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# Volume crime investigations: a review of the research literature

Krista Jansson

Home Office Online Report 44/05

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Krista Jansson

Krista Jansson is a researcher with RDS (Crime Reduction and Community Safety Group).

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# Executive summary

The study has reviewed the research literature into volume crime investigations. It aimed to provide an overview of the investigative process and, in doing so, identify effective and efficient approaches to the investigation and detection of volume crime. The review particularly aimed to highlight from the research evidence those investigative practices and actions that are likely to lead to positive outcomes.

There are two broad approaches to investigating crimes that the police can adopt: reactive and proactive. A reactive investigation is typically carried out in response to a crime reported by a member of the public and can therefore be argued to be crime-focused. By contrast, proactive investigations take as their starting point the offender, often initiated on the basis of police intelligence, and frequently target repeat offenders. Most of the research studies that have been reviewed in this report have, however, focused on reactive investigations (or components of them); these account for the vast majority of volume crime investigations.

## Variations in detection rates

- Variations in the 'crime mix' of a particular area have been found to influence overall detection rates. Therefore looking at detections by crime type is likely to be more meaningful than overall detection rates.
- After controlling for other factors, police officers per head of population, and the number of crimes per officer, have been found to be associated with clear-up rates (higher number of police officers per head and fewer crimes per officer each being associated with higher detection rates).

## What detects crime?

- Police investigations are often highly complex. Although the range of initial investigative actions investigators have at their disposal is not extensive, how they are applied and their outcomes are highly dependent upon the context of a particular crime. Some crimes virtually solve themselves (for example in cases where the victim/witness is able to name the offender). By contrast, there are crimes that remain unsolved regardless of the resources and effort invested in the investigations (for example in cases where there are no witnesses, forensic evidence or other leads). In the middle of these two extremes are cases where leads are available, but investigative effort needs to be applied to follow up the leads in order to solve the crime. It is in these offences that investigative improvements will affect the likelihood of detection.
- The public have been found to play the key role in crime investigations and, ultimately, in determining the outcomes of investigations. A high proportion of detections are achieved through information from the public.
- Both preliminary *and* secondary (follow-up) investigations (and information obtained from each) have been found to be important in solving crime. Although preliminary information guided the direction of the investigation and provided leads, the specific actions taken by those undertaking follow-up investigations still significantly predicted the likelihood of detection. For those offences that fall into the middle category of detectable offences, what the police do to investigate crimes does appear to make a difference to the outcome of a case.

## Links between the investigative process and detections

- The initial contact between police and victims/witnesses, and the police response, are the first stages in the investigation process and provide the police with the first opportunity to collect information about the crime and to respond to the crime promptly. Arresting offenders at or near the scene makes a relatively large contribution to total detections for volume crime offences.
- The main factor determining whether an offender is apprehended at the scene is the length of time between the crime being committed and reported. Crimes that are reported in progress and responded to without a delay are associated with much higher chances of detection. Whether this happens is highly dependent on the actions of victims and witnesses. The subsequent police actions – call grading, resource allocation and police response are dependent on the circumstances of the crime reported and therefore their effects are difficult to assess. By no means all volume crimes receive even an initial police response.

## Actions at the scene

- Most studies have indicated that a high proportion of all suspects are identified and arrested on the basis of the actions conducted by the first responding officer. The range of actions carried out at the scene is often limited. Taking statements from, or more generally speaking to, victims and witnesses, are the most commonly undertaken actions across all volume crime types. They appear to be associated with positive investigative outcomes; many studies have indicated that a high proportion of crimes are detected through information obtained from victims and witnesses.
- The choice of actions at the scene is influenced by crime type. House-to-house enquiries are often a key part of burglary investigations, whereas area searches have been found to be more helpful in yielding useful information in robbery and vehicle crime investigations. The evidence base around other actions is, however, less conclusive due to particular contexts within which offences occur.
- The association between actions at the scene and positive outcomes, does, however needs to be carefully interpreted. It might simply reflect that detectable crimes have victims or witnesses present which can provide helpful information, not that the process of taking statements in itself detects crime. On the other hand, a commitment by investigators to seek out and locate witnesses and effectively interview them might well be associated with more comprehensive investigations (and possibly better outcomes).
- It is not only what actions are undertaken, but *how* they are performed, that will influence the outcome of an investigation. Very little research has explored the decisions investigators make, or the quality of routine initial actions at the initial response stage, and the relationship with investigative outcomes.

## Further investigations

- Just as not all crimes are attended, not all crimes continue to be investigated after the initial enquiries have been completed. The decision-making process by which cases are allocated for further investigation is generally known as case or crime screening. The screening processes may be either formal or informal. The evaluation of one screening tool found it to be effective in identifying cases that could be detected, although it did result in the majority of cases ending up being screened out. The main aim of screening tools has been to improve the efficiency of investigations by ensuring resources are targeted towards the most promising cases, rather than improving effectiveness (through obtaining more detections).
- Research has shown that investigations that are screened in for secondary investigations involve a more diverse set of investigative actions than at the initial response stage,

reflecting the context driven nature of actions. How further investigations are carried out is dependent on the leads available from the initial enquiries. Secondary investigations may include actions such as revisiting crime scenes, reinterviewing victims or witnesses, surveillance operations and use of informants. Whether these actions are appropriate and/or effective is, again, dependent on the specific circumstances of a case.

- Whether cases continue to be investigated after initial enquiries, and if so what actions are carried out, is dependent on the information obtained during the initial investigations. Hence the quality of information obtained during initial enquiries, and how this is recorded, is likely to be extremely important in both the selection for and subsequent progress of secondary investigations. The initial police investigation therefore plays a dual role in terms of providing the best opportunity to detect a crime, and being an important influence on the decision to apply additional resources to the investigation.

### Proactive investigations and management

- Of all the aspects of the investigative process, proactive investigations have arguably been subject to highest quality research. It is the only area of the investigative process that has been subject to Randomised Controlled Trials. Studies of the impact of operations to undertake 'proactive' arrests of known offenders have yielded positive results in terms of incarceration rates and longer sentences. However some cautionary points are worth making. Proactive investigations are not clearly defined in the literature and this has led to some confusion about what a proactive investigation entails. Furthermore, the best evidence of impact has been confined to handful of US studies; the UK evidence is limited. Finally, a critical issue remains about which offenders are the most appropriate focus for proactive investigations. Recently research has moved towards downplaying the distinction between reactive and proactive investigations – the complexity of the investigative process has highlighted the symbiotic nature of these two approaches to the investigation of crime.
- Organisational and human resources factors can have an impact on investigations. Problems in organisational procedures, management of staff, perception of roles and responsibilities at any stage of the investigation can all have a negative impact on investigative performance. Conversely, particular 'investigation friendly' management styles and effective supervision appear to be linked to better performance.

### Discussion

The general message from the research reviewed is that there is no single route to improving investigative performance. Effective investigative practice needs to be tailored to the specific context of the crime. However, the research evidence should not be interpreted as 'the police can do nothing about investigative performance'.

Specifically the research points to the following as critical points in the investigation where the police could improve their performance and thereby improve the chances of detection:

- Improving the quality of initial response. The initial response stage is critical for the following reasons: almost all offences go through this stage; they yield most detections; better information saves repeat visits, increases the likelihood of secondary investigations; and, the quality of information being passed on to proactive investigations. Exactly what this might entail in practice is challenging but it will probably include:
  - ensuring up-front resource capacity to respond to crimes in-progress;
  - better and more intrusive supervision of officers;
  - training / mentoring new officers how to think about crime solving, not just to adopt a task by task approach to investigations;

- developing the right kind of performance regimes; and,
  - BCU commanders / supervisors understanding more about failures to achieve 'low effort' detections
- Overall improvements in management and supervision of investigations.
- Looking at what good proactive volume crime investigation actually means in practice.

Finally, given the critical role of the public in influencing the outcome of investigations, it would be worthwhile for the police service to consider innovative approaches to encouraging the public to be more active detectors of crime.



# 1. Background and method

Detecting crime is a central issue for the police and the government. Detections are essential in ensuring that offenders do not go 'unpunished' but are brought to justice, and are one of the key measures of police performance. Detecting crime and ensuring offenders are brought to justice are also important in reassuring the public of the effectiveness of the criminal justice system, and in deterring offenders from committing crimes (Maguire 2003).

In 2003/04 the total number of crimes recorded by the police in England and Wales was slightly over 5.9 million (Dodd, Nicholas, Povey and Walker, 2004). 'Volume property' crime (namely burglary, theft of and from vehicles and robbery) accounted for just under one-third of all recorded crime. Under a quarter (1.4 million, 23.5%) of all recorded crime was detected by the police. However, the detection rate of volume crimes remains particularly low in comparison to overall detection rates; in 2003/04 13 per cent of burglaries, 18 per cent of robberies, 13 per cent of thefts of motor vehicles and six per cent of thefts from motor vehicles were detected as compared with 47 per cent of violent crimes. Even fewer of these crimes eventually result in an offender being brought to justice for the offence, the proportion being nine per cent for burglary and 11 per cent for robbery.<sup>1</sup>

Detections are often seen as the key aim or outcome of police investigations. However, it can be argued that police investigations have two wider key purposes. First, it has been suggested that investigations contribute to crime reduction. Investigations may do so in two ways: offenders who are caught and sentenced to imprisonment are prevented from committing further crimes; and offenders (and potential offenders) may be deterred from committing crimes because of the threat or experience of being caught. Secondly, investigations aim to serve justice by ensuring that offenders are caught and taken to court (or cautioned) regardless of the crime reduction effects. Although the focus of assessing investigations and their effectiveness is often on detections rather than these wider, more indirect outcomes, they should still be recognised as important (or potentially important) outcomes.

There is currently a lack of consolidated knowledge on the investigative process as a whole and those aspects of police investigations that are most effective, particularly regarding volume crime. The current study aims to address this gap by identifying the key messages from existing research and highlighting areas where more research is needed by undertaking a review of the research into the investigation of volume crime.

Research reviews seek to draw together available evidence from previous studies. Systematic reviews are the gold-standard form of this type of exercise (see e.g. Cochrane Collaboration, Campbell Collaboration and ESRC Evidence Centre for further information on systematic reviews). Although this study has adopted systematic searching techniques it is not a systematic review. This reflects the fact that this exercise has focused on assimilating knowledge on investigations in general. The review process has uncovered an extensive research literature. However, the nature of the investigative process (and other factors) has led to very few studies which have applied experimental or quasi experimental designs, or assessed the impact of specific investigative techniques. Furthermore, as this study will highlight, criminal investigations are predominantly complex processes made up of a range of interlinked components. For both these reasons, investigations are arguably fundamentally different from more discretionary interventions to achieve public policy objectives (for instance

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<sup>1</sup> A crime is classified as detected when a person has been charged or summonsed for a crime, or has been cautioned, received a penalty notice for disorder or another relevant offence, received a formal warning for cannabis possession, or has asked for the offence to be taken into consideration. These are called sanction detections. Administrative or No Further Action detections can be classified as such if the police take no further action for various reasons e.g. offender, victim or witness is dead or too ill, or victim refuses or is unable to give evidence. An offence is classified as brought to justice when an offender has been cautioned; convicted; received a Penalty Notice for disorder or another relevant offence; received a formal warning for cannabis possession; or has asked for offences to be taken into consideration by the court.

the introduction of CCTV to reduce crime), which have been subject to arguably purer forms of study (and systematic review).

In spite of this, the review has been organised on systematic lines. Hence clear stages were formulated including:

- the identification of a series of questions that the review will address;
- the development of a protocol to guide the review;
- systematic searching for relevant information;
- study selection to be based on inclusion criteria;
- appraising the quality of the included literature; and,
- summarising the findings.

## Objectives of the study

The overall aim of this study is to gather and summarise research into the investigation of volume crime. The review has four objectives:

- to identify the process by which volume crime is investigated;
- to identify the strengths and weaknesses within the investigative process in terms of the successful detection of crime;
- to identify the aspects of volume crime investigations that effectively and efficiently contribute to detections and convictions; and,
- to identify any gaps in current knowledge and information surrounding the process of investigating volume crime;

## Method

This section will outline the methods employed to search, select and appraise the studies included in the review. In addition, the limitations of the review will be discussed.

### Scope of the review

Inclusion and exclusion criteria were defined in relation to the four principal aims of the review. Given the broad nature of the review, the inclusion criteria were initially set wide to include a range of potential studies. As a result, studies were considered for inclusion that met the criteria listed below:

- Studies that examined the process by which volume crimes are investigated (by the police) and detected. Volume crime was defined as burglary (dwelling and non-dwelling), robbery, theft of and from vehicles, and less serious stranger violence.
- Studies that examined particular investigative processes or applications which might have an application to volume crime, regardless of the crime type focus of the study.

In both of the above criteria, the definition of the investigative process was defined as the point up to which an offender was identified although any studies that touched on the contribution of investigations to convictions were also considered for inclusion. The searching approaches adopted led to a focus on English language studies (foreign language studies were, however, not excluded from the process). Published, unpublished studies, peer reviewed and non-peer reviewed studies were all eligible for inclusion. In order to focus the time span of the review, only studies published (or made available) after the start of 1970 were eligible for inclusion. Studies meeting these initial criteria were then subject to a quality assessment process.

Studies focusing on the application of forensic science to crime investigations were, however, excluded from this review. These were the focus of a parallel review by Bradbury and Feist (2005) that examines the contribution forensic science to volume crime investigations. Given

the broad objectives of the study, no exclusion criteria were set in terms of the methodology applied.

### Search strategies for the identification of relevant studies

Several search strategies were used to identify published or unpublished studies that met the preliminary eligibility criteria. The intention was to avoid publication bias resulting from searches that were not comprehensive. These strategies included a keyword search of databases, searches of relevant reviews, checking of bibliographies of relevant studies, and contact with experts.<sup>2</sup>

The library catalogues listed below were searched; these cover a wide range of publications and research, including grey (unpublished) literature.

- The Centrex Library.
- The Home Office Library.
- The British Library.
- The London School of Economics Library.

The following nine databases were searched:

- Criminal Justice Abstracts.
- Sociological Abstracts.
- Ingenta Services (through the Bath Information and Data Service, BIDS).
- BIDS IBSS (International Bibliography of the Social Sciences).
- PsychINFO (Psychology Information).
- Institute for Scientific Information (ISI) Web of Science.
- SIGLE (System for Information on Grey Literature in Europe).
- NCJRS (National Criminal Justice Reference Service) Abstracts.
- Home Office Research Development and Statistics Directorate.

Searches were also conducted using the Internet search engines: Google, MSN Search, Yahoo, and Lycos. Experts were also contacted for help in identifying and retrieving relevant research. This involved contacting individuals involved in researching the investigation of crime, and the Force Intelligence Bureaux from every police force in Great Britain.

### Identified studies

The eligibility of studies for inclusion in the review was determined by an examination of abstracts. In instances where the abstract was deemed to provide insufficient information to determine the eligibility of the study, the full text was reviewed. Altogether 183 studies on the police investigation of volume crime appeared, on the basis of their abstracts, to meet the inclusion criteria. Of these studies, 43 actually passed the inclusion criteria after more detailed assessment. More than half of excluded studies did not have a sufficient focus on the investigative process to warrant inclusion. Existing literature reviews were also excluded at this point. A breakdown of the reasons for rejecting the studies that were identified and retrieved is provided in Table 1.1.

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<sup>2</sup> A summary of the search terms applied is given in Appendix A.

**Table 1.1: Included and excluded papers after the initial search process**

Papers meeting the inclusion criteria	43
Papers not meeting the inclusion criteria	140
<i>Reasons for excluding papers:</i>	
• No investigative focus	75
• No research content	40
• Literature review	18
• Duplicate	4
• Investigation manual (no research content)	3

### Features of the studies meeting the inclusion criteria

The studies that passed the inclusion criteria varied in terms of the research designs, methods and the outcome measures used. Generally outcome measures employed included detection rates, arrest rates and conviction rates. Altogether 43 studies of volume crime investigations passed the inclusion criteria. The majority of the papers were identified through database searches (23 papers), a further 13 through bibliography checks, and seven papers were suggested by 'experts'. The majority of the papers (36) were published. Of the studies, 30 were from the UK and 13 from the US.

The most commonly researched crime type was burglary (approximately half of the volume crime studies focused on this offence type). Vehicle crime investigations have been researched the least. No studies were found focusing explicitly on non-serious stranger violence.

**Table 1.2: Crime type focus of included studies**

<i>Number of studies focusing on each crime type</i>	
Burglary	20
Robbery	10
Vehicle crime	3
Non-serious stranger violence	0
Undifferentiated	20

Notes: The figures do not add to the total of 43 as with the exception of the 'all crime' category, studies have been counted twice if they focused on more than one crime type, e.g. robbery and burglary.

In terms of the designs employed, the studies were classified into three broad categories according to the most rigorous design used. The studies fell relatively equally into the three categories, as displayed in Table 1.3.

**Table 1.3: Design type employed in the included studies**

<b>Design</b>	
Descriptive	15
Evaluation	13
Examination of associations between variables	15

Studies were also categorised into groups depending on the methodology used. The majority of the studies employed more than one method. A relatively large proportion of studies were purely quantitative, only a few had an observational aspect and none were solely qualitative (Table 1.4).

