in order to prevent crime and improve public safety.

Stockholm, February 2008

*Jan Andersson*  
Director-General

# Acknowledgements

We would like to acknowledge the financial support of the Campbell Collaboration and the University of Glamorgan in the preparation of the protocol and review. In particular, we are indebted to David B. Wilson for his methodological assistance and comments.

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*David P. Farrington*

# Summary

Neighbourhood watch (also known as block watch, apartment watch, home watch and community watch) grew out of a movement in the US during the late 1960s that promoted greater involvement of citizens in the prevention of crime. Since then, interest in neighbourhood watch has grown considerably and recent estimates suggest that over a quarter of the UK population and over forty per cent of the US population live in areas covered by neighbourhood watch schemes. The primary aim of this review is to assess the effectiveness of neighbourhood watch in reducing crime.

Neighbourhood watch sometimes comprises a stand-alone scheme and sometimes includes additional programme elements. The most common combination of programme elements is the 'big three' (neighbourhood watch, property marking and security surveys). Studies were selected for inclusion in this review if they were based on a watch scheme either alone or in combination with any of the other 'big three' elements. The main quality control was that the studies should be based on random allocation or a pre-post test design with a comparison area.

Studies were identified by searching 11 electronic databases. In addition, studies were sought using online library catalogues, literature reviews, lists of references, and published bibliographies. Leading researchers in the field were also contacted when there was a particular need to do so. The narrative review was based on 17 studies (covering 36 evaluations) and the meta-analysis was based on 12 studies (covering 18 evaluations). The data included police-recorded crimes and victimization surveys.

The main finding of the narrative review was that the majority of the schemes (19) indicated that neighbourhood watch was effective in reducing crime, while only 6 produced negative results. The main finding of the meta-analysis was that neighbourhood watch was followed by a reduction in crime of between 16 and 26 percent.

This review concludes that across all studies neighbourhood watch was followed by a reduction in crime. However, it is not immediately clear why neighbourhood watch is effective. The analysis of moderator variables failed to show any clear differences between more and less effective studies in terms of methods used or programme design. It is possible that the reductions in crime were associated with some of the essential features of neighbourhood watch schemes. Neighbourhood watch might serve to increase surveillance, reduce opportunities for crime or enhance informal social control. Unfortunately, this kind of information is not provided in the majority of evaluations and the precise reasons for the results are not clear at present. Nevertheless, the existing evidence justifies the continued use of neighbourhood watch and suggests that further research is needed to identify the key features of effective programmes.



# Introduction

Neighbourhood watch is a widespread and popular crime prevention measure. One of its main aims is to reduce crime and, in particular, to reduce residential burglary and other household and neighbourhood crime. It is often implemented as part of a comprehensive package comprising neighbourhood watch, property-marking and home security surveys (sometimes known as ‘the big three’). Considering the widespread adoption of neighbourhood watch, it is important to know whether such a large investment in time and money has been effective in achieving the aim of crime reduction.

There are several mechanisms by which neighbourhood watch might reduce crime. One method is that it encourages residents to look out for suspicious activities and report these to the police. This might have a deterrent effect on potential offenders who might perceive that surveillance by residents increases their risks of being caught. It might also have the effect of providing the police with useful information which might lead to successful arrests and convictions.

The main aim of this report is to conduct a systematic review of the research literature to determine the effects of neighbourhood watch on crime. The report is based on an updated and extended version of a systematic review conducted for the Campbell Collaboration Crime and Justice Group. Systematic reviews use rigorous methods for locating and synthesising evidence from evaluation research and aim to be transparent and replicable in their approach. Attempts are made to obtain all potentially relevant studies, including both published and unpublished reports. Each study is screened to determine if it meets the criteria for inclusion in the review. Relevant information is extracted from each eligible study and coded for analysis. Quantitative techniques, such as meta-analysis, are used to analyse and summarise the results.

This report presents the results of a systematic review of evaluations of neighbourhood watch. It summarises the findings through a narrative review in which the results for each study are described and analysed and through a meta-analysis in which the results of each evaluation are aggregated to determine the effects of neighbourhood watch across all studies combined.

This report is divided into five main chapters. The first chapter is this introduction. The second chapter provides background information on neighbourhood watch schemes, the theory behind them, and the main programme elements. The third chapter discusses the methods used in the review, including methods of searching for studies and the inclusion criteria for the evaluations. The fourth chapter summarises the results of the narrative review and the meta-analyses. The final chapter draws conclusions and discusses the implications of the findings for policy and research.

# Background

Neighbourhood watch grew out of a movement in the US that promoted greater involvement of citizens in the prevention of crime (Titus, 1984). It is also known as block watch, apartment watch, home watch, citizen alert and community watch. One of the first evaluations of neighbourhood watch programmes in the US was of the Seattle Community Crime Prevention Project launched in 1973 (Cirel, Evans, McGillis, and Whitcomb, 1977). One of the first evaluations of neighbourhood watch schemes in the UK was of the Home Watch programme implemented in 1982 in Cheshire (Anderton, 1985).

Since the 1980s, the number of neighbourhood watch schemes in the UK has expanded considerably. The report of the 2000 British Crime Survey estimated that over a quarter (27 per cent) of all households (approximately six million households) in England and Wales were members of a neighbourhood watch scheme (Sims, 2001). This amounted to over 155,000 active schemes. A similar expansion has occurred in the US. The report of The 2000 National Crime Prevention Survey (National Crime Prevention Council, 2001) estimated that 41 per cent of the American population lived in communities covered by neighbourhood watch. The report concluded, 'This makes Neighbourhood Watch the largest single organized crime prevention activity in the nation' (p.39). Considering such large investments in terms of resources and community involvement, it is important for researchers to investigate whether neighbourhood watch is effective in reducing crime.

## The Theory of Neighbourhood Watch

The most frequently suggested mechanism by which neighbourhood watch is supposed to reduce crime is by residents looking out for suspicious activities and reporting these to the police (Bennett, 1990). The link between reporting and crime reduction is not usually elaborated in the literature. However, it has been argued that visible surveillance might reduce crime as a result of its deterrent effect on the perceptions and decision making of potential offenders (Rosenbaum, 1987). Hence, watching and reporting might deter offenders if they are aware of the likelihood of local residents reporting suspicious behavior and if they perceive this as increasing their risks of being caught.

Neighbourhood watch might also lead to a reduction in crime by reducing opportunities for crime, for example by creating signs of occupancy. Some of the methods by which members of neighbourhood watch schemes might create signs of occupancy were discussed in the report of the Seattle scheme (Cirel et al., 1977). These include removing newspapers and milk from outside neighbours' homes when they are away, mowing the lawn, and filling up trash cans. The way in which

signs of occupancy might reduce crime might be through the effect that this has on the perceptions of potential offenders of their likelihood of getting caught. For example, potential burglars prefer to choose unoccupied houses (Bennett and Wright, 1984).

Neighbourhood watch might also lead to a reduction in crime through the various mechanisms of social control. Informal social control is not one of the methods of reducing crime stated in the publicity material of these schemes. Nevertheless, the schemes might indirectly serve to enhance community cohesion and increase the ability of communities to control crime (Greenberg, Rohe, and Williams, 1985). Informal social control can affect community crime through the communication of acceptable norms of behavior and by direct intervention by residents.

It is also possible that neighbourhood watch schemes might reduce crime through enhancing police detection. Neighbourhood watch might serve to increase the flow of useful information from the public to the police. An increase in information concerning crimes in progress and suspicious persons and events might lead to a greater number of arrests and convictions and result (when a custodial sentence is passed) in a reduction in crime through the incapacitation of local offenders (Bennett, 1990).

It is also feasible that neighbourhood watch might reduce crime through the other components of the programme package. It has been argued that property marking might lead to a reduction in crime as a result of making the disposal of marked property more difficult (Laycock, 1985). This might reduce offending rates if potential offenders viewed marked property as increasing the risk of detection. Home security surveys might lead to a reduction in crime as a result of making it physically more difficult for an offender to enter the property (Bennett and Wright, 1984).

## Programme Elements

Neighbourhood watch is often implemented as part of a comprehensive package. The typical package is sometimes referred to as the 'big three' and includes neighbourhood watch, property-marking and home security surveys (Titus, 1984). Some programmes include other elements such as a recruitment drive for special constables, increased regular foot patrols, citizen patrols, educational programmes for young people, auxiliary police units, and victim support services.

Neighbourhood watch schemes vary in the size of the area covered. Some of the earlier schemes in the US and the UK were based on areas covering just a few households. More recent schemes sometimes cover many thousand households (Knowles, 1983). One of the smallest schemes included in this review was the 'cocoon' neighbourhood watch programme in Rochdale in England covering just one dwelling and its im-

mediate neighbours (Forrester, Frenz, O'Connell, and Pease, 1990). One of the largest was the Manhattan Beach neighbourhood watch scheme in Los Angeles covering a population of over 30,000 residents (Knowles, 1983).

Neighbourhood watch schemes can be initiated by residents or police. Schemes launched in the UK initially tended to be police-initiated (e.g. the early neighbourhood watch schemes in London). More recently, neighbourhood watch schemes have been launched mainly at the request of the public. Some police departments continue initiating their own schemes, even when the programme is fully developed. A programme implemented in Detroit, for example, developed a section of police-initiated schemes in order to promote neighbourhood watch in areas that were unlikely to generate public-initiated requests (Turner and Barker, 1983).

In the US, block watches are usually run by a block captain who is responsible to a block coordinator or block organizer. The block coordinator acts as the liaison person to the local police department. Neighbourhood watch schemes in the UK often include street coordinators (equivalent to block captains) and area coordinators (equivalent to the block organizer). There is little information in the research literature on the number and type of neighbourhood watch meetings. The evidence that does exist suggests that some schemes have public meetings that involve all of the residents participating in the scheme, while others have meetings that involve only the organizers of the scheme (Bennett, 1990).

The funding of neighbourhood watch schemes is nearly always a joint venture between the local police department and the scheme members through their fundraising activities. The relative contribution of the two sources varies considerably. Some schemes in the United States are provided with no more than an information package from the local police. Others are provided with police facilities for the production of newsletters and the use of police premises for meetings (Turner and Barker, 1983). Apart from police funding, the majority of schemes are encouraged to raise some funds from other sources such as voluntary contributions, local businesses, and the proceeds of fairs and raffles.

## Previous Reviews

There are several previous reviews that include evaluations of neighbourhood watch programmes. One of the earliest conducted in the US was by Titus (1984) who summarized the results of nearly forty community crime prevention programmes. Most of these included elements of neighbourhood watch. The majority of studies were conducted by police departments or included data from police departments. Nearly all found that neighbourhood watch areas tended to have relatively low

levels of crime. However, most of the evaluations were described as 'weak' in terms of their ability to guard against threats to validity.

Another review of the literature looked mainly at community watch programmes in the UK (Husain, 1990). This study reviewed the results of nine existing evaluations and concluded that there was little evidence that neighbourhood watch prevented crime.

One of the most recent reviews of the literature on the effectiveness of community watch programmes selected only evaluations with the strongest research designs (Sherman et al., 1997). The review included only studies that used random assignment or studies that monitored both watch areas and similar comparison areas without community watch. The review found only four evaluations that matched these criteria. The results of these evaluations were largely negative. The authors concluded, 'The oldest and bestknown community policing program, Neighbourhood Watch, is ineffective at preventing crime' (p.8-25). Similar conclusions were drawn in the later update of this report (Sherman and Eck, 2002).

# Research methods

## Criteria for Inclusion of Studies

The criteria for inclusion of studies in the current review were based on three broad categories: the type of *intervention*, the type of *outcome* and the type of *evaluation design*.

The main aim of the *type of intervention* criteria was to include studies that evaluated neighbourhood watch schemes. In practice, this is more difficult to determine than it might seem as neighbourhood watch schemes are often implemented alongside other programme elements. As mentioned, the most common other elements are property marking and security surveys. Neighbourhood watch is also sometimes implemented as part of broader area improvements and may exist alongside other unrelated crime reduction initiatives. Hence, the selection criteria relating to the type of intervention included only the following programme types and combinations:

1. Stand-alone neighbourhood watch schemes (comprising solely a watch component).
2. Neighbourhood watch schemes that include ‘the big three’ (neighbourhood watch, property marking and security surveys) as long as there was a watch component.
3. Neighbourhood watch schemes that include two components of ‘the big three’ as long as there was a watch component.
4. Comprehensive programmes that include neighbourhood watch (any version of the above) and other unrelated schemes (such as environmental improvements), as long as the independent effects of the neighbourhood watch component were identified in the evaluation or neighbourhood watch was the major component of the programme.

The main aim of the *type of outcome* criteria was to focus the evaluation on crime outcomes. We were not interested in this review in determining the impact of neighbourhood watch on fear of crime, residents’ satisfaction with their area, or police-community relations. Instead, we sought to determine whether neighbourhood watch succeeded in meeting its primary objective of reducing residential burglary and related neighbourhood crimes. The types of crimes included in the review were:

1. crimes against residents
2. crimes against dwellings
3. other (street) crimes occurring in residential areas.

The aim of the type of evaluation design criteria was to include studies of the highest quality in regard to the research methods used. The main method for selecting rigorous evaluations was based on the Maryland Scientific Methods Scale (SMS) (Farrington et al., 2002; Sherman, et al., 1997; Sherman and Eck, 2002). This is a five-point scale ranging from level 1 (the weakest design) to level 5 (the strongest design) in terms of overall internal validity. Sherman and Eck (2002) argue that evaluations should be at least level 3 in order to make it possible to conclude with a reasonable level of certainty that the programme worked. The present review of evaluations uses level 3 as the minimum acceptable for inclusion in the review. This level requires that the evaluation must include at least a comparison of one or more experimental units and one or more comparable control units over time. Hence, the minimum requirement for inclusion of evaluations in this review is that they are based on before and after measures of crime in experimental (neighbourhood watch) and comparison areas.

## Search Strategy

The main goal of the strategy for searching the literature was to be as exhaustive as possible in obtaining relevant evaluations. This meant that we were willing to include published and unpublished studies, with no restriction on country of origin or source sector (e.g. academic, government, policy, or voluntary). We could only include studies written in English as we had no research funds for translation. We used the following search strategies for locating studies:

1. Searches of online databases (especially for reports and articles). We conducted searches of the following electronic databases and websites: IBSS (International Bibliography of the Social Sciences), Web of Science, Criminal Justice Abstracts, National Criminal Justice Reference Service Abstracts, Sociological Abstracts, Psychological Abstracts (PsycINFO), Social Science Abstracts, UK Government Publications (Home Office), Dissertation Abstracts (ASSIA), ProQuest, and C2-SPECTR.
2. Searches of online library catalogues (especially for books). These included the Radzinowicz Library, University of Cambridge and the Rutgers University Library.
3. Searches of reviews of the literature on the effectiveness of neighbourhood watch in preventing crime. These included reviews by Titus (1984), Husain (1990), Sherman et al, (1997), and Sherman and Eck (2002).
4. Searches of bibliographies of publications on neighbourhood watch. These included the references in all publications selected as eligible for the review.