**Table 1.4: Methodologies employed in the included studies**

	Methodology
Multi-methodological	26
Observational	3
Quantitative	14
Qualitative	0

Several studies that were not initially identified through the process of searching, because their focus was not explicitly around investigations or detections but covered more general issues around criminality or policing, were identified during the lifetime of the study. These studies were included if they had research evidence relevant to the study objectives.

### Approaches in research into police investigations

Studies of police investigations have employed a multitude of research approaches, depending upon the focus of the study and the primary objectives. Generally, research into police investigations can be grouped around the approaches listed below:

- *Cohort studies that track the progress of offences or cases as they progress from initial notification to the police.* These studies have typically looked at the whole investigative process, and included in their sample all cases that were investigated. The sample groups are often examined from the beginning of the investigative process until the end, usually up to the point when the cases are filed, an arrest is made or a suspect is charged. Data relating to measures at different points in the investigative process are usually collected. These might include the types of investigative actions carried out (e.g. house-to-house enquiries, victim statements), outcomes of actions, whether cases were allocated for further investigations, and the final (or intermediate) case outcome. The research objectives typically include describing the investigative process and actions taken, including outcomes of the actions.
- *Detection-based studies.* These studies may typically focus on how cases come to be detected. These often include a sample of detected cases only, and attempt to assess what actions have most commonly led to these detections. Although useful in providing an understanding of how police actions or case characteristics impact on the likelihood of a detection, they lack insight as to how effective particular actions are in terms of their overall outcomes, i.e. the occasions on which similar actions are employed but have not led to detections.
- *Studies focusing on particular police actions or processes.* These studies focus on attempting to understand how effective investigative actions are, i.e. what are the outcomes of different investigative actions, how often does any particular action lead to outcomes such as identification of a suspect. These studies usually attempt to assess these actions by looking at all cases where undertaken and the outcomes of all these actions. However, many of these studies are hindered by the fact that certain actions are very seldom taken (and when they are used, their success or otherwise is dependent upon the context in which they are used), and hence evaluation of their effectiveness is difficult.
- *Investigative stage-based studies.* These studies usually look at only a subset of actions, or action, at a particular stage of the investigative process.

This categorisation is rather broad and many studies comprise multiple elements. However, the key point to note is that each approach can potentially contribute evidence to help understand the investigative process from different perspectives. Furthermore, any one study

can provide evidence regarding several aspects of the investigative process. Indeed, in many instances, the effect of any particular action may not, on its own, be critical; it is how a series of actions work together to help investigate an offence within a specific context that is important.

### Data extraction and quality assessment

Details from the studies that met the inclusion criteria were extracted using a standardised data extraction sheet and the information presented in a standardised structured table. The studies were examined to ensure that all relevant data for that study were recorded. Information was extracted on a number of themes including:

- background details e.g. author, date, publisher, publication status and study design;
- sample size and type;
- research tools and methods of analysis; and,
- findings and conclusions.

Each study was then assessed for methodological quality, using a quality assessment framework developed for the review (see Appendix B). The quality assessment framework was based on frameworks used for previous systematic reviews and adapted to fit the objectives of this review. It was intended to carry out the following tasks:

- Assess the quality of the studies depending upon the design used (e.g. surveys, outcome evaluations, and interviews). Since there is not one design that is most appropriate to the examination of the different aspects of the investigative process, it would not have been appropriate to have given them an overall assessment based on their design. This is different to the traditional approach to systematic reviews that focuses on outcome evaluations, with a recognised hierarchy of study designs placing randomised controlled trials at the top.
- Establish objective criteria (e.g. in terms of sample size and selection of cases) to help grade studies, particularly when assessing qualitative design aspects.
- Draw a distinction between poorly reported research and poorly designed/executed/analysed research.

Each study was evaluated using the quality assessment scale. Based on the scores, it was determined whether the study should be rejected for being of below acceptable quality. However, the studies were not assigned any final grades or a ranking based on the quality; the aim was only to determine which studies would be rejected.

### Structure of the report

Chapter 2 gives an overview of the investigative process. Chapter 3 summarises several of the major US and UK studies that have examined the overall process of investigating crime. Subsequent chapters are organised on the basis of the original Professionalising the Investigation Process (PIP) framework, developed by the Association of Chief Police Officers (ACPO) for assessing the investigative abilities of police officers. The report divides into Chapters that correspond to the first three stages in the investigative process identified by the framework. The significant points in the investigative process that will be considered in the review include:

- initial contact/initial response;
- scene assessment;
- evidence gathering – the investigation.

As the current review primarily focuses on the investigative process up to the point of the identification of a suspect, the later PIP stages (suspect management, post-charge management and file preparation/trial) are not covered. Chapter 7 focuses on proactive investigations.

## 2. The investigative process

This chapter provides an overview of the processes involved in the investigation of a crime. An outline of the stages in the investigative process and the key actions that comprise each stage are presented, including an overview of how cases advance or drop out through the investigative process and the criminal justice system (CJS).

### Overview of the investigative process and actions

A reactive police investigation<sup>3</sup> typically begins when an offence is brought to the attention of the police. After this, the investigation usually advances sequentially through stages comprising different actions. In England and Wales, a case is considered 'detected' if a suspect is charged or summonsed for a crime, or is cautioned, receives a penalty notice for disorder or another relevant offence, receives a formal warning for cannabis possession, or asks for the offence to be taken into consideration.<sup>4</sup> However, there are differences between crime types, and within crime types, in terms of the amount of resources allocated to investigations and the actions carried out. Serious crimes such as murders typically receive extensive resources, whereas minor crimes receive much less attention from the police (Feist and Newiss, 2004).

This chapter presents an overview of the processes and actions typically carried out in volume crime investigations, as described in ACPO's Volume Crime Investigation Manual (ACPO, 2002) and the PIP framework. Figure 2.1 describes how cases advance through these stages and the possible outcomes of an investigation.

#### Initial contact and initial response

This is the first point of contact between the police and a member of the public reporting a crime. Typically this happens as a result of a victim or witness calling the police (although crimes are also discovered by the police). This stage provides the police with an opportunity to obtain and record relevant details about the crime, advise the caller about what to do (e.g. preserve forensic evidence), and determine whether police attendance at the crime scene is required, and if so, how urgently. If a police response is deemed appropriate, police officers are sent to the scene. Depending on the police force, call takers may also be responsible for determining whether forensic examiners should attend the scene or whether the crime should be filed for no further action (NFA).

#### Scene assessment

This stage of the investigation refers to the actions taken by the police when they arrive at the scene of a crime, i.e. the initial police investigation. The officers who first attend the scene will usually want to speak to the victim and undertake any immediate lines of enquiry that might lead to the suspect being identified (e.g. interviewing witnesses, searching the surrounding area and undertaking house-to-house enquiries). Checking existing intelligence relevant to the enquiry may also be carried out. In some cases, scene assessment may result in the suspect being identified or apprehended, or provide further lines of enquiry to be followed up. However, cases may also be filed after initial enquiries if there are few obvious leads to follow.

#### Evidence gathering – the investigation

According to ACPO (2002), this part of the investigation includes taking victim and witness statements, locating and collecting CCTV footage, conducting house-to-house enquiries, identifying suspects (if not previously identified), using intelligence systems, recording actions taken and circulating relevant information. In reality, many of these actions are undertaken by officers who first attend the scene, and there is obviously an overlap in terms of what constitutes following 'scene assessment' and 'evidence gathering'. In some cases the

<sup>3</sup> Reactive investigations occur in response to a report of a crime as opposed to proactive investigations which are typically initiated by the police, targeting an often known or prolific offender. The review covers both approaches.

<sup>4</sup> These outcomes are known as sanction detections.



information provided at the scene may be sufficient to identify and arrest the suspect. In others, the information obtained may need to be developed in order to lead to the identification of the suspect. Whether the information is sufficient enough to warrant further investigation or whether the case should be filed is often determined on the basis of the details gathered by first attending officers. If the case is considered to be worthy of further investigation, the actions that are carried out by the first attending officers may in practice be undertaken by follow-up investigators (and sometimes actions will be repeated). If successful, the evidence gathering stage will end in the suspect being identified (and arrested), and if the suspect is not identified, in the case being filed for NFA.

### Victim and witness management

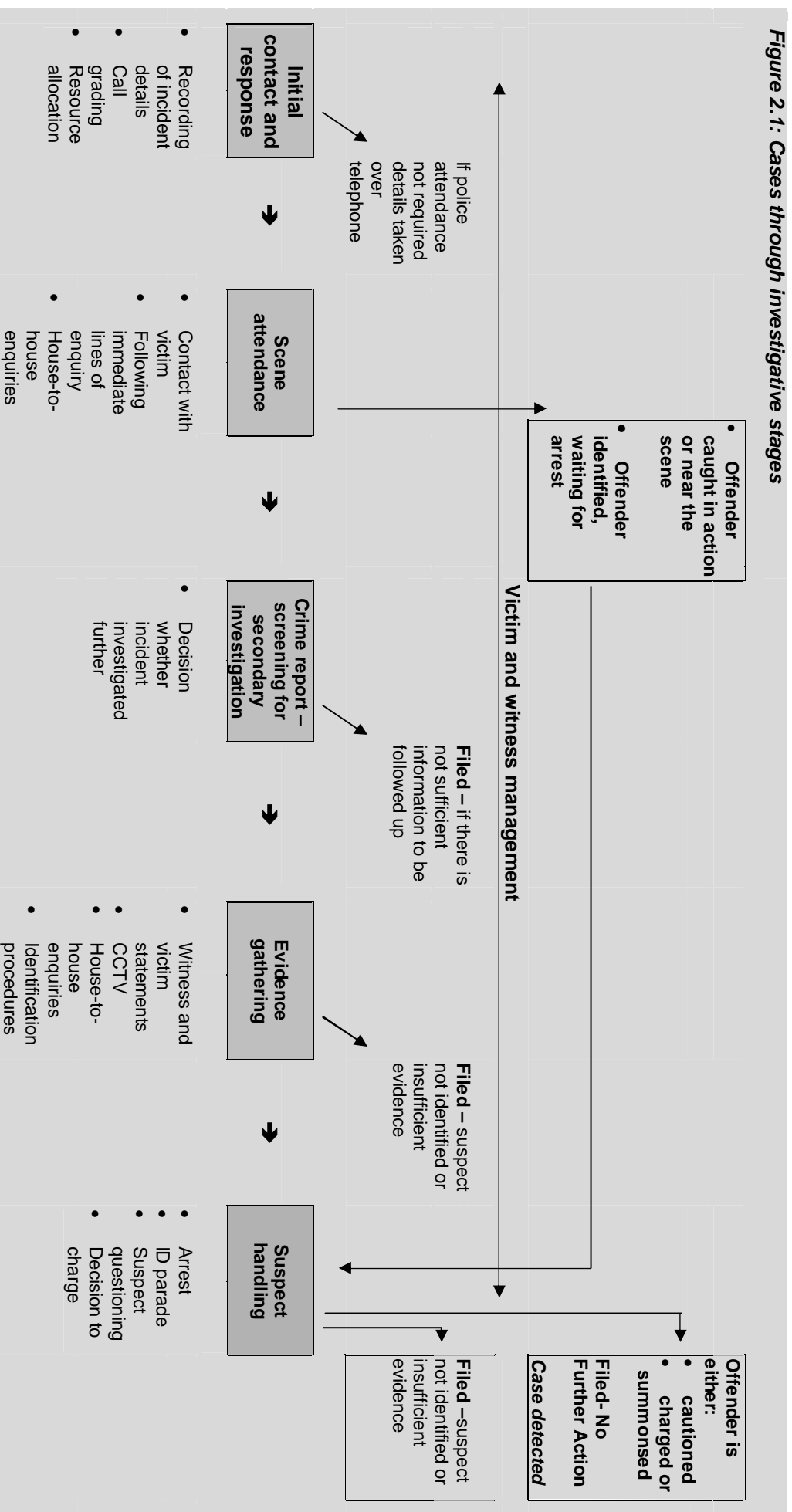
Victim and witness management has also been identified as a key part of investigations, due to victims' and witnesses' ability to provide information to help detect the crime as well as provide further intelligence. Victim and witness management cannot be said to dominate any particular phase, but is important throughout the investigative process.

### Suspect handling

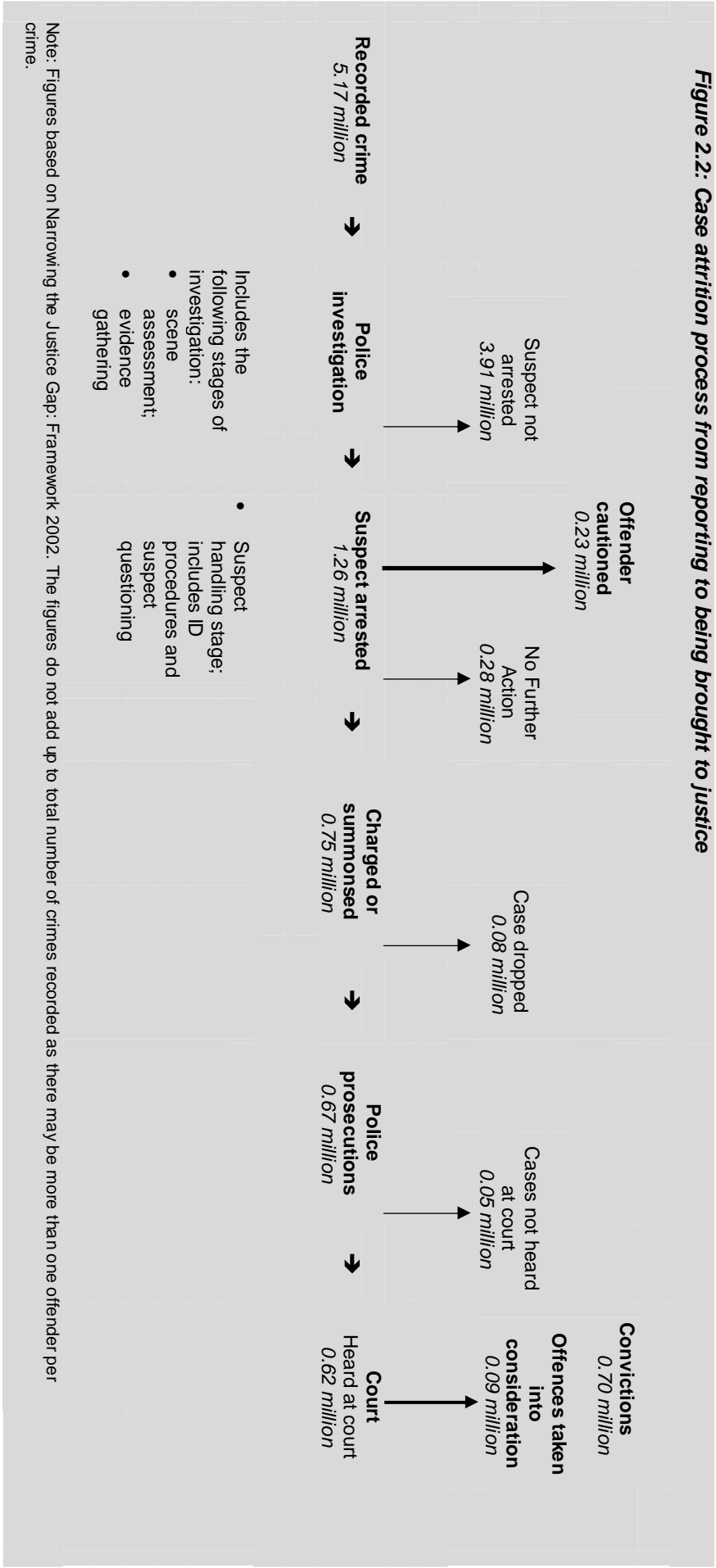
The suspect handling stage includes the following actions: arresting the suspect; arranging identification procedures; checking relevant intelligence relating to the suspect; obtaining forensic evidence from the suspect; and interviewing and making a decision on whether to charge. In broad terms, the aims of this stage are to obtain evidence confirming whether the suspect is guilty of the offence and to produce evidence to be used later at court if charged. It is also at this stage in the process that the investigator can encourage a charged offender to admit other offences they may have committed, which could be taken into consideration (TIC).



**Figure 2.1: Cases through investigative stages**



**Figure 2.2: Case attrition process from reporting to being brought to justice**



The main stage where attrition occurs in bringing an offence to justice is during the police investigation (see Figure 2.2). However, there are no data to indicate precisely where within the investigative process cases proceed prior to being filed for NFA.

### 3. Research into solving crime

Before exploring in detail studies that have focused on different components of the investigative process, this chapter reviews some of the major studies which have examined factors influencing the solvability of crime. This was a particularly strong theme within the early US research literature and has generated a number of theories relating to the effectiveness of investigations.<sup>5</sup>

Prior to the early 1970s, police investigations had attracted very little research interest. As Greenwood, Chaiken and Petersilia (1977) observed: “Until recently there were virtually no analytical studies of the investigative function; the secrecy that surrounded the investigative function shielded it from objective research”. It was not until this time that police work and criminal investigations began to be examined in more detail through empirical research in both the US and the UK. These studies attempted to understand police work and its effectiveness more generally, before focusing on investigations and investigative actions.<sup>6</sup>

In the US, the focus of the research was heavily influenced by two early studies, by Isaacs (1967) and Greenwood (1970), both of which examined how crimes are solved and the contribution that the police make to the process of detection. Both studies observed that much police time was spent on follow-up investigations of crimes that were, ultimately, impossible to solve. They also emphasised the importance of the role of first attending patrol officers, and the information about suspects provided by the victims, in securing detections. Isaacs (1967) found that clear-ups of burglaries were mainly the result of on-scene arrests by patrol officers.