5. Contacting leading researchers. These included Dennis Rosenbaum and Wesley Skogan who worked on one of the largest evaluations of neighbourhood watch.

We used the following search terms when searching online databases: 'neighbourhood watch', 'neighborhood watch', 'street watch', 'block watch', 'apartment watch', 'home watch', 'community watch', 'home alert', 'block association', 'crime alert', 'block clubs', 'crime watch', 'big three'.

## Coding Study Characteristics

Studies determined as eligible for inclusion in the systematic review were coded and the data were entered into a database. One researcher entered the data and this was then checked for accuracy by a second researcher. Any discrepancies in coding were discussed and an agreement was reached on the correct figures to be used. The database included basic information about the study (e.g. author(s), year of publication, country of study), details of the programme (e.g. type of programme, programme elements, size of area, type of area), research design (e.g. type of design, sample size, length of followup period, type of comparison areas), and outcomes (type of offence, pre- and post-test measures for experimental and control areas).

In some cases, evaluations produced multiple outcome measures. This occurred when there were multiple methods of measuring the same outcome and when the same outcome was measured at multiple points in time. In these cases, a method of selecting outcomes was established. When multiple outcome measures were provided (e.g. multiple outcome measures of crime) we listed the results for each measure. However, any single analysis was based on only one of these measures. The measure chosen was based on a system for prioritizing the results (i.e. burglary first, followed by all property crimes and then all crimes). When the same outcome was measured at multiple points in time, we selected the year before and the year after the implementation of the scheme as the basis for our analyses. Failing this, we chose other periods in accordance with the above priority system (i.e. periods nearest to the point of implementation were chosen first).

## Attrition of Publications

A total of 1,595 potentially relevant reports were identified from the searches. Reports that were clearly not evaluations of neighbourhood watch were excluded. Overall, 335 reports were selected as possible evaluations. One hundred and ten of these reports were duplicates and were excluded from the list. This left 225 unique reports. Of the 225 selected reports, 137 were obtained. The main reasons for not obtaining



reports were that they could not be located following various attempts to obtain them through interlibrary loan, through the internet, or by contacting the authors. Another reason for the losses was that many of the evaluations were included in unpublished reports by police departments and other official agencies and had not been deposited in copyright libraries that hold copies of all national publications.

Thirty of the 137 reports obtained were considered eligible for inclusion in the review. The main reason for ineligibility was that the report did not include an evaluation of neighbourhood watch, but for example, was a description of a neighbourhood watch programme or a process evaluation. Eleven of the 30 eligible reports presented results that were included in another eligible report. In other words the results of the study were published in two or more reports. In these cases, the most detailed report was selected for inclusion in this review. This left 19 unique studies including 43 separate evaluations of neighbourhood watch schemes. Two studies including seven evaluations were excluded on the grounds that the results were presented in graphical form only. This left 17 studies including 36 evaluations that were included in the narrative review.

## Description of Studies Meeting the Eligibility Criteria

Table 1 summarises the characteristics of the 36 evaluations included in the narrative review. All were conducted during the period 1977 to 1994. No eligible evaluations were found after the mid 1990s. About half were conducted in North America and about half in the UK. There was one study from Canada and one study from Australia. Most evaluations (23) concerned a neighbourhood watch scheme with no other programme elements, but 13 assessed a comprehensive package including property marking and/or security surveys. Only a minority of evaluations (10) were based on any kind of matching of comparison with experimental areas. The remainder used either similar nearby areas or larger areas with no matching at all (e.g. the remainder of the police force area). In some cases, the comparison area was the whole police force, including the neighbourhood watch area. In these cases, crimes in the experimental area should have been subtracted from crimes in the total area, but in practice this would have made very little difference to the results.

Half of the evaluations (18) used police-recorded crime data as the main outcome measure, while the other 18 used victimization survey data. Twenty-five of the evaluations were categorized as published and 11 as not published. Evaluations were defined as published if they were reported in a book, journal or official government report, as these were likely to have been externally reviewed before distribution. Unpublished

evaluations included police reports and reports from survey research companies, which were unlikely to have been externally reviewed before distribution. Most schemes (25) were implemented in relatively large areas (greater than 1000 dwellings or 1 census tract).

Table 1. Description of Studies and Methods.

Author (publication date) <sup>1</sup> n=17	No. of evaluations n=36	Scheme elements <sup>2</sup>	Published	Data source	Size of scheme area <sup>3</sup>	Comparison area <sup>4</sup>
Anderton (1985)	1	NW plus	Not published	Police	Large	Not matched
Bennett (1990)	2	NW plus	Published	Survey	Small	Matched
Bennett and Lavrakas (1989)	10	NW only	Published	Survey	Large	Not matched
Cirel et al. (1977)	1	NW plus	Published	Survey	Large	Not matched
Forester, Chatterton and Pease (1988)	1	NW plus	Published	Police	Large	Not matched
Henig (1984)	1	NW only	Not published	Police	Large	Not matched
Hulin (1979)	1	NW plus	Published	Police	Small	Matched
Jenkins and Latimer (1986)	4	NW only	Not published	Police	Small	Not matched
Knowles, Lesser and McKewen (1983)	1	NW plus	Not published	Police	Large	Not matched
Latessa and Travis (1987)	1	NW plus	Published	Police	Large	Not matched
Lewis, Grant and Rosenbaum (1988)	5	NW only	Published	Survey	Large	Matched
Lowman (1983)	1	NW plus	Published	Police	Small	Not matched
Matthews and Trickey (1994a)	1	NW plus	Not published	Police	Large	Not matched
Matthews and Trickey (1994b)	1	NW plus	Not published	Police	Large	Not matched
Research and Forecasts Inc. (1983)	1	NW plus	Not published	Police	Large	Matched
Tilley and Webb (1994)	3	NW only	Published	Police	Small	Not matched
Veater (1984)	1	NW plus	Not published	Police	Large	Matched

Notes:

<sup>1</sup> Publication date of the main report used in review.

<sup>2</sup> NW plus = neighbourhood watch plus security surveys and/or property marking. NW only = neighbourhood watch but not security surveys or property marking.

<sup>3</sup> Small = 1,000 dwellings or less or 1 census tract or less. Large = greater than 1,000 dwellings or 1 census tract.

<sup>4</sup> Matched areas = Comparison areas that are specifically matched or comparable with the experimental areas. Non-matched areas = Comparison areas are not specifically matched or comparable with the experimental areas. These include the remainder of the police division or police force area or other nearby areas chosen solely on the grounds of distance from the experimental site.

# Results

Two methods are used here to summarise the results of the selected studies. The first is a *narrative review*, which presents details of the studies and the results obtained. The findings are presented in the form of the relative percentage change in crime in the experimental area compared with the control area. The review also includes the author's conclusion and other textual comments found in the research publication. The second method is a *meta-analysis*, which involves recalculating the published findings to produce a common effect size in each study.