However, arguably one of the best known and most controversial studies from this early period was the RAND study on the criminal investigation process in the US (Greenwood, Chaiken and Petersilia, 1975). The study examined the organisation and processes of police investigations, their outcomes and effectiveness. The key aims of the study were to examine: how investigations were organised and carried out in the US; how effective investigations were in bringing offenders to justice; and to identify factors that influenced investigative effectiveness.

The RAND study involved a large-scale exploration of the relationships between 153 police department characteristics their clearance and arrest rates<sup>7</sup>; more detailed research using interviews and observations was also undertaken in 25 police departments. The study focused on burglaries, robberies and assaults, and the findings appeared, to a large extent, to support findings from earlier studies. Some of the key findings are listed below:

- Differences in investigative training, staffing, workload and procedures were found to have little effect on crime, arrest or clearance rates.
- The organisation of investigative units was found to be not related to differences in crime, arrest or clearance rates.
- Many crimes (more than half) received no more than superficial attention from investigators.
- Victims were found to play a key part in determining whether cases were solved: the information the victim provided to the attending patrol officer was found to be the most important determinant of whether the case would be solved, and if there was no information identifying the offender at the time the crime was reported it was likely to remain unsolved.
- In cases that went on to be solved, but where no initial information about the offender's identity was available, detection was a consequence of the undertaking of routine police actions and procedures.

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<sup>5</sup> See e.g. Eck (1983) for information on sociological approaches to research into police investigations.

<sup>6</sup> See e.g. Chappell, Gordon and Moore (1982) for a summary of the early, largely descriptive, research into police investigations.

<sup>7</sup> Arrest rate – number of persons arrested in a period of time divided by the number of crimes reported to the police during that period; clearance rate – number of offenders identified where there is enough evidence to charge the offender in a period of time divided by the number of crimes reported to the police during that period.

The publication of the RAND findings provoked controversy – it was particularly critical of detective effort. Furthermore, the study was heavily criticised for methodological shortcomings. The data from the 153 departments were obtained through a postal survey, which only achieved a response rate of approximately 50 per cent. The more detailed findings were often based on the data collected through visits to some of the departments, and these sample sizes were often very small. As a result, the accuracy of the conclusions was widely questioned. However, as the authors pointed out, the study's principal findings were often simply supporting similar findings from a range of studies reported since the late 1960s (e.g. Greenwood, 1970 and Isaacs, 1967). Moreover, there was already evidence that US forces were going through a process of change and were accepting that new methods might improve the effectiveness of investigations.

The RAND study findings certainly lent support to Greenwood's (1970) original position on the effectiveness of police investigations. He had concluded that investigations contributed little; whether a crime is solved is mainly due to chance, i.e. case characteristics such as whether eyewitnesses happen to be available. A good number of cases are, by their nature, impossible to solve (for example cases with no witnesses, no forensic evidence and no possible suspects). By contrast, those cases that could be solved required little police effort (for example where the victim was able to name the suspect). Even with cases that could be solved but required some investigative effort, the actual work required typically consisted of 'routine' actions such as interviewing witnesses.

As Eck (1983) pointed out, the early evidence base left many central questions unanswered. For instance, it was still unclear what specific actions were typically carried out during investigations, what information was obtained through particular actions, or how these individual actions contributed to solving crimes. Furthermore, most previous studies had looked at all crime types – this seemed to ignore important differences between crime types, how easily they were solved, and by what actions. Eck argued that property crimes, such as burglaries and vehicle crimes were often committed without any witnesses, and generated few leads; violent crimes were, by their very nature, witnessed by the victim. To address these problems, Eck undertook a study focusing solely on burglary and robbery investigations and concluded that Greenwood's key finding was too severe; the nature of investigations did have an important contribution to make in solving crimes.

Eck (1983) formulated a new theory of how cases are solved, drawing on two existing (but opposing) hypotheses. Greenwood's view stated that cases are only solved due to chance and circumstances, i.e. the circumstances of any case determine whether it will be solved regardless of the investigative effort invested (Greenwood *et al.*, 1975). The opposing view stated that regardless of obstacles due to the lack of witnesses or other leads, it is ultimately detective work, and investigative effort, that determine whether cases are solved (Folk, 1971). Eck called these opposing hypotheses *circumstance-result* and *effort-result* hypotheses respectively. Eck proposed a further hypothesis, called the 'triage' hypothesis, which divides cases into three groups.

- 'Self-solvers' i.e. there are such clear leads and information that very little detective work is required (as in the case of a suspect being arrested in the act).
- Cases that can be solved as there are leads and information, but there is a need to carry out some investigative work in order to do so.
- Cases that *cannot* be solved with a reasonable amount of detective work and effort, or may indeed never be solved.

The second group of cases are those where police actions will have the most impact. Eck (1983) formulated this hybrid hypothesis on the basis of the results obtained from an analysis of 320 robberies and 3,360 burglaries. The study analysed the effects of information from preliminary reports and actions undertaken during so-called 'secondary investigations' on the likelihood of an arrest. The results indicated that information available after the initial investigation is significantly related to the likelihood of making an arrest during follow-up investigations. A relationship was also identified between follow-up investigations and the likelihood of an arrest, when looking only at cases where follow-up investigations were carried out. Eck concluded that both the preliminary *and* secondary investigations, and information obtained from each, was crucial in solving crime. Although preliminary information guided

investigations and provided leads, the actions taken by detectives still significantly predicted the case outcome.

Despite the conflicting views on the importance of police work in investigations, these studies did highlight that police actions were one of several factors that appeared to determine the successful outcome of an investigation. It was also clear that there were other factors, such as the nature of particular cases and the role of the public, that also influence whether the police are successful in solving crimes. Early UK studies on investigations conducted by Steer (1980), Bottomley and Coleman (1981) and Mawby (1979) also pointed to the key role that the public play both in informing the police about crimes committed and in providing the police with information required to solve crimes (regardless of the seriousness of the crime type).

Evidence on the role that the public play in helping the police to solve crimes also comes from an early US study by Skogan and Antunes (1979). Crimes that resulted in offenders being identified and apprehended were nearly always due to the information provided to the police by victims and witnesses. However, the study also highlighted the fact that in a large majority of cases, especially volume crimes such as burglaries, the public were unable to provide any information to the police. These cases are likely to remain unsolved and it is unlikely that a suspect will be identified. Whether victims (or witnesses) are able to provide any information is typically a function of the crime circumstances, e.g. whether a particular burglary was witnessed. Even those crimes that are witnessed often yield only vague descriptions of the offenders. Street robberies, for example, involve interaction between offenders and victims. This tends, however, to be for a short time only, so the information that victims are able to provide about offender characteristics can be limited. The authors concluded that, overall, the police ability to solve crimes is rather constrained by the presence or absence of information about possible offenders from the outset.

## Factors associated with the detection of crime

An alternative approach to exploring solvability issues has been to analyse those factors associated with variations in police force detection rates. Burrows and Tarling (1982) analysed crime and clear-up data from 41 forces in England and Wales in order to examine factors associated with variations in overall clear-up rates. The results indicated a strong association between clear-up rates and the crime mix. For example, a force with a larger proportion of so called 'self-detecting' crimes, such as drug possessions, tended to have higher clear-up rates (see Table 3.1).

It would also appear that *within* crime types, differences can affect the likelihood of detecting cases. This is most clearly apparent in crime types where the relationship between the offender and the victim varies (for instance, stranger violence offences are likely to be much harder to detect than acquaintance offences). However, even allowing for a relationship between offender and victim within a particular crime type, the characteristics of an offence may influence the likelihood of it being detected. A study by Smith (2003) on the nature of personal robbery highlighted how the characteristics of the offence can have an impact on the outcome of the case. Robberies were categorised into five groups; blitz, confrontation, con, snatch and victim-initiated. Con and confrontation robberies involved most contact between the victims and offenders. In such cases, the chances of identifying the offender were higher: 15 per cent of the con and confrontation robberies resulted in the offender being identified compared to blitz and snatch robberies (11%). These findings provide further evidence supporting the notion that specific case characteristics play an important part in determining whether crimes are solved.

Burrows and Tarling (1982) found that in addition to crime mix, other factors appear to be associated with higher clear-up rates (see Table 3.1). In terms of demographic and socio-economic variables, the total population of the area and age distribution (proportion of males aged between 15 and 24 in the area) were significantly inversely related to clear-up rates. Of the policing factors, the number of officers per head of population was only weakly associated with clear-up rates, however police workload (number of crimes per officer) and expenditure on the police per officer were significantly inversely related to clear-up rates (i.e. clear-up rates tended to be lower where expenditure per officer was higher). This finding would

suggest that workload is a more important factor than just police presence in determining clear-up rates.

When the impact of each variable on the clear-up rate was considered whilst controlling for other factors, only three variables emerged as significantly associated with clear-up rates. The strongest determinant was crime mix, followed by police officers per capita, with the third significant predictor being workload (crimes per police officer). When the analysis was repeated using the clear-up rate excluding offences 'taken into consideration' and other offences cleared without proceedings, similar results were produced.

**Table 3.1: Possible factors determining police clear-up rates: all police forces in England and Wales excluding the City of London and Metropolitan Police (from Burrows and Tarling, 1982)**

Variable	Correlation with clear-up rate	
	R(c)	P(d)
<i>Crime variables</i>		
Crime rate (recorded indictable offences per capita)	-0.36	<0.05
Crime "mix"(a)	0.63	<0.001
<i>Demographic and socioeconomic variables(b)</i>		
Total population	-0.39	<0.05
Age distribution (proportion males aged 15-24 of total population)	-0.32	<0.05
Proportion of area urban	-0.25	Ns
Proportion unemployed	0.04	Ns
Average weekly earnings	-0.19	Ns
Proportion middle class	0.06	Ns
Proportion working class	0.15	Ns
<i>Police variables</i>		
Police per capita	0.15	Ns
Indictable crimes per CID and uniform officer	-0.46	<0.01
Indictable crimes per CID officer	-0.44	<0.01
Indictable crimes per all police officers	-0.49	<0.01
Expenditure on the police per officer	-0.34	<0.05
Proportion of force CID	-0.27	Ns

(a) Proportion of all crime in major offence categories violence against person, sexual offences, fraud and forgery and 'other' offences, and of individual offences of shoplifting, theft by an employee, going equipped to steal and handling stolen goods. These were selected on the basis that each offence has a clear-up rate of over 75 per cent (in most cases, over 90%). In total these crimes accounted for 20.3 per cent of all indictable crime recorded in 1977.

(b) Data from Regional Statistics and National Dwelling and Housing Survey. Comparable data for Wales supplied by the Welsh Office.

(c) Correlation coefficient; the degree to which the variables are related to the clear-up rate.

(d) Probability value; probability associated with the statistical result. Ns indicates that the result is not statistically significant, i.e. there is no statistically significant relationship between the variable and the clear-up rate.

Based on the evidence from these studies it is clear that overall performance in detections is influenced by a number of factors which are, on the surface, beyond the immediate control of

the police.<sup>8</sup> These include the extent of the public's willingness to assist in investigations; the crime mix in the area; the nature of individual crime types; and sociodemographic factors of the area. It seems reasonable to assume that the last of these is likely to be linked to public involvement.

## Summary

It is clear from the early research into police investigations that this area of police performance is complex to understand. Investigative actions and outcomes are very much influenced by specific contexts in which they occur and not all of which can be influenced and controlled by the police. As Eck (1983) has helpfully summarised, some crimes solve themselves with little police input, whereas others will be impossible to solve even if many resources are dedicated to the investigation and it is carried out very thoroughly. Between these groups are those cases where there are leads but a degree of investigative work is required to identify a suspect and achieve a detection. It is this final category of cases where police actions will be most influential. Where individual cases lie in Eck's 'continuum' is determined by a variety of factors many of which could be considered to be outside the control of the police

The review has also highlighted the following general points on the detection of crime.

*Crime mix* – research has shown that some crime types are more easy to detect than others and that the crime mix in a police area will have an important influence on overall detection rates. Forces with high numbers of 'self-detecting' crimes (i.e. crimes that are solved when they are discovered e.g. drug possessions) are likely to have better detection rates. In addition, crimes that have a high degree of contact between the victim and the offender, such as robbery or violent crimes, are more likely to be solved as they are witnessed by the victim, hence increasing the chance of identifying the offender. Some property crimes, such as burglary, are much less likely to have witnesses present and so will be harder to detect. This fact emphasises the need to interpret *overall* detection rates with caution.

However, the research has also shown that even within crime types there will be differences that impact on how easy crimes are to detect. For example, even in stranger contact crimes such as robberies, the nature and extent of the contact between the victim and offender can differ greatly and this has been shown to impact on the likelihood of detection.

*Role of the public* – generally speaking, the public play the key role in the investigation and detection of crime, both in informing the police about crimes and in providing the police with the information to detect the crime. The willingness of the public to assist with crime investigations is likely to vary: some individuals (and some communities) are likely to be more inclined to provide information than others. The level of involvement that the public is prepared engage in, is critical as it is the information provided by victims and witnesses that so often generates leads to be investigated. The police are, however, not entirely impotent in influencing the degree of public involvement, although it is sometime outside the control of an individual officer responding to an incident.

Despite the existence of external factors that impact on the 'solvability' of crimes, there are still areas which will impact on the police response that are under the control of the police. These are listed below.

*Attendance at scenes* – Eck's analysis concluded that both preliminary *and* secondary investigations (and information obtained from each) were crucial in solving crime. Although preliminary information guided investigations and provided leads, the actions taken by detectives still significantly predicted the case outcome.

*Police resources* - After controlling for other factors, police officers per head of population, and the number of crimes per officer, have been found to be associated with clear-up rates (higher number of police officers per head and fewer crimes per officer each being associated with higher detection rates).

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<sup>8</sup> It can be argued that the relationship between the public and the police is something that can be influenced by the police.

Assessing what affects police performance in the detection of crime is not straightforward. The nature and extent of the police response is clearly a factor that influences the quality of investigations. However, the context of each case and the community in which the offence occurs are likely to influence the actions they are able to carry out and the extent to which they are likely to generate useful information. These factors will be considered in the following chapters for each of the key stages in the investigative process.



## 4. Initial contact and initial response

There are two broad approaches to the investigation of crime: 'reactive' or 'proactive'. In reactive investigations the police are responding to incidents that have been brought to their attention, usually by members of the public (or in some cases, commercial businesses such as shops or public bodies). Proactive investigations are those initiated by the police themselves, often based on intelligence, and with a focus on the offender (rather than the offence). These two types of investigations are not mutually exclusive and can be closely interlinked (Jacobson, Maitland and Hough, 2003), although most studies point to reactive investigations accounting for the majority of police investigative activity. Research by Phillips and Brown (1998) found that over three-quarters of arrests resulted from 'reactive' investigations.

Given that the majority of investigations can be classed as 'reactive', the following three chapters deal with the processes and activities involved in 'reactive' investigations. 'Proactive' investigations will be discussed in Chapter 7.

A 'reactive' police investigation is typically initiated when an incident is reported to, or comes to the attention of, the police. Incidents are usually reported by members of the public who have either witnessed a crime or been a victim of a crime. Steer (1980) studied how indictable offences in one English city came to the attention of the police and found that offences were most often reported by the victim (in over 70% of cases), with eye witnesses responsible for reporting a further 11 per cent of cases. In the majority of the remaining cases the offence was discovered either indirectly or directly by CID or uniformed officers. These findings correspond with those from earlier studies carried out by Mawby (1979) and Bottomley and Coleman (1976).

There are a number of routes through which the police are notified of incidents. A study of six English and Welsh forces by Jolowich (1985) found that between 60 and 64 per cent of incidents were reported through a non-emergency telephone number, with a further 21 to 30 per cent of incidents reported by calling 999. Only between six and seven per cent of incidents were reported directly by police officers, with fewer than eight per cent of incidents reported by the victim or witness attending a police station. Looking specifically at volume crime incidents, Phillips and Brown (1998) found for a sample of incidents resulting in an arrest that the bulk of offences were notified to officers either through the Command and Control system; through information received (this might include information from an anonymous caller or a helpful member of the public); or through the officer arriving whilst the crime was in progress (see Table 4.1). However, variations were found by crime type.

**Table 4.1: How incident came to police attention by offence (adapted from Phillips and Brown, 1998) (row percentages)**

Offence	Command and Control %	Info received (other than through Command & Control) %	Incident in progress %	Surveillance/enquiries %	Stop search %	Call public %	Other %
Burglary	24	23	10	17	3	10	12
Robbery	22	37	8	8	3	19	3
TOMV (a)	21	20	22	19	14	3	3
TWOC (b)	15	18	25	12	22	5	3
TFMV (c)	39	17	11	21	6	6	-

(a) Theft of motor vehicle.

(b) Taking without owner's consent.

(c) Theft from motor vehicle.