The main advantage of a narrative review is that more details are given about each study and it is possible to include more studies in the review. Some reports do not provide sufficient data to be included in the meta-analysis. The main disadvantage is that it is difficult to draw an overall conclusion for all studies combined. The main advantage of a meta-analysis is that a single weighted mean effect size can be calculated for groups of studies or all studies combined. The main disadvantage is that meta-analysis can only be used when there is sufficient information provided in the original report to calculate an effect size. In the following section we present the findings of both methods.

## Narrative Review

One of the aims of Table 2 is to show whether the study found that neighbourhood watch had a positive effect (a greater reduction or smaller increase in crime than the comparison area), an uncertain effect, or a negative effect (a smaller reduction or greater increase in crime than the comparison area). This was calculated from the published results of the study in one of two ways depending on whether the results were presented as numbers or coefficients.

When the results were presented as raw numbers of crimes or as percentages, a relative change score was calculated showing the difference between the change in the experimental area and the change in the comparison area. For example, Anderson (1985) reported a 10 per cent decrease in crime in the experimental area and a 3 per cent increase in crime in the control area, yielding a relative change score of -13 per cent (-10 per cent - 3 per cent). In order to assess whether this difference was noteworthy, we defined a relative reduction in the neighbourhood watch area of 9 per cent or more as a positive effect and a relative increase in the neighbourhood watch area of 10 per cent or more as a negative effect. These effects are symmetrically opposite (an increase from 1 to 1.10 or a decrease from 1 to 1/1.10). Effects in between were considered uncertain when the results were presented as adjusted means or as regression coefficients the significance and direction of the effect were presented (e.g. a significant positive effect, no significant effect or a significant negative effect).

Table 2. Outcome Effectiveness of Neighbourhood Watch.

Author (publication date) n=36	Data source	Result % crime difference	Relative % change minus=favourable plus=unfavourable	Outcome
Anderton (1985)	PD	Exp -10%; Con +3%	-13%	Positive
Bennett (1990) (1)	SD	Exp -22%; Con -28%	+6%	Uncertain
Bennett (1990) (2)	SD	Exp +37%; Con -28%	+65%	Negative
Bennett and Lavrakas (1989) (1)	SD	% not available	Sig. negative.	Negative
Bennett and Lavrakas (1989) (2)	SD	% not available	n.s.	Uncertain
Bennett and Lavrakas (1989) (3)	SD	% not available	n.s.	Uncertain
Bennett and Lavrakas (1989) (4)	SD	% not available	n.s.	Uncertain
Bennett and Lavrakas (1989) (5)	SD	% not available	Sig. positive	Positive
Bennett and Lavrakas (1989) (6)	SD	% not available	n.s.	Uncertain
Bennett and Lavrakas (1989) (7)	SD	% not available	n.s.	Uncertain
Bennett and Lavrakas (1989) (8)	SD	% not available	Sig. negative.	Negative
Bennett and Lavrakas (1989) (9)	SD	% not available	n.s.	Uncertain
Bennett and Lavrakas (1989) (10)	SD	% not available	n.s.	Uncertain
Cirel et al. (1977)	SD	Exp -61%; Con -4%	-57%	Positive
Forrester, Chatterton and Pease (1988)	PD	Exp -38%; Con +1%	-39%	Positive
Henig (1984)	PD	Exp -100%; Con -35%	-65%	Positive
Hulin (1979)	PD	Exp -26%; Con +10%	-36%	Positive
Jenkins and Latimer (1986) (1)	PD	Exp -25%; Con +2%	-27%	Positive
Jenkins and Latimer (1986) (2)	PD	Exp +1100%; Con +20%	+1,080%	Negative
Jenkins and Latimer (1986) (3)	PD	Exp -75%; Con -29%	-46%	Positive
Jenkins and Latimer (1986) (4)	PD	Exp -71%; Con -25%	-46%	Positive
Knowles, Lesser and McKewen (1983)	PD	Exp -28%; Con +13%	-41%	Positive
Latessa and Travis (1987)	PD	Exp -11%; Con -2%	-9%	Positive
Lewis, Grant and Rosenbaum (1988) (1)	SD	Exp -21%; Con -11%	Sig. positive	Positive
Lewis, Grant and Rosenbaum (1988) (2)	SD	Exp +23%; Con -27%	Sig. negative.	Negative
Lewis, Grant and Rosenbaum (1988) (3)	SD	Exp +10%; Con -18%	Sig. negative.	Negative
Lewis, Grant and Rosenbaum (1988) (4)	SD	% not available	n.s.	Uncertain
Lewis, Grant and Rosenbaum (1988) (5)	SD	% not available	n.s.	Uncertain
Lowman (1983)	PD	Exp -33%; Con 0%	-33%	Positive
Matthews and Trickey (1994a) (1)	PD	Exp -20%; Con -17%	-3%	Uncertain
Matthews and Trickey (1994b) (2)	PD	Exp +24%; Con +45%	-21%	Positive
Research and Forecasts Inc. (1983)	PD	Exp -48%; Con -4%	-44%	Positive
Tilley and Webb (1994) (1)	PD	Exp -41%; Con -11%	-30%	Positive
Tilley and Webb (1994) (2)	PD	Exp 0%; Con +12%	-12%	Positive
Tilley and Webb (1994) (3)	PD	Exp -13%; Con +12%	-25%	Positive
Veater (1984)	PD	Exp -25%; Con +31%	-56%	Positive

Notes: PD=Police-recorded crime data; SD=Survey data.

The narrative analysis concluded that 53 per cent of evaluations (19 studies) showed that neighbourhood watch had a significant desirable effect on crime. The remainder showed an uncertain effect (11 studies) or an undesirable effect (6 studies). Overall, the results are mixed, with only slightly more evaluations providing evidence that neighbourhood watch was effective than those providing uncertain evidence or evidence of an unfavourable effect. However, the comparison between 19 posi-

tive results and only 6 negative results suggests that neighbourhood watch is effective in reducing crime.

Short summaries of the 17 studies (covering 36 evaluations) included in the narrative review are presented below.

ANDERTON (1985) conducted an evaluation of a 'Home Watch' scheme in Northwich in Cheshire. This was one of the first evaluations of neighbourhood watch in the UK. The study was based on a comparison of police-recorded crimes measured 18 months before and 30 months after the launch of the scheme. The crime rates for Northwich were compared with the crime rates for Cheshire as a whole. The results showed that the number of burglaries in Northwich decreased by 10 per cent, compared with an increase of three per cent across the county as a whole. Anderton (1985) concluded that, 'It appears from the experience in Cheshire so far that Home Watch is one of the most effective, efficient and successful crime prevention initiatives ever undertaken' (p.53).

BENNETT (1990) evaluated the effectiveness of neighbourhood watch schemes in two areas of London (Wimbledon and Acton). The evaluations were based on crime and public attitude surveys in the two areas before the schemes were implemented and again one year after their implementation. Similar surveys were conducted in matched comparison areas some distance from the experimental areas. In Wimbledon, crime decreased by a greater amount in the control area than in the experimental area (28 per cent compared with 22 per cent). In Acton, crime increased by 37 per cent in the experimental area and decreased by 28 per cent in the control area. The author concluded that the findings were 'not encouraging' (p.110). Overall, the results suggested that residents in the neighbourhood watch areas experienced either no better or worse rates of victimization than in the comparison.