According to the ACPO Volume Crime Investigation Manual (2002), the key actions and responsibilities of call handlers<sup>9</sup>, who deal with calls telephoned into a station or to an emergency number, and dispatchers, who are responsible for co-ordinating and tasking police units, comprise:

- obtaining and recording relevant information about the offence;
- providing guidance to the caller;
- grading the call according to the urgency of police attendance; and,
- allocating police resources.

Dealing with the call efficiently and effectively is an essential first part of the investigation. It is the first point of contact between the member of the public and the police, and provides the police with the opportunity to start collecting information about the offence. Further investigation can be hindered if the call handler fails to obtain key details of the offence or allocate resources appropriately. This can also represent an opportunity to assess the likelihood of forensic material and advise on its preservation.

## Call management systems

The systems for receiving, dealing with and referring calls vary in terms of organisational and technical structures. A study by Coopers and Lybrand (1994) for the Home Office evaluated the call handling systems in place across forces in England and Wales<sup>10</sup>, by conducting a telephone survey of all forces. The research identified three broad types of call management structures in English and Welsh forces.

- **Centralised, single-tier system** (14 forces) where both 999 and non-emergency calls are received by the force control room. Decisions over call grading, resource allocation and despatch are also made centrally.
- **A distributed, single-tier system** (two forces) which is similar to centralised systems, but instead of one central control room, there are a number of area control rooms.

<sup>9</sup> Call handlers may also do other tasks such as working as force switchboard operators and providing guidance to callers on general matters.

<sup>10</sup> The research by Coopers and Lybrand was also used in a study by Diez (1995), but any results will only be reported once in the review.

- *A two-tier system* (26 forces) where calls are received and decisions made both at force and area control rooms, typically with emergency and 999 calls being dealt with at force level and non-emergency calls at area level.

The authors recognised that each of the systems has its pros and cons, for example a centralised system supports greater consistency in the response given to calls but leaves local areas with little control over resources. Factors that were found to be important when considering appropriate call management systems for individual forces included:

- the force's demographic features – a force with relatively low levels of crime and one urban area may benefit from a centralised single-tier system whereas for forces with several high crime urban areas a distributed single-tier system may be more suitable;
- the force's management – the degree to which decision making is delegated to the area level or remains centralised is likely to influence whether the call management structure is appropriate for a particular force.

### Grading criteria and grading accuracy

Forces often employ a set of criteria for each grade of response to assist call handlers with their decision making. Gill, Hart, Livingstone and Stevens (1996) examined call handling and resource allocation systems as part of a wider study into burglary and vehicle crime investigations. The results, based on a national survey of all forces in England and Wales, indicated that formal grading criteria were employed by all forces. The study identified three broad criteria within grading policies that determine the grade allocated:

- how serious the offence is;
- whether there are indicators that the case may be easily solved; and,
- the urgency of the incident.

The Coopers and Lybrand study (1994) looked at grading criteria in more detail and identified wide variations across forces in terms of the grading categories used. In some forces only two response grades were employed, compared with a maximum of eight categories in use in other forces. The criteria used to define which calls should receive an immediate response grade were, however, generally similar. Typically the 'immediate' response grade was used for calls:

- with a life-threatening situation, or one where there is a possibility of bodily injury occurring;
- where a serious offence is (or is believed to be) in progress;
- where the suspect is believed to be at or near the scene, or there is a good possibility that the suspect will be arrested;
- with evidence that may be lost without rapid response, for example due to witnesses leaving or forensic opportunities being lost;
- where the victim is suffering from immediate distress; or,
- incidents where damage to property, violence to a person or serious disruption to the public is likely.

The study by Coopers and Lybrand (1994) found that the proportion of calls allocated 'immediate response' grade varied greatly, from two per cent to 55 per cent across the forces studied (based on 33 forces). Only eight forces monitored whether the grades given were accurate and the proportion of calls graded incorrectly ranged from 0.5 per cent to 15.5 per cent across these forces. 'Overgrading' (i.e. allocating an incident a higher grade than required) was felt to be more common than 'undergrading'. Reasons for misgrading were mainly down to the subjectivity of grading decisions and the fact that high work loads can lead to errors. Grading was also influenced by the age, medical condition and mental state of the victim, in addition to the time of day (e.g. at times when demand is less, calls may be graded 'immediate' despite otherwise not meeting the criteria). Control room supervisors also believed that overgrading occurs when the callers are hysterical and therefore unable to provide accurate information.

Gill *et al.*, (1996) found a similar picture in their study of burglary and vehicle crimes. This study, based on nine forces in England and Wales, found that factors other than the nature of the incident appeared to influence how it was dealt with. First, the coherence and emotional state of the caller may have an effect on how the content of the message is interpreted, and whether or not the response should given a high grade. Second, workload can have an impact on how calls are interpreted; since workloads fluctuate with variations in the number of crimes reported at different times of the day, when a call is made may also indirectly influence how a call is graded. Finally, if the call taker suspects, or is aware, that the reported crime is part of the series or pattern, the interpretation may again differ.

Evidence of the influence of timely reporting on grading comes from a study of robbery investigations in four basic command units (BCUs) (Newiss 2002). This found that the proportion of robberies allocated an 'immediate' grade ranged from ten per cent to 35 per cent. In many cases, the key determinant affecting the grade allocated to an incident was the time taken to report the offence. This relationship was highly significant: the quicker the robbery was reported the more likely it was to be graded as immediate. Overall, of the sampled cases (n=293) less than one-fifth were graded as immediate; many calls that received a routine grade were reported a considerable time after the offence had occurred.

Table 4.2 provides a summary of the key factors, other than formal criteria, influencing call grading decisions. Operator competency and experience, and the emotional state of the caller were both identified by three of the four studies as possibly having an influence over grading accuracy. No studies were identified that specifically identified the benefits (or otherwise) of different types of interaction with callers reporting volume crimes (scripted, use of *aide memoires* and so on).

**Table 4.2: Factors affecting call grading decisions – summary of studies**

Factors	Study			
	Coopers and Lybrand, (1994).	Diez, L. (1995).	Newiss, G. (2002).	Gill, <i>et al.</i> (1996).
<b>Operator factors</b>				
Operator workload	✓			✓
Operator competency and experience	✓	✓	✓	
Subjectivity of grading	✓			
Instructions to over grade if in doubt	✓			
<b>Caller factors</b>				
Caller's emotional state	✓		✓	✓
Accuracy of information caller has	✓			
<b>Force factors</b>				
Force targets		✓		
Collection of data of calls		✓		
<b>Case factors</b>				
Time taken to report offence			✓	
Victim injuries			✓	
Crime pattern/ series				✓

## Grading and attendance

Whether a police unit should be sent to the scene, and when, is to a large extent driven by the grading a call receives. As with the allocation to grades, policies on attendance are not solely based around the potential to detect a crime, but will also reflect the perceived 'seriousness' of the offence (Gill *et al.*, 1996), and how this relates to force policy.

Not all reported offences receive an initial police response. Amey, Hale and Mieczkowski (1996) examined crime management processes through a nationwide survey of the crime management systems and structures, followed up by a more detailed examination of two BCUs within two forces. A high proportion of crimes were found being allocated for 'telephone investigation', rather than receiving a visit by a police unit. In one of the BCUs, 57 per cent of incidents reported in one month were allocated to telephone investigation (typically 'minor' crimes such as thefts of bicycles and thefts from cars). Likewise, Gill *et al.* (1996) found that forces had a tendency to refer vehicle crimes for telephone investigation; conversely, initial police attendance took place in most burglary offences.

Even if a crime receives a high grade, and policy dictates that this should receive a higher level of response, this may not happen in practice. Diez (1995) found a mismatch between grading and resources allocated (in one force 16% of immediate response grades seemed to have not been allocated any resources). Overall, under-resourcing of calls was estimated to have occurred in approximately five per cent of cases (i.e. they required further resources that were not available).

## Unit despatch and arrival at the scene

### Nature of the initial police response

In the majority of cases where the police attend a volume crime scene, initial attendance is undertaken by uniformed officers. Coupe *et al.* (2002) found that over 80 per cent of 765 non-residential burglaries examined were responded to by vehicle patrols, although in less urgent incidents foot patrols were frequently despatched. An earlier study by Coupe and Griffiths (1996) on residential burglaries revealed that, in most cases, the closest response vehicle unit staffed by uniformed officers attended the scene (with either local beat officers or detectives attending only occasionally as the first response). An HMIC (1991) inspection of 2,477 burglary dwellings in Cambridgeshire indicated that typically around 70 to 80 per cent of scenes were first visited by uniformed officers, with the balance attended by detectives or scenes of crime officers (SOCOs).

**Table 4.3: Staffing of initial police response – summary of studies**

Study	Sample size— forces	Sample size— cases	Result
Coupe, T., Erwood, N. and Kaur, S. (2002). <i>Solving non-residential burglary</i> . (Unpublished).	1	765	Over 80% of the examined non-residential burglaries attended responded to by shift officers
Coupe, T. and Griffiths, M. (1996). <i>Solving Residential Burglary</i> . Crime Detection and Prevention Series Paper 77. London: Home Office.	1	704	Usually nearest available patrol car despatched, no figures given
HMIC. (1991). <i>Study of the investigation of offences of burglary in dwellings</i> . (Unpublished).	1	2,477	Between 70% and 80% of scenes visited by uniform officers

## Response time

The time taken for officers to respond to incidents is influenced by a number of factors. These include the time taken for the incident to be reported; the grade allocated to the incident; the availability of officers and their distance from the scene. Coupe *et al.*, (2002) found clear differences in the response times between the two emergency grades used in the force studied; cases graded as immediate were attended on average in 4.5 minutes, whereas the police took an average of 9.6 minutes to attend cases graded as requiring an early response.

Burglaries that were reported 'in progress' were more likely to be graded as emergencies/immediate and hence were usually attended more quickly than other burglaries. Further analysis of the data indicated that the response times were dependent on both pre-travel times (which reflected what officers were doing at the time of despatch) and travel times (the actual time taken to travel to the scene).

Newiss (2002) found large differences in the times taken to respond to robberies. Of all robberies, nearly one fifth had been responded to within a quarter of an hour, with over 40 per cent of incidents attended within one hour. As with the non-residential burglaries examined by Coupe *et al.*, (2002), the time taken to respond to robberies was dependent on the time lag between the incident occurring and it being reported. However, of those robberies reported in progress, or within five minutes of taking place (n=69), over half were attended within 15 minutes. Response times were, however, also affected by the availability of resources, regardless of the urgency and grading.

A study by Smith (2003) on personal robbery has also shed some light into reporting delays, although as the report focused on examining characteristics of personal robberies, no assessment of the effects of reporting delays were included. Of the 1,721 personal robberies examined, 62 per cent were reported within an hour. However, nearly one-fifth (18%) were reported between one and four hours after the offence, and a further 16 per cent after eight hours or more. The author does point out that there may be many reasons for delays, such as the victim being in shock, under the influence of alcohol, or in some cases where mobiles were stolen, simply reporting the offence for insurance purposes.

## Response times and outcomes

The relationship between the likelihood of identifying an offender and response times has received considerable attention in the research literature. A study by Burrows (1986), which focused on burglaries in six policing areas (n=636), examined factors that account for differences between high and low clear-up areas (including the effects of differences in response times). Overall, no evidence was found to indicate that quicker response times were associated with higher detection rates. However, this study looked at the impact of response times on *all* burglaries rather than focusing only on burglaries reported in progress or reported soon after execution – the outcome of these cases would be more likely to be influenced by speed of response. In addition, the sample of burglaries studied included offences that had been detected through the offence being taken into consideration – these cases would clearly not have been affected by response times. The author acknowledges that aiming for quick response times may in fact simply be a waste of resources unless the offence is reported immediately after taking place. This illustrates a central feature of the relationship between the ability of the police to detect an offence and the police response, and the critical influence of the context of individual crimes on this relationship.

A US study by Clawson and Chang (1977) also examined the relationship between police response times and case outcomes, but focused on arrests rather than detections. The research aimed to assess the effectiveness of police response in terms of increasing the likelihood of an arrest. The study analysed 2,532 cases from one force. Police response times

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<sup>11</sup> Reporting time was measured as the time between when the crime was discovered or was committed and when the despatcher had been notified; despatch time measured the interval between despatcher having been notified and first officer beginning to respond to the call and travel time between the first officer beginning to respond to the despatch call and beginning his/her on-scene investigation.

were measured by three variables: despatch time (the time between the despatcher receiving the call and having assigned a unit); travel time (time between unit having been assigned and its arrival); and response time (the time from the despatcher receiving the call, to the unit's arrival at the scene, i.e. the sum of despatch and travel times). Arrest rates were significantly associated with both response and travel times, although not with despatch times. As the travel and response times decreased, the likelihood of apprehending the offender increased. This pattern was evident in burglaries, thefts, vehicle thefts and robberies. The study also included analysis using data from a previous study on the relationship between response times and arrests made during follow-up investigations. Although the results were to a large extent inconclusive, there was some indication that quick response times were also related to increases in the number of arrests from follow-up investigations. However, as the authors point out, although more arrests and shorter travel times are related, the results do not prove that shorter travel times lead to more arrests. The higher likelihood of arrests associated with shorter travel and response times may in fact reflect the tendency to assign quicker responses to cases where the likelihood of an arrest is higher. Faster response times are linked to emergency grading which in turn is linked to a prior assessment that, on the basis of the call, a detection will be achieved. Therefore, the variables are confounded and their relevance difficult to assess. The Kansas City response time study reported below starts to attempt to assess these relationships in more detail.

The Kansas City response time study (Bieck and Kessler, 1977) explored the effects of police response times by analysing data related to 949 calls about crime. The study looked at how response times affect the likelihood of making an arrest at the scene, the availability of witnesses at the scene, are linked to victim injuries (including type of medical care needed) and, citizen satisfaction with the police. As only the first two areas are of interest to the current study, the discussion will be limited to these. Three separate measures relating to the phases of police response time were used in the analysis: reporting, despatch and travel time;<sup>11</sup> the sum of these measures amounted to the overall police response time. Nearly half of the overall response time was accounted for by the time taken to report the offence.

The study categorised crimes into two discrete categories: those crimes where a citizen was involved in the occurrence of the crime, e.g. by witnessing the crime; and those where the crime was discovered some time after it had occurred. These were labelled 'involvement' and 'discovery' crimes respectively. Some crime types, such as burglaries could be categorised as either involvement or discovery crimes depending on whether these were witnessed (involvement) or not (discovery). Unsurprisingly, the reporting times for involvement crimes were shorter than discovery crimes.

The study examined the effects of response times on the likelihood of making on-scene arrests. The results showed that when looking at all cases, the likelihood of making an arrest at the scene was not related to response times. The likelihood of arresting the suspect at the scene was, however, related to call grading with more on-scene arrests associated with calls that received an immediate grade. However, when discovery and involvement crimes were analysed separately, a slightly different picture emerged.

On-scene arrests were found to be rare in discovery crimes, and no relationship was found between response times and the likelihood of making an on-scene arrest. However, in cases of involvement crimes the speed of response was related to an increased chance of arresting the suspect at the scene. Of the three different elements of response times, reporting time (i.e. between offence occurring and reporting to the police) had the largest impact on the likelihood of making an arrest at the scene in 'involvement' crimes. Furthermore, the relationship between speed of response and the likelihood of making an arrest at the scene of an involvement crime only applied to cases which were reported very soon after the offence occurred. The increase in the likelihood of making an arrest disappeared after only a few minutes delay in reporting the offence. The analysis did not, however, take into account the victim-offender relationship, which may have affected the findings, as involvement crimes are likely to include a large proportion of crimes where it is possible the offender will be known to the victim.

Travel times were also found to influence the likelihood of making an arrest in involvement crimes, in particular for 'involvement' burglaries. This was to an extent dependent on the time taken to report the crime. Reporting times had such a major impact that with delays of ten



minutes or more in reporting the crime, no relationship was found between the travel times and likelihood of making an on-scene arrest. The authors also examined the extent to which response times were related to witness availability. The findings suggest there were considerably more witnesses available in 'involvement' crimes (in 49% of cases) than in discovery crimes (4%), however, no relationship was found between response times and witness availability for 'discovery' crimes. In involvement crimes, however, longer response times were associated with decreased chances of a witness (other than the victim) being available to contact at the scene. This relationship was mainly determined by the length of reporting time; delays in reporting the offence were associated with fewer chances of witnesses being available at the scene.

This study provides evidence of the importance of rapid response for certain types of incidents. The results showed that increases in the likelihood of making an arrest at the scene only applied to cases where:

- there had been some interaction between a member of the public and the offender (involvement crimes);
- there had been very little delay in reporting the offence, i.e. offences that were reported within five minutes of their occurrence; and,
- there were differences between the types of involvement crimes speed – of response was most critical in producing response-related arrests in involvement burglaries, but the effects were less positive for robberies, as in only eight of the 127 robberies reported in progress was an arrest made.