BENNETT AND LAVRAKAS (1989) investigated the effectiveness of neighbourhood watch schemes in 10 US cities (Baltimore, Boston, Bronx, Brooklyn, Cleveland, Miami, Minneapolis, Newark, Philadelphia and Washington). The research was based on a pretest – posttest design with a non-equivalent control group. The comparison areas were selected by drawing a 'ring' around the experimental area approximately two census tracts wide. Monthly crime statistics revealed no differences between the experimental and control areas in seven of the ten evaluations and a negative differential change (where crime decreased less in the experimental area than in the comparison area) in two of the cities. Only one area showed a desirable differential change (where the experimental area experienced a larger decrease in crime than the control). The authors concluded that the programs 'did not seem to achieve the 'ultimate' goal of crime reduction' (p.361).

CIREL ET AL. (1977) conducted one of the first evaluations of the effectiveness of neighbourhood watch in the United States. The evaluation, based in Seattle, Washington, included a telephone and door-to-door surveys of residents one year before the launch of the scheme and

one year after. Two census tracts adjacent to the neighbourhood watch area was used as a comparison. The results showed that the rate of burglary decreased by a substantially greater amount in the experimental areas than in the control areas (61 per cent compared with 4 per cent). The authors concluded that participating in community crime prevention, 'significantly reduces the risk of residential burglary victimization' (p.79).

FORRESTER, CHATTERTON AND PEASE (1988) evaluated a burglary prevention project in Kirkholt, an area of public housing near Rochdale (a town 10 miles north of Manchester) in the UK. A package of measures was introduced as part of the project, including 'cocoon' neighbourhood watch. The evaluation was based on the analysis of pre and post-test police-recorded crime rates in the experimental area (Kirkholt) which were compared with crime rates in the remainder of the police sub-division. The results showed that domestic burglaries decreased by 38 per cent in the experimental area compared with one per cent in the remainder of the subdivision. The authors concluded that there had been a, 'large absolute and proportionate reduction in domestic burglary during the initiative' (p.19).

HENIG (1984) conducted an evaluation of neighbourhood watch in a police district in Washington, DC. The impact of block watch on crime was assessed by examining the levels of police-recorded crime in the sample of participating blocks in the year before and after the scheme had been launched. This was compared with crime rates for the police district as a whole and for the city as a whole. The results showed that over the evaluation period the level of burglary decreased by 100 per cent (from 4 to 0 burglaries) in the sample area and by 35 per cent (from 2745 to 1778 burglaries) in the police district as a whole. The author concluded that neighbourhood watch was associated with a reduction in burglary among participating blocks.

HULIN (1979) evaluated the effectiveness of a neighbourhood watch scheme in a high crime area of Fontana, California. Using police-recorded crime data for the year before and the year after the scheme, the author compared changes in residential burglary rates in Fontana with changes in burglary in four demographically similar control areas with similar pre-test crime rates. The results showed a decrease in residential burglary of more than 25 per cent in the experimental area compared with increases ranging from 10 to 25 per cent in each of the control areas. Hulin (1979) concluded that the results were 'positive' and indicated that neighbourhood watch was 'an effective crime prevention instrument' (p.30).

JENKINS AND LATIMER (1986) conducted evaluations of neighbourhood watch schemes in four areas of Merseyside in the UK. Each of the four evaluations examined the number of crimes recorded by the police in the year before and the year after the scheme had been implemented. In three of the four areas, the experimental area experienced larger decreases in the number of burglaries than in the sub-division as a whole.

In the fourth area (Burford Avenue), burglary increased by more than 1,000 per cent (from 1 to 12). The authors concluded that there is, 'an indication that Homewatch is having an effect, certainly initially, in reducing the instances of burglary within an area and to a lesser extent the total crime' (p.12). However, they warned that results of the Burford Avenue scheme 'should not be ignored and indicate that Homewatch is not a panacea for reducing crime' (p.12).

KNOWLES, LESSER AND MCKEWEN (1983) evaluated the effectiveness of a neighbourhood watch programme in a residential suburb on the western boundary of Los Angeles County in the USA. The evaluation examined changes in the rate of police-recorded residential burglaries in the 12 months before and the 12 months after the programme had been implemented. These were compared with burglary rates in comparison areas (comprising eight neighbouring jurisdictions). The results showed a decrease in burglary of 28 per cent in the experimental area, compared with an increase of 13 per cent in the comparison area. The authors explained that the atmosphere of cooperation fostered by the programme, 'provided for the achievement of a common goal – crime control' (p 38).

LATESSA AND TRAVIS (1987) conducted an evaluation of a block watch programme implemented in the College Hill area of Cincinnati in the USA. College Hill is described by the authors as the fifth largest community in the city with a population of over 17,000 residents. Using police-recorded crime data, burglary rates in College Hill in the year before and after the scheme were compared with burglary rates in the city of Cincinnati as a whole. The figures showed that burglary in the experimental area decreased by 11 per cent, while burglary in Cincinnati as whole decreased by two per cent. The authors concluded that College Hill experienced a decrease in the amount of recorded crime during the course of the programme.

LEWIS, GRANT AND ROSENBAUM (1988) in another US study, evaluated the effectiveness of five block watch schemes in Chicago, Illinois. Crime and public attitude surveys were conducted in the experimental and matched control areas before the launch of the schemes and again one year after the launch. Only one of the five experimental areas experienced a reduction in victimizations. Two of the experimental areas, however, showed a statistically significant increase in victimizations per respondent. The authors concluded in their original report that the results, 'force us to seriously address the possibility of both theory failure and program failure in this field' (Rosenbaum, Lewis and Grant 1985, p.170).

LOWMAN (1983) investigated the effectiveness of neighbourhood watch in a residential district of Vancouver, Canada. The evaluation was based on a comparison of crime rates in an experimental area (the neighbourhood watch pilot project area) and three control areas in which neighbourhood watch had not been implemented. The results

showed that the number of burglaries decreased by 33 per cent in the experimental area with no change in the comparison areas. The author concluded that the reduction in the experimental area 'may be indicative of a deterrent effect of the program' (p.295).

MATTHEWS AND TRICKEY (1994) conducted an evaluation of a neighbourhood watch scheme in the New Parks area of Leicester in the UK. Police-recorded crime data were used to determine changes in crime rates in the experimental area in the 12 months before and after the launch of the scheme. Comparable data were obtained for seven nearby control areas. The results showed that the number of burglaries decreased in the experimental area and increased in the control area. However, in the following year the rate of burglary increased. The authors explained that this reduction in burglary was 'welcome' but somewhat 'shortlived' (p 67).

In a second evaluation of neighbourhood watch in Leicester, MATTHEWS AND TRICKEY (1994) evaluated the effectiveness of a neighbourhood watch scheme on the Eyres Monsell housing estate. Police data were used to examine changes in the number of burglaries in the year before the launch of the scheme and in the year following implementation. Data were also collected for four other housing estates in the area close to the Eyres Monsell estate. Over the study period, the number of burglaries on the Eyres Monsell estate increased by 24 per cent. The number of burglaries on the Saffron Lane estate (the estate with the most similar pretest burglary rate) also increased over the study period, but the increase was approximately half that of the experimental area (12 per cent). The authors concluded that the outcome of the project as a whole was encouraging, although 'not particularly remarkable' (p.50). However, the rapid increase in the number of burglaries in 1994 was 'a cause of considerable concern' (p.50).

RESEARCH AND FORECASTS INCORPORATED (1983) conducted in a US study an evaluation of neighbourhood watch in a residential area of Detroit, Michigan. The study used police data to compare changes in crime rates in 155-block experimental area (Crary-St Mary's) with changes in a matched control area four miles away. In both neighbourhoods, crime rates for the 12 month period before and after implementation of neighbourhood watch were examined. The results showed that burglary rates decreased by a substantially greater amount in the experimental area than in the control area (48 per cent compared with 4 per cent). The authors explained that reported crime statistics showed, 'a substantial reduction in Crary-St Mary's that is not matched by the statistics for the control neighbourhood' (p.34).