**Table 4.4: Summary of the Kansas City study results (data from Kansas City study Bieck and Kessler, 1977)**

Involvement crimes	Discovery crimes
<ul style="list-style-type: none"> <li>• 28% arrest rate</li> <li>• 8% response-related arrest rate</li> <li>• Speed of response associated with increased likelihood of catching the offender at the scene <i>Increased likelihood of arresting the offender at the scene mainly driven by the time taken to report the offence; relationship between response times and on-scene arrests only applies to cases reported with 5 minutes</i></li> <li>• Travel time associated with likelihood of arresting the offender at scene <i>But dependent on rapid reporting of cases; no relationship found in cases reported after 10 minutes of the offence</i></li> <li>• Higher number of witnesses available at the scene</li> <li>• Response time associated with the availability of witnesses at the scene</li> <li>• <i>Determined by reporting time</i></li> </ul>	<ul style="list-style-type: none"> <li>• 2% arrest rate</li> <li>• 1% response-related arrest rate</li> <li>• No relationship between speed of response and likelihood of arresting the offender at the scene</li> <li>• Fewer witnesses available at the scene</li> <li>• No relationship between response times and witness availability</li> </ul>

The results of the Kansas City Response Time Analysis study had major implications to the way that the police had traditionally responded to calls – by attending all calls as quickly as possible in the hope of increasing the chances of making an on-scene arrest. The study was therefore replicated to assess the extent to which the results were applicable to other police departments and areas in the US. A study by Spelman and Brown (1981) gathered

information from four cities in the US on 3,332 crimes: burglaries, robberies, aggravated assaults, motor vehicle thefts, larcenies and, in three cities, rapes (as in the original Kansas City study). In addition, 4,095 interviews were carried out with victims, witnesses and bystanders.<sup>12</sup> Again, following the methodology employed in the Kansas City study, the crimes were categorised into involvement and discovery crimes, and the overall police response times were analysed by looking at the three stages: reporting times, dispatch times and travel times.

The results of the study supported those obtained in Kansas City. In only a small proportion (less than 5%) of reported crimes was an on-scene arrest made; moreover, in only three per cent of crimes was an on-scene arrest made due to a rapid police response. The overall response times, and all the three components of the response times (reporting, despatch and travel times), were longer for discovery crimes than involvement crimes. This indicates that the public took longer to report and the police took longer to send a unit and to travel to the scene in discovery crimes in comparison to involvement crimes. For both discovery and involvement crimes, in all areas, a large proportion of the response times were accounted for by the time taken to report the crimes: reporting times accounted for between 39 and 59 per cent for discovery crimes (average reporting time 10 to 10.5 minutes) and between 28 and 47 per cent for involvement crimes (average reporting time between four and five and a half minutes).

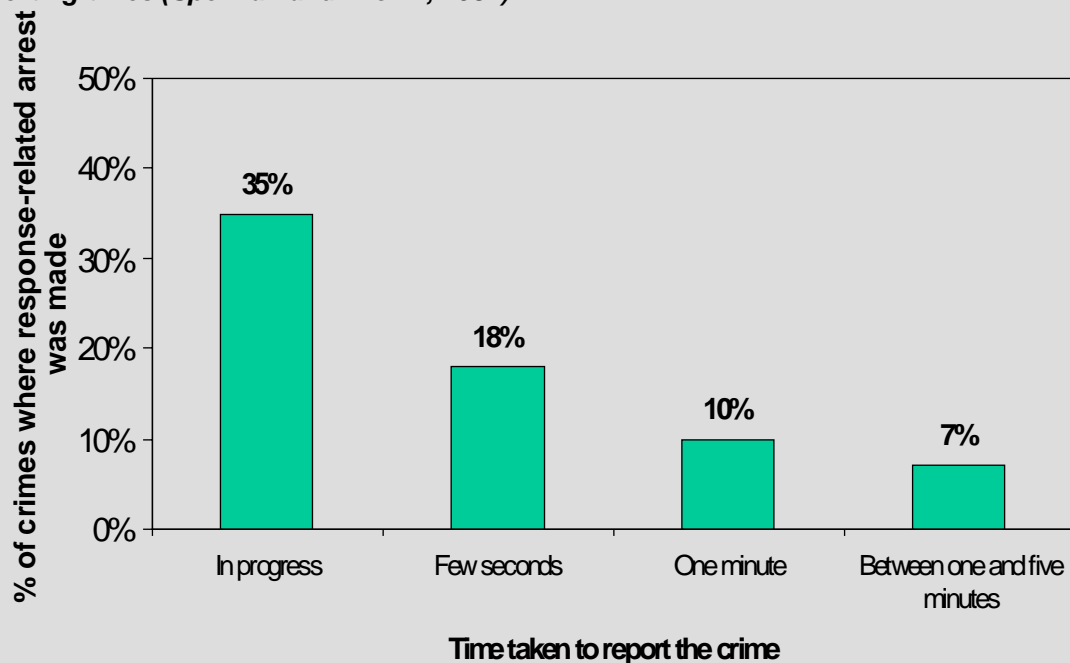
The authors focused on examining the relationships between reporting times by the public and the likelihood of making response-related arrests, because the data on police response times were not sufficiently accurate. Three groups of crimes were analysed separately: discovery crimes, involvement crimes reported in-progress and involvement crimes not reported in progress. Approximately 25 per cent of the crimes were involvement crimes, and of these 13 per cent were reported in progress (just over half of involvement crimes were reported within five minutes). The findings supported those from the Kansas City Study.

- There was no association between reporting times and the likelihood of making a response-related arrest for *discovery* crimes.
- The reporting times for *involvement* crimes were related to the likelihood of making a response-related arrest. However, this only applied to involvement crimes reported in progress or immediately after the crime had occurred. Response-related arrests for an involvement crime were very unlikely unless the crime had been reported in progress. Only seven per cent of crimes reported between one and five minutes of occurring resulted in an arrest (see Figure 4.1).
- Where the crime was reported five minutes or more after it had occurred, the chances of making a response-related arrest was the same as for crimes reported 60 minutes after they had occurred.

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<sup>12</sup> In some cases more than one interview was carried out per crime, for example if the case was reported by a witness both the witness and the victim were interviewed.

**Figure 4.1: Percentage of involvement crimes where response-related arrest was made by reporting times (Spelman and Brown, 1981)**



#### Effectiveness and efficiency of police response in catching offenders in the act

Catching offenders red-handed or soon after an offence can make an important contribution to overall volume crime detections and also allows for more efficient investigations. Coupe *et al.* (1996) found that catching offenders in the act or near the scene was the most common way that burglaries in their sample had been detected; 43 per cent of primary detected cases were detected in this way. The study also assessed the time spent on investigating residential burglary cases. For burglaries in progress, the average time required for each detection was markedly shorter at 7.6 hours per detection (compared to 17.1 hours required for all other detections). Blake and Coupe's (2001) analysis of 441 residential burglaries reported in progress emphasised the potential for increasing the number of offenders caught in the act. They found that only ten per cent of the residential burglaries reported in progress resulted in the offender getting caught.

Coupe, Erwood and Kaur's (2002) study of non-residential burglaries (n=765) in one English force found that around 30 per cent of these burglaries were reported in progress (partly reflecting the number of burglar alarms in commercial places). In-progress burglaries were graded as emergencies, requiring either 'immediate' or 'early'<sup>13</sup> response. Of the immediate and early response calls 28 per cent and 15 per cent were detected respectively, in comparison to nine per cent of routine response burglaries and six per cent of those assigned to crime bureaux. With regards to arresting offenders at the scene, offenders were apprehended at 19 per cent of 'immediate response' calls and five per cent of 'early response' calls.

Coupe *et al.* (2002) found that the grade allocated to the incident and the response time appeared to be the most important determinants of whether the offender was caught at the

<sup>13</sup> Early response grade was the second most urgent grade used in the force, after immediate response.

<sup>14</sup> The study also looked at crimes not directly relevant to the current study (rape and assault with a deadly weapon), and vehicle thefts which in most cases had not received police attendance.

scene. Cases given 'immediate' grades with short response times were associated with a higher likelihood of catching the offender in the act. However, both grading decisions and response times would reflect the assessed likelihood of making an arrest at the scene; therefore this relationship would be expected. When the analysis focused only on calls graded as 'immediate', factors that were both within and beyond police control were found to contribute to the success of catching burglars in the act. The factors that the police could influence are listed below.

- *The number of units responding.* Large numbers of units were associated with more burglars being caught at or near the scene, despite the majority (85%) of offenders having been caught by the first or second unit arriving at the scene. A large number of units ensured the quickest response in cases where the unit closest to the scene was delayed, also, in some cases later arrivals caught offenders nearby the scene.
- *Speed of response.* The likelihood of intercepting a burglar was associated with shorter response times. For example, there were 42 per cent more arrests in cases where the unit attended within three minutes as compared to those that responded in over eight minutes.

It should be noted, however, that on its own this does not mean that sending more units to the scenes or the units travelling there faster would increase the proportion of offences resulting in an arrest. As Eck has noted (personal communication), even cases graded as 'immediate' can vary in terms of how likely it is that an offender is caught as a result of the police response. The police may be more likely to respond in large numbers and faster when it appears, on the basis of information provided by despatchers, that an offender can be caught at the scene.

In their study of residential burglaries reported in progress, Blake and Coupe (2001) aimed to assess the effectiveness of single and two-officer patrols in catching burglars in the act, including factors associated with any differences. The results were very much in line with those obtained from the analysis of non-residential burglaries.

- The speed of the response was found to be closely associated with securing detections. In 15 per cent of cases when the first patrol arrived in four minutes or less, a burglar was caught in the act. This compared with eight per cent of cases where the response took more than six minutes, and none when the first unit arrived in over ten minutes.
- The stage of the burglary was also associated with the likelihood of catching the offender in the act. Nineteen per cent of burglars reported entering a property were caught, compared with 11 per cent of those reported when inside the dwelling, and only two per cent when leaving.
- A further multivariate analysis was performed to assess the impact of the factors simultaneously. The results of the analysis indicated that the key factors were the stage at which the burglary was reported and whether it was reported by a witness (there was more chance of catching a burglar in the act when the incident had been reported by a witness when the burglar was entering the premise). Whether the unit was single or double crewed had no influence.

Overall, research that has examined the relationship between response time and arrest rates indicates that speed of the police response is related to the likelihood of catching the offender and making an on-scene arrest but only in certain cases. Unsurprisingly, a key requirement is that the offence is reported without a delay. Furthermore it is essential to bear in mind that this does not necessarily mean that increasing the speed of response (or the number of police units attending) would increase numbers of offenders caught. The speed of response may in fact be a reflection of how likely the police think it is that they will catch the offender at or near the scene. A summary of the results of the studies are reported in Table 4.5.

**Table 4.5: Relationship between response times and arrest rates – summary of studies**

Study	Sample size– cases	Result
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Clawson, C. and Chang, S. (1977). <i>The relationship between response delays and arrest rates</i>	2,532	<ul style="list-style-type: none"> <li>• Likelihood of making an arrest associated with response and travel times</li> </ul>
Kansas City, Missouri Police Department. (Bieck and Kessler, 1977). <i>Response time analysis</i>	949	<ul style="list-style-type: none"> <li>• For all sample crimes no relationship between response times and likelihood of making an arrest at the scene</li> <li>• However significant relationship found between response times and likelihood of arrest for involvement crimes reported without a delay</li> </ul>
Spelman, W. and Brown, D.K. (1981). <i>Calling the police: Citizen reporting of serious crime</i>	3,332	<ul style="list-style-type: none"> <li>• Time taken to report a crime associated with the likelihood of making a response-related arrest only for involvement crimes reported in progress or within five minutes</li> </ul>
Coupe, T., Erwood, N. and Kaur, S. (2002). <i>Solving non-residential burglary</i>	765	<ul style="list-style-type: none"> <li>• Speed of response associated with likelihood of catching offender in the act (for calls graded immediate)</li> </ul>
Blake, L. and Coupe, R.T. (2001). <i>The impact of single and two-officer patrols on catching burglars in the act</i>	441	<ul style="list-style-type: none"> <li>• For burglaries reported in progress, relationship between speed of response and likelihood of arresting offender in act</li> </ul>

## Summary

The evidence relating to the initial reporting of, and response to, crime reiterates a number of themes that were identified in the early research into police investigations. First, that the effectiveness of actions carried out in investigations is very much context-specific and, second, that the public have a vital role in determining the success of an investigation.

Grading decisions appear, to some extent, to determine the resources allocated for each case, with cases graded as immediate receiving most resources. The combined evidence indicates that there is a modest percentage of inaccurate grading decisions which may have a considerable impact on the likelihood of a detection (for example if an opportunity to catch the offender near the scene is missed). Obviously the availability of resources has a direct impact, but operator competency and experience, and caller characteristics – their emotional state and coherence, were also identified as exerting an influence over how resources are allocated. In addition, there is also evidence of immediate response grades not being allocated resources appropriately (or in some cases failing to receive any resources). Resource availability and operator efficiency were identified as being important in the dispatch of resources.

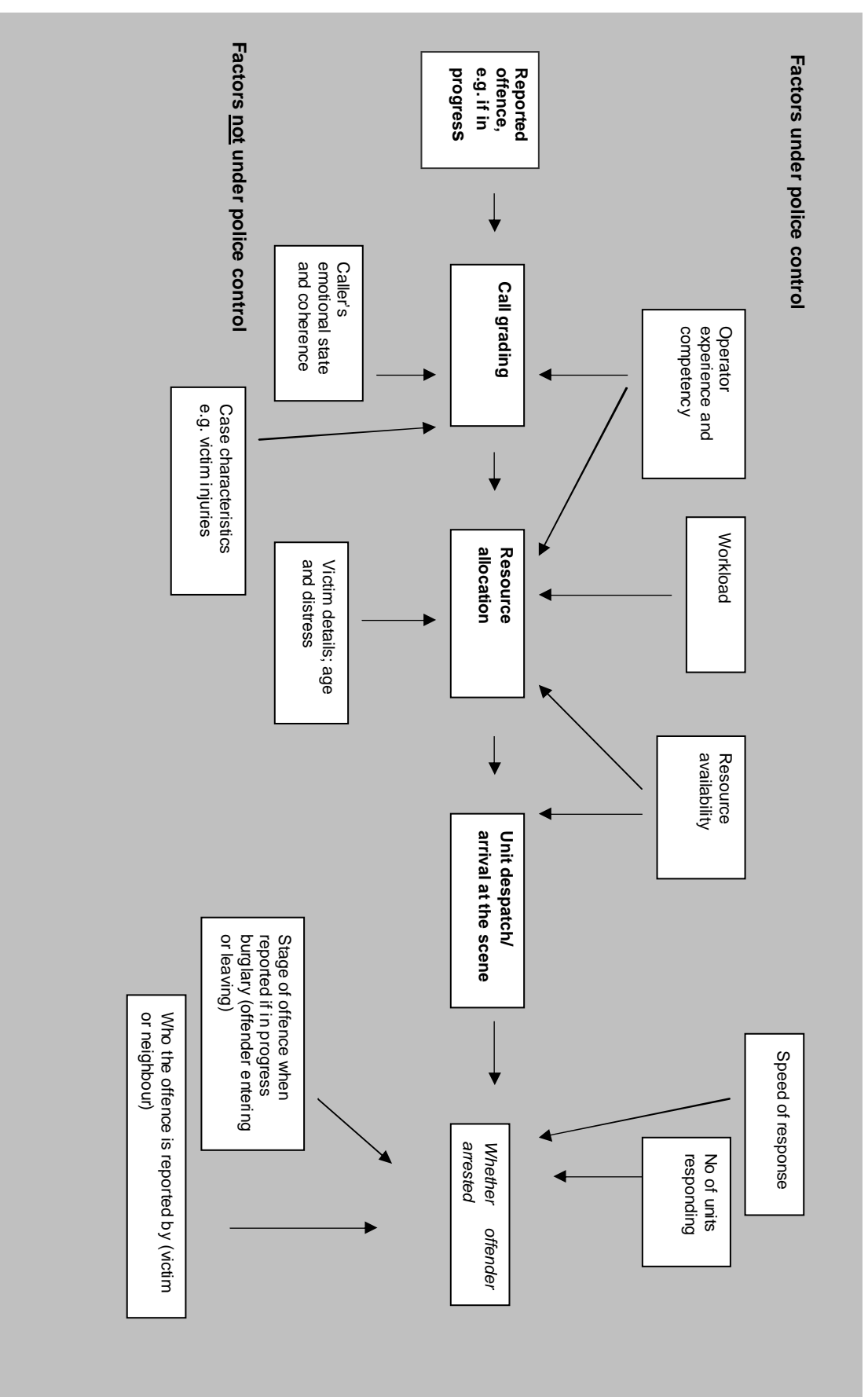
Looking at the speed of response to undifferentiated groups of crimes suggests that this is not associated with increased arrests or detections. Nevertheless, UK research indicates that arresting an offender at or near the scene makes a relatively large contribution to overall detection rates for volume crimes (over two-fifths of detections according to Coupe *et al.*'s work on residential burglaries). Increasing the speed of response to *all* crimes is unlikely to yield more detections, but the evidence clearly points to a subset of offences where response times are critical in securing detections.

The key factor in determining whether an offender is apprehended at the scene has been found to be the length of time between a crime occurring and it being reported to the police by

a member of the public. If the crime is reported very quickly there is an increased chance of an arrest at the scene. However this increased likelihood disappeared after only a few minutes of delay. There is, therefore, time sensitivity around the response to in progress crimes, and this may raise issues for response capacity. The key role of speed of *reporting* in determining the likelihood of arrest at the scene means that the contribution of the other police driven actions, such as call grading and speed of response, are difficult to assess as they are all confounded by the actions of the victim or witness. The most fruitful line of enquiry for improving police effectiveness in this area is looking at those cases where speed of reporting is not a factor (i.e. in progress offences and those offences reported very soon after their commission).

A summary diagram of both policing and non-policing factors that affect each of the actions the police take is presented in Figure 4.2.

**Figure 4.2: Factors affecting the actions and outcomes of the initial contact and response**



## 5. Scene assessment

The first officers who respond to a reported offence are responsible for the initial assessment of the scene. The key tasks in scene assessment are ensuring that forensic evidence is secured and that all leads and relevant information available are obtained. The ACPO (2002) Volume Crime Investigation Manual also stipulates that initial enquiries should be undertaken, including:

- following immediate lines of enquiry to identify a suspect;
- conducting house-to-house enquiries;
- contacting the victim; and,
- checking relevant intelligence and crime trends.

Eck (1983) examined burglaries (n=3,360) and robberies (n=320) from US police departments in an attempt to identify key actions and features accounting for how cases are solved. Although investigations, and how they result in detections, were identified as complex processes, the general actions taken during the preliminary investigations appeared very similar across burglaries and robberies. There were certain broad aims that related to the vast majority of investigations. In terms of the general aims of preliminary investigations, these were classified as:

- attempting to identify what had happened;
- establishing who had committed the offence and whether there would be a chance to apprehend the offender; and,
- if the offender had not been identified or caught, to identify information that could lead to his/her identification.

These aims are not always easy to achieve. In some cases it was not clear what exactly had happened; in others, it was even hard to establish the nature of the offence that had taken place. Similarly, identifying or catching the suspect during the preliminary investigation was to an extent rare, mainly due to the lack of leads. This tends to explain the generally low level of detection rates for volume crime. Most volume crime offences are not detected but when they are, it is mainly due to the consequences of initial actions.

### Initial enquiries

The majority of research on initial enquiries has focused on the following four areas:

- the type of actions that are typically taken at the beginning of an investigation;
- the outcomes of these actions;
- the type of information and leads generated;
- the factors influencing the effectiveness of the initial investigation in achieving an outcome.

### The frequency and effectiveness of actions

The study by Eck (1983) revealed that for both robberies and burglaries the most common activity undertaken by responding officers was victim interviews, which were carried out in approximately nine out of ten cases. The next most common activity was examining the crime scene, although this was more common in burglary than robbery cases, reflecting differences in the nature of the offence. The extent to which these two actions were carried out across the police departments studied was very similar.

There was much less consistency in terms of other activities undertaken, such as discussions with supervisors, canvassing for witnesses and collecting physical evidence. Officers investigating robberies were more likely to interview witnesses than those investigating burglaries, reflecting the nature of the offence and the likelihood of witness information. Furthermore, in general, more actions were undertaken during robbery investigations than



burglaries, indicating that more effort was put into these investigations. It was suggested that this may be due to either the fact that robberies are considered more serious, or that there are a wider variety of possible leads available.

Burrows (1986) attempted to identify the means by which police identified suspects and detected burglaries (219 offences in six police areas). The findings confirm the extent to which the public play a key role in contributing to clearing up burglaries. In just under a half of detected cases (49 of 96 cases), the public either provided the police with very direct leads (32%), had detained the offender, or were able to name the offender (17%). A study by Greenberg *et al.*, (1977) also examined factors associated with uniformed officers' success at apprehending suspects. For robberies<sup>14</sup> (n=818), the key elements relating to the likelihood of uniformed officers apprehending the suspect were the presence of items of physical evidence and victim identification of the suspect. Although descriptions of suspects did not appear to be significantly related to apprehending suspects, the authors suggested that this reflected recording practices rather than reality; officers may not record the descriptions given on reports when they have already identified a suspect. Indeed, while the authors make no firm conclusions as to how cases were solved by patrol officers, they tentatively point to quick response, suspect information and finding physical evidence from suspects as appearing to be important factors.

A US study by Stevens and Stipak (1982) analysed case file details of 1,284 crimes to obtain evidence of factors associated with arrest rates. The authors included *all* types of crimes (apart from very minor offences) in their analysis, and evaluated the relationship between making arrests and other factors. These included: crime scene location; witness presence; whether a suspect description was obtained; information given over the radio to the patrol; and features of the team responding. The results indicated that the factors which have the strongest relationship with arrest rates were whether a witness was present or not, and whether a suspect description was obtained. Of the cases where a witness was present, 23 per cent were cleared-up (compared to only 2% if no witness was present). Of those where a suspect description was provided, 17 per cent were cleared up (1% if no description). However, the study needs to be treated carefully in terms of its application to volume crime investigations. The sample covered all crimes without analysing subgroups, and consequently offences with markedly different features, such as murder and burglary, were grouped together. Nevertheless, the study does support the importance of witness statements and suspect descriptions in providing the police with initial leads to work on.

Coupe and Griffiths (1996) focused on the investigation of residential burglaries (n=704). In terms of the initial investigations, questioning witnesses and victims was identified as the key activity contributing to detections. In 34 per cent of detected cases, suspects were identified through the first attending officer interviewing victims and witnesses at the scene. When further taking into account the fact that 43 per cent of cases detected had been solved due to the offender being caught at or near the scene, effective actions at the initial stages together accounted for nearly eight out of ten detections.

When this finding is considered in more detail, additional patterns emerge. The majority of burglary victims were questioned by initial response officers (94%), with nearly one-fifth of these cases generating useful information. The type of information provided by victims is shown in Table 5.1. In cases where the victim provided information on a definite suspect, just over one-fifth were detected.

**Table 5.1: Information provided by the victim (from Coupe and Griffiths, 1996)**

Type of evidence	Total number of burglaries where this information was provided	% of cases that were detected	% of cases where witness information was the most important factor in the detection
Definite suspect	120	22	20
Suspect vehicle	35	11	11
Possible suspect	378	5	3
Further intelligence	378	1	1

Victims' neighbours and witnesses were interviewed less often (in just over half of cases). However, the information from witness statements still made a substantial contribution to successful outcomes as nearly 14 per cent of primary detections were achieved as a result of information they provided. Neighbours were more likely to provide details on suspect vehicles than were victims (see Table 5.2). Further to this, cases where both the victim and independent witnesses disclosed information to the police had a particularly high chance of being solved. Of all cases that yielded both victim and witness information, just under one-fifth (17%) were detected, in comparison to five per cent of cases with only witness evidence.

**Table 5.2: Information provided by neighbours (from Coupe and Griffiths, 1996)**

Type of evidence	Total number of burglaries where this information was provided	% of cases that were detected	% of cases where witness information was the most important factor in the detection
Definite suspect	61	23	20
Suspect vehicle	118	8	7
Possible suspect	244	4	4
Further intelligence	237	1	0

House-to-house enquiries were carried out to contact neighbours and on average two households were questioned per burglary investigation. However, the research found some weaknesses in how house-to-house enquiries were conducted – not all neighbours had been contacted by officers, even when they had been 'accessible', indicating that some opportunities for obtaining information from witnesses may have been lost.

The results also indicated that there was an association between the quality of information collected, case outcome and the time the officers spent conducting enquiries. Overall time spent at the scene was found to be positively associated with the detection of a case. The average time spent at the scene was nearly one hour (53 minutes) for detected burglaries, nearly twice that spent on undetected cases (29 minutes). In terms of the quality of evidence obtained from neighbours, there was an association between the time taken to question neighbours and the quality of evidence. There are, however, problems in interpreting these findings. Length of time spent at the scene could simply be a product of the amount of information witnesses have to disclose and it is likely that this is greater in cases which go on

to be detected. Therefore, it would be misleading to infer from this that simply spending more time at a scene will increase the likelihood of detection.

Research into robbery investigations by Newiss (2002) examined the actions undertaken as part of the initial investigations, their frequency and associated outcomes. In nearly one-fifth of cases where the suspect had been identified, identification had occurred during the initial response and the initial investigation. In the majority of these cases (8 out of 13), the suspect was identified through an area search. Crime scenes were visited in nearly half of cases (that is, in addition to visits by the police to a location other than the scene; these occurred in approximately three-quarters of cases).

In terms of individual actions in street robbery investigations, there were several that were seen to be important.

- **Taking victim and witness statements:** cases where a victim or witness was able to name the suspect accounted for nearly one-quarter of all identified suspects. In spite of this, victim statements were found not to have been taken in about a quarter of cases, and witness statements were taken in only 38 per cent of cases where witnesses were available. Here too, the findings need to be carefully interpreted – one BCU in the study had a policy not to take victim statements if there was little likelihood of identifying the suspect.<sup>15</sup> Problems with taking statements were due to reluctant victims; witnesses refusing to give statements; or delays due to the hospitalisation of the victim or intoxication. A further problem with some victims and witnesses, particularly those who were able to name the suspect, was that they subsequently refused to co-operate further with the investigation (although such cases would technically have still been classified as 'detected'). The reasons cited included the victim being intimately involved with the offender, or fear of reprisals.
- **Area searches for suspects.** These had been carried out in approximately one-third of the cases sampled. These were conducted either in the company of the victim or by the police alone using the description provided by the victim/witness. Many of the suspects were identified through the area search being conducted as part of the initial investigation. Officers interviewed believed that searches are more effective with victims, as they are more likely to recognise the suspect even if they are unable to provide a very good description.

Very few house-to-house enquiries had been undertaken, and in cases where they had been conducted, only two had made a contribution to the identification of the suspect. In some cases it may be clear from the outset that house-to-house enquiries would be fruitless, for example due to the very location of the crime scene.

### Officers' perceptions of effective actions

Gill *et al.* (1996) conducted research into officers' perceptions of which actions are important in detecting crime. They interviewed officers who had investigated vehicle crimes (n=245) (theft of and from motor vehicle and taking without owner's consent), and burglaries (n=268), about the latest investigation they had been involved in, to find out what actions were taken, and the outcomes of these actions.

Of the vehicle crimes, officers said the stolen vehicle or item was recovered in nearly half of cases and a detection achieved in one-fifth of cases. The corresponding figures for burglaries were that an arrest was made in 15 per cent of cases and property recovered in 26 per cent of cases.

In terms of the actions the officers stated they had carried out during the initial enquiry, for vehicle crime investigations the most common were area searches and Police National Computer (PNC) checks (undertaken in 84 and 66 per cent of cases respectively). Area

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<sup>15</sup> This seemed to negate opportunities for gathering other information about the offence and offender *modus operandi* (MOs), and its possible use in linking cases and so on. Although the tendency is to consider the investigative process as a linear process designed to achieve an immediate detection, it can also be viewed as part of a more complicated process to aid generating intelligence which can assist with the detection (and prevention) of other linked crimes. The failure to record accurately the information about a crime may diminish its intelligence potential and limit scope for future linking, claiming of TICs and proactive operations. See chapter 7.

searches, together with witness statements (and the information derived from them), were perceived to be one of the most effective actions in terms of generating arrests and recovering property. In nearly one third (29%) of cases where witness statements were taken, and in a fifth (19%) of cases where area searches were undertaken, these actions were perceived by officers as leading to arrests. Least effective actions were thought to be house-to-house enquiries and liaison with Local Intelligence Officers (LIOs). In over 40 per cent of cases these actions were not perceived to have resulted in any leads (see Table 5.3).

**Table 5.3: Vehicle crime: officers' perceptions of the results of specific actions (Gill et al., 1996) (a)**

	Arrest made		Property recovered		Victim reassured		Info gathered		Other		None	
	%	No	%	No	%	No	%	No	%	No	%	No
Area search (206)	19	40	26	53	50	103	32	67	0	1	29	59
House-to-house (94)	11	10	6	6	41	39	37	35	2	1	45	42
Witness statement (59)	29	17	20	12	39	23	66	39	2	1	19	11
PNC check (160)	11	17	18	29	19	31	43	69	14	23	32	51
Confer with LIO (59)	3	2	3	2	2	1	54	32	3	2	44	26

(a) Because some investigators suggested that their actions had more than one type of positive result the percentages do not add up to 100 per cent across the table. The individual cells show officers' perceptions of the results where a specific action was undertaken. For example, officers felt that, of the 160 cases where a PNC check was undertaken, an arrest resulted in 17 cases.

While taken in less than a quarter of burglary cases, witness statements were perceived as being more effective than in vehicle crimes – nearly half (47%) of the witness statements taken during burglary investigations were perceived to have resulted in an arrest being made, with nearly one third (28%) leading to recovery of stolen property. Although dog units were rarely summoned (just over one in ten cases), they were said to have resulted in an arrest in nearly a quarter of cases where used (24%). For recovering property, scene searches were felt to be useful with nearly one-fifth of cases where this action was carried out resulting in a positive outcome (22%).

**Table 5.4: Burglary: officers' perceptions of the results of specific actions (Gill et al., 1996)<sup>25</sup>**

	Arrest made		Property recovered		Victim reassured		Info gathered		None	
	%	No	%	No	%	No	%	No	%	No
Scene search (238)	12	29	22	52	61	145	55	132	14	34
House-to-house (172)	6	10	6	11	46	79	50	86	33	57
Witness statement (47)	47	22	28	13	51	54	24	11	33	15
Confer with LIO (50)	14	7	6	3	12	6	24	12	42	21
Summon dog unit (33)	24	8	15	5	24	8	30	10	64	21
Property check (59)	8	5	12	7	20	12	19	11	75	44

The research also assessed the extent to which the various actions taken were perceived to have yielded useful outputs other than detections. Most actions taken were perceived to have elicited further information, and although this *may* not have been directly useful, it may have generated helpful intelligence.

### Victims and witnesses

Table 5.5 summarises the findings from the main studies on the contribution of witnesses and victims to the detection of volume crime. One problem in assessing this activity is the difference between studies that have sought to measure the existence of formal statements as opposed to whether or not a witness or victim was spoken to. The tendency for some forces only to take statements when victims or witnesses have information which investigating officers believe has a chance of yielding a detection makes it difficult to comment on the value of statements. What is clear, however, is that in volume crimes in general, and burglaries in particular, victims and witnesses are an important means of securing detections.

**Table 5.5: Summary of the use and effectiveness of information from witnesses and victims**

Study	Extent to which carried out	Effectiveness/outcomes (a)	
		Prospective	Retrospective
Newiss, G. (2002). <i>Responding to and investigating street robbery</i>	<ul style="list-style-type: none"> <li>Victim statements taken in about three quarters of cases</li> <li>Witness statements taken in 38% cases where available</li> </ul>		<ul style="list-style-type: none"> <li>Of cases where suspect was identified, in approximately a quarter witness or victim was able to name suspect</li> </ul>
Stevens, J.M. and Stipak, B. (1982). <i>Factors associated with police apprehension productivity</i>		<ul style="list-style-type: none"> <li>Of the cases where witness present 23% cleared up, in comparison to 2% of cases where witnesses not available.</li> </ul>	
Coupe, T. and Griffiths, M. (1996) <i>Solving residential burglary</i>	<ul style="list-style-type: none"> <li>94% of victims were questioned</li> <li>witnesses questioned in just over half of cases</li> </ul>		<ul style="list-style-type: none"> <li>In 35% of detected cases suspect was identified by the victim or witness</li> </ul>
Burrows, J. (1986) <i>Burglary: police actions and victims' views</i>			<ul style="list-style-type: none"> <li>Of the detected cases (96), just over half (49) were cleared due to direct leads or suspect name from the public</li> </ul>
Eck, J.E. (1983) <i>Solving crimes: The investigation of burglary and robbery</i>	<ul style="list-style-type: none"> <li>Victim statements most commonly undertaken activity; in 9 out of 10 cases</li> </ul>		

(a) It is important to note that the measures of effectiveness/outcomes vary from study to study.

### House-to-house enquiries

House-to-house enquiries are probably best viewed as a particular subset of victim and witness interviewing (although in certain contexts, these enquiries may actually identify suspects). The evidence on their effectiveness is mixed. The degree to which house-to-house enquiries are undertaken as a routine early action appears to vary widely according to the results of different studies. Some of this variability undoubtedly reflects the existence (or absence) of specific opportunities for conducting them given a particular crime type (and also given the context of a particular offence). House-to-house enquiries have been found to be less frequently used in robbery and commercial burglary investigations. By contrast, in burglary dwelling investigations, the potential for house-to-house enquiries to generate useful information appears to be greater since there is a greater likelihood that other premises will be overlooking the crime scene.

An HMIC report (1991) that examined investigative practice and actions undertaken in burglary investigations found that, even within individual force areas, substantial variations existed in terms of the extent to which actions were undertaken and how these were recorded; this was particularly marked for house-to-house enquiries. The information recorded on crime reports was generally found to be of poor quality, with some reports having little information about actions undertaken, and by whom. On the basis of the data available, the proportion of burglaries in which house-to-house enquiries were carried out was found to range from 26 and 64 per cent, depending on the area. Although some of this variation may reflect the presence or absence of opportunities to undertake house-to-house enquiries, it seems unlikely that context explains all the variation. Furthermore, crime reports rarely indicated the results of these enquiries, which leads were most commonly generated during the initial response, and which actions were most effective at yielding additional information (or indeed in securing detections).

The study by Eck (1983) also highlighted differences among police departments in the extent to which witnesses were 'canvassed'. The author noted that it may be that officers only canvas for witnesses if they believe there is a reasonable chance that this will yield some information. The likelihood of house-to-house enquiries resulting in someone providing information was found to vary according to factors such as time of day, neighbourhood characteristics and the location of the crime scene. Table 5.6 summarises the available evidence on house-to-house enquiries.