TILLEY AND WEBB (1994) present findings from 11 evaluations of individual burglary reduction schemes implemented as part of the Safer Cities Program in the UK. Three of the 11 evaluations (in Birmingham-Primrose estate, Rochdale-Belfield estate and Rochdale-Back O'Th'Moss estate) met the eligibility criteria for inclusion in this review. Each



evaluation employed a pretest-posttest research design and compared crime rates in the experimental area with crime rates in either the remainder of the subdivision or in the city as a whole. In all three evaluations, the experimental area outperformed the control area. In the two Rochdale evaluations, the control area experienced an increase in crime, while the experimental area experienced a decrease or remained stable. In Birmingham, both the experimental and control areas experienced a decrease in crime, but the decrease was greater in the experimental area (41 per cent compared with 11 per cent). The authors described the schemes as a, 'great success' in terms of 'reducing crime and as an example of crime prevention work' (p.4).

VEATER (1984), in an early UK study, evaluated a neighbourhood watch scheme in Kingsdown, Bristol. The evaluation was based on pre-test and post-test victim and public attitude surveys conducted in the scheme area. A comparison was also made of crime rates in an adjacent area to the neighbourhood watch scheme using police-recorded crimes. The findings showed that crime decreased by 25 per cent in the experimental area, but increased by 31 per cent in the comparison area. The author noted that the increase might be a result of crime displacement. He concluded that, 'the neighbourhood watch concept has potential if adequate resources are made available ...' (p.5).

## Meta-Analysis

In order to carry out a meta-analysis of the effects of neighbourhood watch, a comparable effect size measure is needed for each evaluation, together with its variance (see Lipsey and Wilson, 2001). Our effect size measure (the Odds Ratio or OR) could only be calculated for 18 evaluations. All evaluations employed the same research design (pre-test and post-test measures of crime for experimental and control areas). The majority (n=15) of evaluations used police-recorded data to provide an outcome measure of crime. The remainder (n=3) used self-report victimization surveys. The two types of data require different methods to obtain an OR. These methods are described in the Appendix.

The outcome measure in each study was the number of crimes (i.e. burglaries, property crimes, or all crimes, in that order) recorded by the police or the number of people victimized. There were no evaluations included in the review that provided sufficient information (i.e. standard deviations) to allow ORs to be calculated from mean offending rates. Hence, the meta-analysis is based on ORs derived solely from frequencies or proportions.

## Effect Sizes In Individual Evaluations

Table 3 shows that 15 of the 18 evaluations yielded an OR greater than 1 (showing a favourable effect on crime) and three yielded an OR less

than 1 (showing an unfavourable effect). Hence, in the majority of evaluations, neighbourhood watch was followed by a desirable change in crime (a greater reduction or a smaller increase). Where the 95 per cent Confidence Interval (CI) of the OR does not include the chance value of 1, the OR is significant. Four of the 15 evaluations with an OR greater than 1 were statistically significant (Research and Forecasts Inc. 1983, Anderton 1985, Veater 1984 and Forrester et al. 1988). None of the 3 evaluations with an OR less than 1 was significant. The results are shown graphically in the forest plot in Figure 1. The graph shows clearly that the majority of effects were positive.

Table 3. Effect Sizes.

Author n=18	Date	Outcome measure	OR	CI	z	p
Cirel et al. (1977)	1977	Burglary	2.38	0.87-6.53	1.69	ns
Lowman (1983)	1983	Burglary	1.49	0.49-4.53	0.71	ns
Research and Forecasts Inc. (1983)	1983	Burglary	1.85	1.23-2.77	2.96	<0.004
Henig (1984)	1984	Burglary	2.59	0.12-57.52	0.60	ns
Anderton (1985)	1985	Burglary	1.14	1.08-1.20	5.03	<0.0001
Veater (1984)	1985	All crimes	1.75	1.38-2.22	4.61	<0.0001
Jenkins and Latimer (1986) [1]	1986	Burglary	1.35	0.30-6.13	0.39	ns
Jenkins and Latimer (1986) [2]	1986	Burglary	0.10	0.01-1.80	-1.56	ns
Jenkins and Latimer (1986) [3]	1986	Burglary	2.85	0.13-63.52	0.66	ns
Jenkins and Latimer (1986) [4]	1986	Burglary	2.55	0.62-10.51	1.29	ns
Forrester, Chatterton and Pease (1988)	1988	Burglary	1.64	1.32-2.02	4.57	<0.0001
Bennett (1990) [1]	1990	Burglary	0.92	0.27-3.11	-0.13	ns
Bennett (1990) [2]	1990	Burglary	0.51	0.16-1.65	-1.12	ns
Matthews and Trickey (1994a)	1994	Burglary	1.04	0.69-1.58	0.19	ns
Tilley and Webb (1994) [1]	1994	Burglary	1.50	0.65-3.50	0.95	ns
Tilley and Webb (1994) [2]	1994	Burglary	1.12	0.60-2.11	0.36	ns
Tilley and Webb (1994) [3]	1994	Burglary	1.28	0.67-2.46	0.75	ns
Matthews and Trickey (1994b)	1994	Burglary	1.17	0.82-1.69	0.87	ns
Fixed Effects			1.19	1.13-1.24	7.25	<0.0001
Random Effects			1.36	1.15-1.61	3.63	<0.0004
Q FE model	35.72	0.005				

OR = Odds Ratio. CI = 95% Confidence Interval

Notes:

An odds ratio of 1.19 means that crime increased by 19% in the control area compared with the experimental area or decreased by 16% in the experimental area compared with the control area (1/OR).

An odds ratio of 1.36 means that crime increased by 36% in the control area compared with the experimental area or decreased by 26% in the experimental area compared with the control area.

## Mean Effect Sizes

There are two commonly used methods for calculating a weighted mean effect size. The Fixed Effects (FE) method assumes that all measured effect sizes vary randomly about the mean. In estimating this mean, each effect size is weighted by the inverse of its variance ( $1/\text{VAR}$ ), so that studies based on larger samples are given greater weight than those based on smaller samples. However, the studies may not all be drawn from the same sampling distribution of effect sizes. One method of addressing the problem of heterogeneity in effect sizes is to use the random effects (RE) model. This assumes that the variance of the effect size is the sum of two components, one reflecting random variation about the mean and the other reflecting the variation of effect size over studies. The RE method minimizes heterogeneity by adding a constant to the variance of each effect size (for the formula, see Lipsey and Wilson, 2001, p.119). When this is done, studies with larger sample sizes no longer have such a disproportionate influence on the mean effect size. Each study has a more similar weighting, which seems undesirable since larger studies have narrower confidence intervals about the mean, which estimates the mean of their sampling distribution more accurately. As there are ad-

vantages and disadvantages of both the FE and RE models, it is usually considered good practice to report findings for both. In the following, we adopt this approach and present the results using both models.