**Table 5.6: Summary of the use and effectiveness of house-to-house enquiries**

Study	Extent to which carried out	Effectiveness/ outcomes
Newiss, G. (2002) <i>Responding to and investigating street robbery</i>	<ul style="list-style-type: none"> <li>• Very few house-to-house enquiries undertaken</li> </ul>	<ul style="list-style-type: none"> <li>• House-to-house enquiries made very little contribution</li> </ul>
Gill, M., Hart, J., Livingstone, K. and Stevens, J. (1996). <i>The crime allocation system: police investigations into burglary and auto crime</i>	<ul style="list-style-type: none"> <li>• In vehicle crime investigations, house-to-house enquiries carried out in 38% cases</li> <li>• In burglary investigations, house-to-house enquiries carried out in 64% of cases</li> </ul>	<ul style="list-style-type: none"> <li>• In 11% of the vehicle crime cases where house-to-house enquiries carried out, this resulted in suspect being arrested</li> <li>• In 12% of the burglary crime cases where house-to-house enquiries carried out, this resulted in suspect being arrested</li> </ul>
HMIC. (1991). <i>Study of the investigation of offences of burglary in dwellings</i>	<ul style="list-style-type: none"> <li>• Percentage of burglary investigations where undertaken ranged from 26% to 64% across policing areas</li> </ul>	
Eck, J.E. (1983). <i>Solving crimes: The investigation of burglary and robbery</i>	<ul style="list-style-type: none"> <li>• The extent to which witnesses were canvassed for varied across the studied police departments</li> <li>• On average witnesses were canvassed for in 18.5% of burglary investigations and 22% of robbery investigations (initial investigation by patrol officers)</li> </ul>	

### CCTV

The growth of CCTV has produced a new mechanism by which suspects can be identified and crimes detected. In 2005, the Home Office published a series of reports into the effectiveness of CCTV, the main focus of which was the evaluation of 14 CCTV schemes (summarised in Gill and Spriggs, 2005). The study largely centred on the impact of CCTV on crime levels and fear of crime. However, some parts of the linked studies also touched on issues around detection of crime. In its more general observations on the impact of CCTV on detections, the study pointed to the police (and the media) placing considerable value on CCTV in providing supporting information/evidence in the detection of more serious offences. All of the 14 schemes passed on some images to the police that could be either used to identify offenders or eliminate them from their enquiries.

In only one of the schemes (Hawkeye – a joint London Underground and British Transport Police project to install CCTV in all London Underground car parks) was increasing detections an outcome measure. The main focus of the operation was vehicle crime. Coverage of the car parks with CCTV was high and images were monitored in three control rooms for 16 hours a day, suggesting that 'one of the main mechanisms by which CCTV was designed to have an impact was [through] the proactive detection of criminal incidents'. In fact the operators detected very few live incidents (see Gill, Little, Spriggs, Allen, Argomaniz and Waples, 2005).

The Hawkeye system was found to be more valuable as a system to support the reactive investigation of crime through the production of still images from CCTV footage of incidents. In particular, the scheme seemed to be effective at increasing the number of offences that could be subsequently linked to a single prolific offender. Linking multiple offences to a single offender would have been much more difficult without CCTV.

There was a marked increase in vehicle crime detection rates across the London Underground car parks during the course of the initiative. In 2001/02, before Hawkeye was introduced, the detection rate was nine per cent (83 offences per year); this increased to 26 per cent in 2002/03 and 27 per cent in 2003/04. Looking over the three years as a whole, the increase in detection rates has been in part a consequence of a reduction in crime levels (with the actual number of detections fluctuating). Hence, actual detections per year increased from 83 in 2001/02 to 126 in 2002/03, but fell back to only 94 in 2003/04. The impact of CCTV on detections clearly is a theme that requires further study. At present, all that can be concluded is that in some specific settings, CCTV can help contribute to additional vehicle crime detections.

### Information collected – the relationship between actions, information yielded and outcomes

Whether or not particular types of information are helpful in leading to successful volume crime outcomes has been the focus of a number of studies. Coupe and Griffiths (1996) explored the frequency of particular pieces of information alongside what was perceived to be the most important types of lead/process in detecting residential burglaries (based on officers' views) (see Table 5.7). Apart from cases where the offence was in progress, information about the suspect (description or name) were perceived to be the second and third most important factors in influencing detections.

**Table 5.7: The sources of information used in 'primary detected' burglary cases. (from Coupe and Griffiths 1996)**

Type of evidence or operation	% of detected burglaries where used	% most important factor (cited by detectives)	% trigger (what initiated the investigation)
Suspect description	43	17	28
Reported in progress	32	21	32
Stolen property	25	2	1
Other witness evidence	23	12	14
Suspect name	21	18	17
Interview admissions	21	2	1
Forensics	17	6	5
Vehicle description/ registration	12	7	6
Offender caught in the act (a)	11	11	11
Informants	4	4	4

Note - columns do not sum to 100 per cent because most cases have more than one item of evidence.

(a) Apprehended prior to the burglary being reported.

Eck (1983) analysed information collected during preliminary and follow-up investigations of burglaries and robberies and attempted to look at the relationship between actions, the



source of relevant information, and its impact on outcomes. The information collected was divided into three categories.

- Information that relates to the offence and property stolen (e.g. when the offence occurred, what was stolen).
- Information relating to the identification of suspects (e.g. suspect name).
- Information that may provide additional leads (e.g. description of suspect's car).

The overall frequency of obtaining information about the offence and stolen property, suspect name and description were analysed in more detail. In burglaries, the information was most likely to be derived from the victim (over 60% of cases), with witnesses, other members of the public and patrol officers also being common sources. A similar pattern was observed for robberies: suspect name and description were most often derived from the victim, witnesses, other members of the public and patrol officers (although police supervisors were more frequent providers of suspect descriptions than either members of the public or patrol officers).

However, these findings reflect how often these sources are consulted as much as what they can contribute; if only a handful of victims were interviewed it would be unlikely that this action would generate the most suspect descriptions. Indeed, when the likelihood of obtaining the information was analysed taking into account the frequency at which the actions were carried out, a somewhat different picture emerged (so although victims, for example, were most likely to be sources of suspect names, this may simply reflect the fact that victim interviews were by far the most commonly undertaken action). For burglaries:

- *suspect names* were most likely to come from departmental record checks, followed by witness interviews and informant interviews;
- *suspect descriptions* were most likely to come from witness interviews, followed by informant interviews and victim interviews; and,
- *crime-related information* was most likely to come from informant interviews.

The picture was somewhat different in robberies, where:

- *suspect names* were most likely to be obtained from checking departmental records, and discussions with patrol officers and detectives;
- *suspect descriptions* were most likely to be obtained from victim interviews, witness interviews and discussions with patrol officers; and,
- *crime-related information* was most likely to be obtained from checking departmental records, suspect interviews and discussions with patrol officers.

The findings are summarised in Table 5.8.

**Table 5.8: Likelihood of obtaining information from various sources, by rank (from Eck, 1983)**

Action	Burglary			Robbery		
	Suspect name	Suspect description	Crime related info	Suspect name	Suspect description	Crime related info
Victim statement		3			1	
Witness statement	2	1			2	
Department records	1			1		1
Informant interviews	3	2	1			
Discussions with patrol officers				2	3	3
Discussions with detectives				3		
Suspect interview						2

The sources of information are ranked in order of their likelihood of providing information when consulted

## Factors affecting the effectiveness of initial enquiries

Gill *et al.* (1996) found that most forces have policies as to what actions should be taken during initial investigations such as securing the scene, identifying and interviewing witnesses and performing house-to-house enquiries. These guidelines were not, however, always followed, or otherwise, the degree to which they were varied according to workload. The experience and investigative skills of officers was also perceived to affect the quality of initial investigation. The study found that the police themselves recognised that a lack of time to complete their duties in a competent manner could adversely affect the investigation (supporting findings from other studies; this was found to be especially true of house-to-house enquiries).

Officers interviewed for the Newiss (2002) study also recognised the difficulties of ensuring that investigations were properly carried out. First, uniformed officers, who usually undertake the initial response and investigation have reactive duties and may be called to other incidents at any time. Other studies have pointed to this problem within reactive police investigations (Jacobson *et al.*, 2003), although the exact extent of the problem is not clear. Coupe and Griffiths (1996) found that 13 per cent of officers were called to respond to another incident whilst completing burglary investigations. In such instances, these cases were less likely to be detected (although if there was an indication that available evidence would lead to a detection the enquiries were less likely to be cut short). Secondly, workload pressures mean that officers only deal with cases as they occur rather than attempting to solve older cases by revisiting scenes or by taking other further actions.

Hewitt (2002) identified similar issues affecting the effectiveness of volume crime investigations. His exploratory study, carried out in nine forces in England and Wales, aimed to identify why cases fall out from the investigative process. The research indicated that as the majority of volume crime investigations, especially initial enquiries, are allocated to uniformed officers, these are likely to be hindered by response duties and shift patterns that are an expected part of the uniformed officer's workload. Investigators' workloads were also found to be extremely high in some forces. Another key factor identified as affecting the effectiveness of investigations was the wide range of skills, experience and training that

investigators have. The high level of new recruits in some forces in recent years, and the rapid loss of older, experienced officers through retirement, was perceived as exacerbating this problem.

One critical issue remains relatively poorly covered in the research literature. While there may be association between victim interviews and effective investigative outcomes, the central issue is that these are not simple actions which will, by their execution, guarantee investigative success. Issues around the decision to search for and identify witnesses, and the quality of the interviews themselves, will be influenced by the skill and discretion of individual officers, as they are influential as to whether 'scene assessment' is undertaken well or inadequately. In the broadest sense it will be the quality of particular actions (and how they relate to each other) within the context of a specific set of offence circumstances, that will often determine the success or otherwise of this stage of the investigative process.

### Scene assessment in a broader investigative context

Before leaving the area of scene assessment, it is worth noting a study of burglary investigations conducted by Jacobson *et al.* (2003). This examined investigations from a broad perspective rather than based on the individual actions involved. The research, conducted in three police forces in England and Wales, looked at investigations as a general process, and attempted to identify the general principles that underlie effective investigations. Their analysis reinforces the complex nature of the investigative process. The complexity relates to the fact that an investigation of any single burglary is often intertwined with other burglaries and offences, since many offenders commit multiple burglaries and thus provide a link to many other offences. For example a piece of forensic evidence may link many previously unconnected cases. Similarly, a witness statement obtained from an investigation may lead to the suspect being identified, and when arrested he or she may be in possession of property stolen during another burglary. To manage this complexity, the study recommended that burglary investigations should follow certain principles to maximise investigative effectiveness. A number of these principles relate to the initial actions carried out by the first responding officer.

First, burglary investigations should involve *systematic procedures*. Actions that officers undertake, particularly during the initial enquiries, should be standardised to a high degree. This routinisation should introduce a degree of consistency into what is often a complex process and maximise opportunities to collect relevant information. In addition, the actions taken and their outcomes need to be systematically recorded to ensure that all lines of enquiry are documented. Many forces have attempted to standardise initial investigative actions. However, the officers interviewed commented on how the quality of initial investigations was often still poor, due to the recording and reporting of the information obtained, and details of the actions undertaken being incomplete. Problems associated with poor recording of information from the initial investigation might, in part, be due to the perception that crime reporting is somehow detached from the broader investigation, although, in fact the information contained in the initial crime report is often vital in generating leads (see Gill *et al.*, 1996).

The second principle identified was to ensure that *simple effective actions* featured within the investigation. As many burglars lack a high degree of sophistication in their methods, very simple actions can often produce very positive results. It may be beneficial for officers to carry out quick and simple actions above and beyond those that are routine for the initial response. For example, if property has been stolen, following up known routes of disposal of stolen goods could yield useful information. Likewise, simple intelligence analysis, for example mapping of offences, could yield positive information.

The third principle identified was *flexibility*. Due to the complexity of investigations, it is not possible to predict which routine actions yield information in every eventuality. Officers need to have the flexibility to respond effectively to the emergence of new information. Therefore, although the study recommended that clear parameters were needed to guide investigations, within these parameters, there needed to be scope for discretion in how officers deal with information as it arises.

## Summary

The important contribution of initial enquiries to volume crime investigations is clearly highlighted in the studies reviewed. Many studies show that a considerable proportion of suspects are identified and arrested on the basis of the initial actions and enquiries taken, a finding supported by police perceptions.

Many of the initial actions undertaken at the scene of volume crimes are routine, and may be dictated by force policy. However, they will, to an extent, be driven by the context of the incident. In particular, the crime type and circumstances surrounding an offence would appear to influence the appropriateness or utility of specific actions.

The key action undertaken in the majority of cases (across crime types) is interviewing (and taking statements from) victims and witnesses. In very simple terms, these actions appear to be effective, with many studies assessing that around a third of suspects are identified or arrested on the basis of the information from victims and witnesses. These findings clearly support the notion that the public plays a crucial role in criminal investigations and detecting crime. The evidence in terms of the extent to which other actions are taken, and their effectiveness, is less conclusive, and has greater variation across crime types.

Examining the effectiveness of actions in terms of investigation outcomes is difficult based on the available evidence. Part of the reason why victim and witness interviews are most likely to provide information helping to identify the suspect is that these actions are taken in the majority of the cases, whereas other actions tend to be carried out less frequently. This may reflect the appropriateness of undertaking specific actions in specific offence contexts. When the likelihood of obtaining evidence from specific actions is viewed taking into account the frequency with which these actions are undertaken, actions other than witness statements do appear to be useful in generating information. This may be a reflection of the fact that these actions are targeted and carried out only in cases where they are likely to produce evidence and leads. Take, for example, CCTV. When considering the *absolute* number of times that information from CCTV has led to the identification of a suspect, this appears to be a poor source of information. However, it is probably the case that CCTV evidence is not available in the majority of offences (due to the absence of cameras). In those cases where it is available, it might always lead to suspect identification. Therefore, one could argue that available CCTV is an extremely good source of information although in absolute terms it might look poor – this is where context and circumstances around incidents need to drive the actions that officers undertake.

Overall, there is a clear consensus that the initial enquiries play a key part in detecting cases. Studies have shown that the activities of the responding officer directly influence investigative outcomes, either through the immediate identification of the offender or the generation of intelligence that can be used later in the investigations or for linking offences. Similarly the studies have uniformly indicated that the public play an important part by being the most likely sources of information leading to the identification of suspects. Research has also highlighted factors that might hinder initial enquiries. These include human resource factors (lack of supervision, poor training and experience) and the demands placed on reactive response officers.

Research to date has not always considered the initial actions undertaken in the context and circumstances of the offence being investigated. For this reason, it is difficult to assess fully the effectiveness of actions – whether the actions were targeted appropriately or whether there were lost opportunities given the context of a particular crime. Moreover, few, if any, studies have got to the point of scrutinising the minutiae of investigator decision-making, or of rigorously assessing the quality of actions undertaken (rather than simply their presence or absence). Both these areas are arguably critical to understanding investigative outcomes and each would undoubtedly be a fertile area to explore further.

## 6. Evidence gathering – the investigation

According to the ACPO Volume Crime Investigation Manual: “A thorough and conscientious approach to the recording and investigation of all crime is of paramount importance in determining whether a crime enquiry will be successfully concluded. By investigating all leads correctly the police give themselves a more realistic chance of detecting crime and in that way provide a better service to the public in general.” (ACPO, 2002, p.27). According to the manual and the PIP framework, the specific actions covered by evidence gathering include:

- taking victim and witness statements;
- locating and collecting CCTV footage where available;
- conducting house-to-house enquiries;
- identification procedures;
- using intelligence systems;
- recording actions taken; and
- circulation of information.

Many of these investigative actions are often undertaken by the first officer attending the scene, and some appear to replicate actions covered in the previous chapter on scene assessment. In operational terms, the principal difference between ‘scene assessment’ and ‘evidence gathering’ of the investigative process is the evidential use to which information collected is put (the generation of evidence for a court of law), and the way in which information is collected and recorded.

The technical issue of duplication of responsibilities is, however, something which is raised within the research literature. In the UK, the Audit Commission’s report *Helping with enquiries: tackling crime effectively* (1993) emphasised the importance of the effective use of resources in volume crime investigations, and specifically recommended that crime scenes should only be visited once where possible, in order to avoid repeating work and wasting resources. (A recent move to take this approach to its ultimate conclusion is the policy of Crime Scene Examiners undertaking the role of first attending officers in all but in progress burglaries in some MPS areas.)

As the typical first actions and enquiries that are undertaken at a crime scene have been discussed in the previous section, the current section focuses on the process of screening for further investigation, additional investigative actions and issues specific to follow-up investigations.

### Case screening and allocation for further investigation

Early studies in the US (such as Greenwood, 1970; Isaacs, 1967) highlighted the importance of organisational and management issues in ensuring that resources within investigations were managed effectively, and where possible, targeted at those crimes where most progress could be made. As many crimes cannot be solved due to the characteristics of the case and the lack of clear lines of enquiry, it was suggested that the police should be more efficient and target resources where there was a better chance of detection. A common research theme has therefore been around identifying which cases are most detectable and should therefore be allocated for further investigation. Of specific interest became the practice known as crime or case screening.