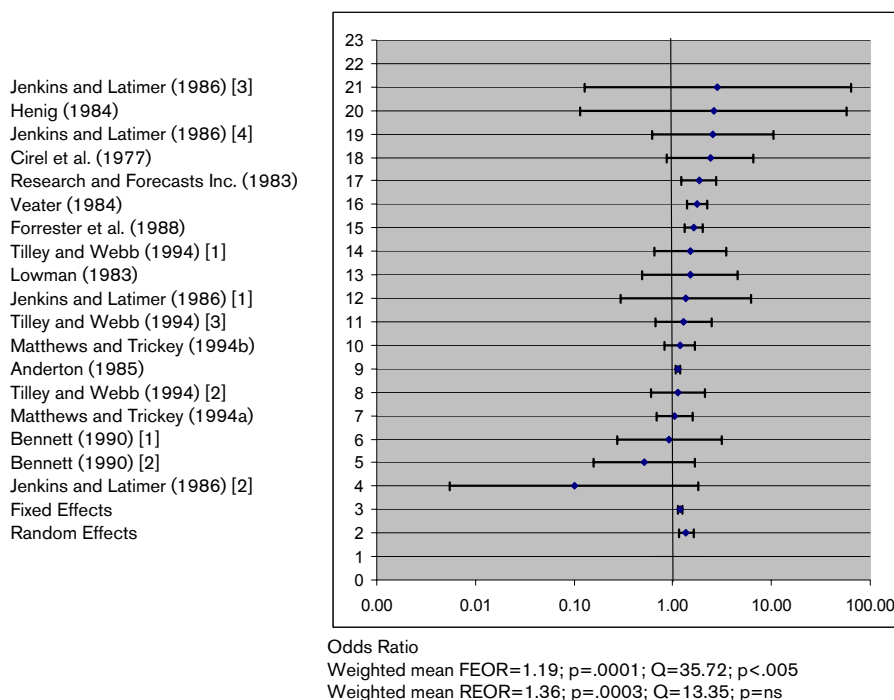
## Fixed Effects Model

Table 3 shows that the weighted mean OR for the 18 evaluations combined was 1.19 using the FE model. This was statistically significant ( $z=7.25$ ,  $p<.0001$ ). An OR of 1.19 can be interpreted to mean that crime increased by 19 per cent in the control area compared with the experimental area or that it decreased by 16 per cent (using  $1/1.19$ ) in the experimental area compared with the control area. However, the 18 studies were significantly heterogeneous according to the Q statistic ( $Q=35.72$ , 17 d.f.,  $p<.005$ ). Therefore, the RE model was used as well.

## Random Effects Model

The weighted mean OR for the 18 evaluations combined was 1.36 using the RE model ( $z=3.63$ ,  $p<.0004$ ). An odds ratio of 1.36 means that crime increased by 36 per cent in the control area compared with the experimental area or decreased by 26 per cent in the experimental area compared with the control area (see Figure 1).

Figure 1. The Effectiveness of Neighbourhood Watch.



Notes: Odds ratios and confidence intervals shown on a logarithmic scale.

## Moderator Analyses

Overall, the meta-analysis has shown, using both the FE and RE models, that neighbourhood watch was followed by a significant reduction in crime. However, it is possible that the results vary according to specific characteristics of the programme being implemented or according to the research design of the evaluation. The results of the moderator analyses which investigate these questions are presented in Table 4.

Table 4. Variations in Mean Effect Size by Features of the Method and the Programme.

		No. of studies	OR	CI	z	p	Q	p	Sig. of diff in OR
Type of data	Police data	15	1.38	1.16-1.64	3.67	0.0002	9.58	ns	
	Survey data	3	1.09	0.43-2.73	0.17	ns	1.91	ns	ns
Type of comparison	Matched	8	1.40	1.09-1.79	2.66	0.0078	6.98	ns	
	Not matched	10	1.32	1.06-1.65	2.49	0.0128	6.27	ns	ns
Type of scheme	NW only	8	1.43	1.27-1.60	5.96	0.0001	-1.66	ns	
	NW plus	10	1.37	1.12-1.68	3.10	0.0019	7.93	ns	ns
Size of scheme area	Small	11	1.26	0.97-1.64	1.73	ns	9.49	ns	
	Large	7	1.40	1.13-1.73	3.10	0.0019	4.29	ns	ns
Year	1977-1988	11	1.56	1.21-2.0	3.43	0.0006	6.57	ns	
	1989-1994	7	1.12	0.90-1.39	1.01	ns	2.64	ns	ns
Published	Published	8	1.62	1.54-1.71	18.03	0.0000	7.45	ns	
	Not published	10	1.35	1.08-1.69	2.64	0.0083	7.96	ns	ns
All studies		18	1.36	1.15-1.61	3.63	0.0003	13.35	0.7125	

Note:

OR=Odds Ratio

CI= 95% Confidence Interval

Random Effects Model Used

*Type of Data:* It is possible that the effectiveness of evaluations varies in terms of the type of data collected. The Appendix shows that the method of calculating ORs was slightly different using the police and survey data and this might result in different findings. Also, to the extent that neighbourhood watch causes an increase in the probability of reporting crimes to the police, results might be different. In order to investigate this, the 15 evaluations that collected police data were compared with the three evaluations that collected data from victimization surveys. The results showed that the two ORs were similar (1.19 for police data and 1.14 for survey data) and that they were not statistically significant. Hence, the effectiveness of neighbourhood watch programmes did not vary according to the type of data collected. This provides a justification, therefore, for combining police and survey data in the overall analysis.

*Type of Comparison Area:* It is also possible that there are differences in results depending on whether studies used non-equivalent or equivalent comparison areas. It could be argued that research based on non-matched areas is more likely to produce a positive result due to regression to the mean in the experimental area (which might have been

selected at a time when crime was unusually high and likely to fall) but not in the comparison area (see Farrington and Welsh, 2006). In order to test for this, the studies included in the meta-analysis were split into two groups based on the nature of the comparison area (i.e. whether it was 'matched' or 'not matched'). The meta-analysis was then repeated. The results showed that the difference between these ORs were not statistically significant.

*Type of Scheme:* It might be expected that neighbourhood watch schemes based on limited versions of the programme might be likely to show a lower effect than schemes based on more comprehensive versions. In order to test for this, the studies were split into two groups based on programme type (i.e. whether it was neighbourhood watch only or neighbourhood watch with additional elements of the 'big three'). The results showed that the ORs in these two conditions were not significantly different. Hence, the type of programme did not independently affect the outcome.

*Size of Scheme:* It could be argued that larger schemes might be more effective than smaller schemes on the grounds that a greater number of neighbours are looking out for suspicious behaviour. It could also be argued that smaller schemes might be more effective than larger schemes as the interaction between neighbours who know each other well might be more concentrated. Overall, there was no statistical difference in the ORs of larger and smaller schemes.

*Year of Publication:* It might be the case that early schemes might be more effective than later schemes on the grounds that the motivation and interest in the programme was highest at its inception. It is also possible that the reverse might be the case with motivation and expertise increasing over time. The results show that there was no significant difference in the outcomes of earlier compared with later schemes.

*Publication Status:* Another possible variation in results might relate to publication status. It has been hypothesized that publishers are more likely to publish evidence of success than evidence of no effect or failure. This is sometimes referred to as 'publication bias'. In order to test for this, evaluations were identified as published or unpublished. Research was defined as published if it was reported in a book, journal or official government report, as these were likely to have been externally reviewed before distribution. Evaluations were defined as unpublished if they were police reports or reports from survey research companies, as these were less likely to have been externally reviewed before distribution. The mean OR was then calculated for each group. The results showed that the difference between the mean ORs was not statistically significant. The findings do not support the publication bias thesis as it was not shown that published evaluations provided evidence of a stronger neighbourhood watch effect than unpublished evaluations.

# Conclusion

The results of previous systematic reviews of neighbourhood watch were inconsistent in terms of the conclusions drawn. Titus (1984) concluded that neighbourhood watch was effective, but noted that the research methods used to investigate it were weak. Husain (1990) concluded that there was little evidence that neighbourhood watch worked. Sherman and Eck (2002) concluded that neighbourhood watch was ineffective in reducing crime.

The main findings of the *narrative review* were that just over half of the schemes evaluated (19) showed that neighbourhood watch was effective in reducing crime, while only 6 yielded negative effects. The main finding of the *meta-analysis* was that neighbourhood watch was associated with a relative reduction in crime of between 16 and 26 per cent. The generally positive findings of the narrative review are consistent with the favourable effect found in the meta-analysis. Hence, the dominant finding of the review, using both methods, is that neighbourhood watch is effective in reducing crime.

It is not totally clear why neighbourhood watch is effective. The analysis of moderator variables failed to show any clear differences between studies in terms of methods used or programme design. It is possible that the reductions in crime were caused by some of the essential features of neighbourhood watch schemes. Neighbourhood watch might serve to increase surveillance, reduce opportunities or enhance informal social control. Unfortunately, information on these topics is not provided in the majority of evaluations and the precise reasons for the effectiveness cannot be determined at present.

## Research Implications

There are a number of implications that can be drawn from this review for future research on the effectiveness of neighbourhood watch.

First, the review has drawn attention to the common problem of a relatively small number of good-quality studies in terms of research design. Only 36 evaluations could be included in the narrative review and only 18 could be included in the meta-analysis. Among the 27 studies that were excluded on grounds of methodological quality, 19 had no comparison group and 8 presented only post-test data on crime.

Second, it is unclear why evaluations of neighbourhood watch stopped abruptly in the mid 1990s. It is possible that researchers felt that the effectiveness or ineffectiveness of neighbourhood watch had already been established and that there was no need for further investigation. As a result, the effectiveness of neighbourhood watch in more recent times is largely unknown. It would have been helpful if more recent evalua-

tions of neighbourhood watch had been conducted in order to determine current effectiveness.

Third, none of the studies was based on random allocation of areas to treatment or control conditions. Instead, all studies were based on some version of a quasi-experimental design. This is almost certainly a result of the difficulties involved in implementing community-based programmes in areas where communities have not requested them. It is difficult to conduct a randomized experiment with areas as the unit of assignment. However, quasi-experimental designs are not ideal and some writers have argued that they can overestimate the positive effects of schemes as a result of selection effects whereby the subjects or schemes most likely to change are included in the experimental group (for a discussion see Wilson, Mitchell, and MacKenzie, 2007).

Fourth, a particularly important problem for the current review was that a number of potentially eligible studies did not report data that were suitable for a meta-analysis. This was either because studies presented the results using an unusual statistical notation or left out the data entirely (e.g. when the results were presented in graphical form only). It would be helpful if published evaluations included, at a minimum, raw data, cell sizes and other relevant information in order to facilitate future meta-analyses.

Finally, very few evaluations disaggregated the findings in a way that would show differential effects for subgroups and provide detailed information on the effectiveness of features of the programme. As there might be variations in outcome according to the type of programme implemented or the type of area it is important that this information should be included in future research reports.

## Implications for Policy

Neighbourhood watch has often been described as one of the most widespread methods of reducing crime. It is supported by UK and US governments and is popular among the public and the police (Sims, 2001). The current review provides support for this level of implementation. Existing evaluations, taken together, show that neighbourhood watch is effective in reducing crime. However, little is known about the factors that influence the degree of effectiveness. The results of this review have shown that there is some variation across schemes in terms of the outcomes achieved. Governments and those responsible for crime prevention policy should investigate differences between more effective and less effective schemes in order to guide good practice. A nationally co-ordinated programme of research on neighbourhood watch is needed, with different schemes implemented and evaluated in different areas to try to establish which features of schemes are most effective and the optimal conditions for effectiveness.



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# Appendix

## Measuring effect size

### Police-Recorded Crime Data

The best measure of effect size for findings based on crime and victimization is the odds ratio (OR), which is calculated as shown in the following table. The OR used for analyzing police data is different from the usual OR in that it is based on the total number of crimes committed rather than the number of individuals victimized. Nevertheless, the use of the term OR can be justified on the grounds that the number of crimes recorded before and after an intervention indicate the odds of a crime occurring before rather than after.

	Before intervention	After intervention
Experimental	a	b
Control	c	d

where a, b, c, d are numbers of crimes

$$OR = a*d/b*c$$

The null, or no effect, value of the OR is 1.0. To the extent that the OR exceeds 1.0, it might be concluded that the intervention (i.e. neighbourhood watch) was beneficial. To the extent that the OR falls below 1.0, it might be concluded that the intervention had negative effects. It is technically possible that some schemes might cause an increase the number of recorded crimes. For example, it has sometimes been argued that increased surveillance will lead to an increase in probability of crimes being reported to the police.

The variance of the OR is calculated from its natural logarithm (LOR):

$$VAR (LOR) = 1/a + 1/b + 1/c + 1/d$$

In order to produce a summary effect size in a meta-analysis, each effect size (here, LOR) is weighted by the inverse of its variance (1/V).

The analysis based on police-recorded crimes was adjusted slightly to deal with the problem of possible 'over-dispersion' (i.e. greater than expected variance). The above estimate of VAR (LOR) is based on the assumption that total numbers of crimes (a, b, c, d) have a Poisson distribution. If the number of crimes has a Poisson distribution, its variance should be the same as its mean. However, the large number of changing extraneous factors over time may cause over-dispersion; that is, where the variance of the number of crimes VAR may exceed the number of crimes N. Hence, the standard formula for VAR (LOR) was multiplied by an over-dispersion factor D, where

$$D = VAR/N.$$

Farrington, Gill, Waples, and Argomaniz (2007) estimated VAR from monthly numbers of crimes and found the following equation:

$$D = .0008 * N + 1.2$$

D increased linearly with N and was correlated (.77) with N. The median number of crimes in their study was 760, suggesting that the median value of D was about 2. However, Farrington et al. (2007) argued that this is an overestimate because the monthly variance is inflated by seasonal variations, which do not apply to yearly crime data. Nevertheless, in order to obtain a conservative estimate, VAR (LOR), calculated from the usual formula above, was doubled in all cases involving police-recorded crime data. This adjustment corrects for over-dispersion within studies, not for heterogeneity between studies.

**Survey Data**

For studies based on victimization surveys of residents before and after the intervention, the OR was calculated from the natural logarithm of OR (LOR) using the formula below:

$$LOR = \ln(a_2 * d_2 / b_2 * c_2) - \ln(a_1 * d_1 / b_1 * c_1)$$

where a2, b2, c2, d2 are ‘after’ numbers of people and a1, b1, c1, d1 are ‘before’ numbers of people.

	Before intervention		After intervention	
	No Crime	Crime	No Crime	Crime
Experimental	a1	b1	a2	b2
Control	c1	d1	c2	d2

The variance of LOR is calculated using the following formula:

$$VAR(LOR) = 1/a_1 + 1/b_1 + 1/c_1 + 1/d_1 + 1/a_2 + 1/b_2 + 1/c_2 + 1/d_2$$

This method is based on comparing before and after ORs. This was considered preferable to comparing after ORs only as they do not control for pre-existing differences between the experimental and control areas.