Case screening is a decision-making process by which cases are (or are not) allocated for further investigation (after initial enquiries), based on the likelihood of solving the case with the information and leads available. The practice can save resources that would otherwise be used on investigating crimes where there is little, if any, chance of detection. Many forces

have adopted formalised screening practices for more minor offences (prior to this, informal screening was commonplace, with detectives selecting cases for further investigation which they perceived would be more productive).

### Case screening models

A formal case screening model was originally developed in the US by the Stanford Research Institute (SRI) in 1973 (Greenberg, Oliver and Lang, 1973). The model was crime specific, being designed for burglaries. The model was developed from statistical analyses of the features of burglaries that were the best predictors of whether a case would, on the basis of information available, be solved. The model required each case to be assessed using information from the preliminary investigation. The pieces of information were weighted according to their predictive value (for instance, a suspect name would have a higher weighting than a description of a suspect vehicle). The weighted scores based on the available information would then be added together to produce an overall 'solvability score'. The elements included in the model were:

- witness report;
- on-view report of offence;
- usable fingerprints;
- suspect information developed;
- vehicle description;
- range of time occurrence; and,
- other information.

Whether the case was allocated for further investigation depended on whether the combined score of information elements present exceeded a predetermined, statistically derived threshold.

Eck (1979) examined the SRI screening model by applying the screening procedure retrospectively to cases from 26 US police departments (approximately 13,000 cases) to assess the accuracy of the model in predicting case outcomes. The study consisted of two parts. First, the screening model was applied to cases in departments that were not using a screening model. The aim was to assess if the model correctly predicted case outcomes after a secondary investigation had been carried out. Secondly, the accuracy of the SRI model was compared to other, alternative screening models.

The results indicated that the SRI model accurately predicted 86 per cent of the results of burglary investigations. As would be expected, there was a margin of error (i.e. inaccurate predictions of whether the case would be solved). Some six per cent of cases were 'lost clearances' – cases that were, in reality, solved but would have been screened out by the model. The balance of cases (9%) were deemed to be 'wasted investigations' – cases that were not solved but would have been allocated for investigation based on the model (see Figure 6.1).<sup>16</sup>

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<sup>16</sup> The figures do not add up to 100 per cent because of rounding.

**Figure 6.1: SRI screening model accuracy (Eck, 1979)**

		<u>Real case outcome</u>	
		Case detected	Case <u>not</u> detected
<u>Model predicted case outcome</u>	Case detected	<u>Correct prediction</u>	<i>Wasted investigation (9%)</i>
	Case <u>not</u> detected	<i>Lost clearance (6%)</i>	<u>Correct prediction</u>

However, the so-called 'lost clearances' could have been solved by being linked to another crime for which the offender was known, or by the suspect confessing the crime when arrested for another offence. Also, there is a possibility (although based on qualitative evidence only), that some of the 'wasted investigations' would have been solved if there had been more police resources assigned to the investigation. It could be argued that, had the screening process been in place, more of the saved resources (from screening) would have been freed up to apply to screened-in cases. Hence the margin of error could in reality have been smaller than that estimated by the study.

The SRI model outperformed the other, non-statistical screening models in terms of accuracy. Also the model assigned many fewer cases for further investigation, on average screening out 87 per cent of cases (i.e. only 13% of cases were assigned for follow-up investigation), thus saving more resources. The model also had a further benefit that the extent of the screening criteria could be adjusted depending on available resources. There were few differences in the accuracy and performance of the model between different police departments, suggesting that factors such as organisation of the investigative function in different departments had little influence over model accuracy.

It is important to note, however, that the model was *not designed to improve detection rates* but to save resources (in other words it was about improving efficiency not improving effectiveness). It may be that targeting resources at a smaller number of cases with a better chance of progression may have a consequent impact on detection rates but this was not the primary goal of the model.

Greenberg *et al.* (1977) conducted a study to determine the feasibility of developing a similar screening model for offences other than burglary (robbery, including armed robberies, thefts, purse snatches and robberies with force; rape; assault with a deadly weapon; and vehicle theft). Only robbery and vehicle theft are of relevance to the current study. In addition to assessing whether 'successful' secondary investigations could be determined on the basis of case characteristics, the study also aimed to identify pieces of information in these cases that were likely to lead to the offender being identified.

The authors succeeded in constructing a screening model for determining whether robberies should be allocated for further investigation (n=818). The key leads most likely to predict whether the suspect would be identified were: suspect information (such as suspect name, if the suspect is otherwise known, or seen previously); if an 'evidence technician' (crime scene examiner) was used (indicating that the first officers had deemed there to be useful physical evidence available); if victim or witnesses do not know the suspect's name but know the



places he or she frequents; the availability of corroborating physical evidence on the suspect or elsewhere; and vehicle details and information of how the offender was moving around.

As with the burglary screening model, each of the pieces of information were weighted according to their predictive power. When evaluated, the model accurately predicted the outcomes of 90 per cent of the robbery cases in terms of whether or not a case would be solved. In addition, as with the burglary screening model, many of the cases which were incorrectly classified by the model were ultimately solved by being linked to other cases rather than through the follow-up investigation.

The authors also attempted to construct a screening model for vehicle theft (n=1,187). However, as the details of vehicle crimes were taken over the phone, there was more limited information available and it was not possible to develop a screening model for vehicle theft. Furthermore, vehicle crimes generally offered fewer potential leads than other 'screening model' offences: there was usually no contact between the victim and the offender; in some thefts of vehicles, there was little or no evidence at the scene; and victims less rarely had any indication of the offenders, or even the time of occurrence. The analysis of the data did however show that general factors associated with the likelihood of identifying the offender were:

- presence of suspect description;
- useful lead from vehicle registration check;
- suspect name provided;
- if suspect is known to either the victim or witness;
- presence of physical evidence;
- if crime had occurred early in the morning (greater chance of detection); and,
- delay between offence and reporting (lesser chance of detection).

A burglary screening model was implemented by the Metropolitan Police in the early 1980s. This model was evaluated for internal purposes by Eck (1984). The research involved discussions with uniformed officers and detectives of various ranks and examined both solved and unsolved burglary case files. The aim of the screening model was to focus resources on those cases that continued to be investigated and to improve the police response to, and investigation of, burglaries overall. However, unlike the US screening models, cases with few leads were not screened out but continued to be investigated by trained uniformed officers. Cases with leads were in turn allocated to CID to investigate. The model did not reduce the investigative workload, but simply shifted it from CID to uniformed officers. How the model was implemented varied widely among the seven divisions examined. Overall, however, the burglary screening model did not have a positive impact on the quality of investigations. This was largely due to problems around supervision and management of investigations. The author concluded that issues relating to the process of burglary screening were minor and easily rectified, but in order for the model to work, issues with supervision and management had to be dealt with first.

The issue of case screening for forensic evidence retrieval is dealt with in more detail in the parallel review (Bradbury and Feist, 2005).

### Screening practices

The study by Gill *et al.* (1996) into burglary and vehicle crime explored the general process of how cases are screened and allocated for secondary investigation. The study identified case allocation as the second point at which the scope of an investigation is decided (the first point occurring at the call handling stage). The authors call this process 'case allocation' rather than screening, as even if no specific personnel are allocated to the crime, it should continue to be investigated by other means. For example, unsolved cases should be subjected to intelligence analysis in case they form part of series, or are otherwise linked to other offences. The process of case allocation for secondary investigation consists of two stages: first, the initial crime report needs to be assessed, and a decision made on its allocation for further investigation. If the quality of the initial investigation, or the recording of the information in the crime report, is not up to the required standard, officers may be asked to complete the enquiries by returning to the scene. If the case is allocated for secondary investigation, further



resources are assigned to the investigation. Cases that are perceived as having a very slim chance of being solved may be filed, although crime pattern analysis and other less resource-intensive forms of investigation may still be undertaken.

Gill *et al.* (1996) found that crime screening was undertaken in many UK forces, mainly as a mechanism for targeting scarce resources. However, the criteria for allocating cases were found not to be solely based on the likelihood of solving a case. Many officers who were interviewed admitted that the criteria could be influenced by other factors such as whether the incident was racially motivated, the value of property stolen, place of offence and force priorities (even within a single crime type).

The study also highlighted the importance of initial crime reports in the decision to allocate for secondary investigation – allocation decisions were invariably based solely on the information they contained. If initial reports were of poor quality, this meant that the screening process could not be performed effectively. Monitoring of crime reports was often subjective and could be quite variable. If the assessors knew the investigating officer and that the quality of his or her work was usually good, the reports were likely to be subject to less rigorous examination. The extent of monitoring was also likely to suffer when the assessors had a heavy workload. Finally, the assessors' own competencies were also likely to exert an influence over the quality assurance process.

Jacobson *et al.*'s (2003) study of burglary investigations in three policing areas in England and Wales highlighted the importance of standardised screening as one way of improving the efficiency of burglary investigations. Jacobson *et al.* found the nature of the screening processes varied in the three forces, and those which were less systematic in their assessment of cases did not appear to have sufficient resources to support detailed case-by-case assessment. The authors stressed that the screening process should be systematic, not only to ensure that resources truly are targeted towards the most appropriate cases, but also to increase the sense of accountability and responsibility in the first attending officers through better scrutiny of initial enquiries.

Coupe and Griffiths (1996) also looked at the process of case screening for burglary (Table 6.1). At that time, the decision to allocate a case for secondary investigation was based on informal case selection by individual officers. Detectives would choose cases where they perceived that some potentially useful information was available for further examination. Approximately one-quarter of the burglaries in their sample were selected for further investigation. After initially selecting cases on this basis, they were examined in more detail by detectives, based on their potential to be solved. No clear criteria as to why certain cases were chosen for further investigation were identified (this resulted in inconsistencies and some cases selected for investigation possessed broadly similar information to cases that were screened out). In general, however, the cases chosen for initial consideration and those ultimately selected for further investigation, did appear to have better quality evidence and leads.

- Most cases where a definite suspect was identified were chosen for further investigation, and nearly a fifth of these cases were detected.
- Over half (58%) of the cases where a suspect vehicle was seen were chosen for further investigation, with one-tenth of these detected.
- In ten per cent of burglaries where details of a *possible* suspect were provided, under a half of these cases were followed up. There was some indication that several of the cases that were not investigated could have been solved (of those investigated 18% were detected).
- The least promising line of enquiry was further intelligence (e.g. a vague description of the offender), and only 16 per cent of these cases were investigated.

**Table 6.1: Screening for secondary investigation (Coupe and Griffiths, 1996)**

Type of information available	Available in % of burglaries	% of where available screened in	% of those screened detected
Definite suspect name or description	2.3%	Almost always	19%
Suspect vehicle	2.6%	58%	10%
Possible suspect	10.6%	43%	18%
Further intelligence	10.8%	16%	-

The research also identified that:

- regardless of the absence of information in the remaining cases some were investigated by CID but did not result in a detection;
- there was no evidence of filed cases being subject to any further intelligence analysis;
- the practice of detectives reading and filing the cases was found to be time consuming (and, it was suggested, could be better to be performed by a crime screener acting alone).

## Secondary investigation

Secondary investigation, as defined here, refers to investigative actions taken after the initial assessment and enquiries at the scene. These may be undertaken after the case has been allocated for follow-up investigation, although this is dependent upon the screening policies in place.

Secondary investigations can be undertaken by either uniformed officers or detectives, although allocating these to uniformed officers appears to be commonplace in England and Wales. The HMIC (1991) report on burglary dwelling investigations assessed the extent to which follow-up investigations were undertaken by uniformed officers in one police force, and found large differences across policing areas *within* the force. Some areas had nine out of ten cases investigated by uniformed officers; at the other extreme, one area used uniformed officers to undertake follow-up investigations in only 2 per cent of cases. In the US, patrol officers have been found to undertake only limited investigative duties. In a wide-ranging study of the investigative function of US police departments, found that patrol officers' main investigative tasks were securing crime scenes and interviewing victims and witnesses (Horvath, Meesig and Lee, 2002). Further investigations were carried out by dedicated investigators, although it was evident that the departments had tried to expand the role uniformed officers play in investigations.

The study by Gill *et al.* (1996) found that it is quite rare for vehicle crimes to be allocated for secondary investigation, reflecting the perceived more minor nature of vehicle crimes. Some officers interviewed also thought that methods other than secondary investigation may be better for tackling vehicle crime, for example the use of the intelligence analysis and proactive targeting of offenders. It was more common for burglaries to be allocated for secondary investigation. This may reflect force priorities, but also differences in the nature and likelihood of solving burglaries in comparison to vehicle crimes.

## Actions within secondary investigations and their effectiveness

The first general finding to emerge from the research on secondary investigations is that this phase is much more varied than the earlier scene assessment phase. Eck (1983) highlighted the difficulty of predicting the nature of follow-up investigations since such investigations will be heavily influenced by the specifics of a particular crime (and the information generated). Although at the initiation of a secondary investigation, victim interviews were found to be the most commonly undertaken task, the type of actions carried out changed as the follow-up

investigation developed. Victim and crime scene-focused actions became less important, whilst suspect-based actions increased (e.g. interviewing possible offenders). It was also clear that investigations became more dependent upon existing leads, becoming less routine as fewer remained to be followed. Greater use was also made of the information available from police sources, such as departmental records.

Coupe and Griffiths (1996) also examined the actions and outcomes of secondary investigations of burglaries. A considerable proportion of burglaries were found to be allocated for follow-up investigation, and of the 704 cases examined, 36 per cent included a scene visit by CID after initial enquiries by uniformed officers had been completed. Most of these visits by CID appeared to simply duplicate the efforts of uniformed officers, and did not appear to be very useful. For example, witness information was collected in 16 per cent of cases allocated for secondary investigation. However, in only 2 per cent of these cases were better leads generated than those from the initial enquiries. This seems to reinforce Eck's observations in the US (1983) which emphasised how follow-up investigations are heavily dependent upon the actions taken during the initial investigations. The most common activity undertaken during secondary investigation was recontacting the victim, generally to confirm and expand on the details taken by the first investigating officer.

Coupe and Griffiths also found that CID undertook additional activities (not carried out during initial enquiries) during secondary investigations. The activities consisted of actions such as surveillance, use of informants and checking for stolen property although the frequency and results varied. Altogether, 12 per cent of all primary detections were achieved through these additional CID activities.

As with initial enquiries, although these additional activities were clearly successful (see Table 6.2), their success may reflect the fact that these were only performed in a small number of cases and were well targeted. Therefore, a general increase in the use of these activities may not lead to more detections, but could simply waste resources. Indeed, the authors conclude that the average time spent on obtaining a detection by CID investigation was 131 hours, the least cost-effective method.

**Table 6.2: Additional CID activities carried out (Coupe and Griffiths, 1996)**

Action	No. of cases where carried out:	No. of cases where carried out and detected:
Surveillance	36	9
Stop checks	24	7
Informants	7	7
Enquiries carried out by the victim	6	6
Offence linked to other offences by the suspect	70	7
Local contacts	36	6

Gill *et al.* (1996) also examined which factors and actions appeared to contribute to investigative outcomes. The detail and quality of crime reports were identified as essential, as these provide secondary investigators with the details of the initial investigations and the information obtained. Thirty-five per cent of investigators said that the crime report had provided a positive indication of a suspect's identity, with a further 21 per cent claiming the crime report to have given *some indication* of the suspect's identity.

Revisiting crime scenes was also seen as useful by the investigating officers. In 38 per cent of cases, scene visits were said to have given at least some indication of the suspect's identity.

In addition, revisiting crime scenes was perceived to be particularly useful in terms of providing information linking the case to other offences or incidents. These results are in contrast to those from Coupe and Griffiths (1996), which indicated that most revisits to crime scenes did not yield better leads than those obtained by the first investigating officers. Some investigators attended the crime scene because the initial investigations had not, in their opinion, been conducted thoroughly enough. House-to-house enquiries were, in particular, thought to have been conducted poorly. Over half (53%) of investigators involved in secondary investigations cited house-to-house enquiries as having helped to identify a suspect.

Newiss (2002) found that the majority of robbery cases (n=293) were not investigated beyond the initial police response. In particular it was extremely rare for robberies to be allocated to CID for further investigation. Usually any follow-up investigations were carried out by uniformed officers. The main lines of enquiry identified in his study are shown below:

- Forensic information. Although forensic information was rarely available at the scene, there were more opportunities for obtaining forensic evidence from recovered property such as the victim's clothing or purse.
- CCTV was usually followed up. In a small number of cases CCTV evidence was sufficient to identify or confirm a suspect's identity. However, officers interviewed in the study cited several problems with CCTV such as delays in obtaining CCTV footage; its quality; time required to view footage; and, assessing the most appropriate area for which to obtain CCTV footage. The main barrier to following up CCTV leads was claimed to be police workload.
- Mobile phones and stolen bank cards appeared to offer very little in the way of positive lines of enquiry; in many cases it appeared that no calls/transactions had been made using the phone/bank cards.
- Linking cases to other cases where a suspect had been identified was considered to be an important way of solving cases. Of the cases where a suspect was identified, approximately a third (32%) had been identified by linking cases, the most common method of identification. Means of linking included identifying unusual *modus operandi*, suspect descriptions or crime patterns. Officers believed that many robberies were being committed by a handful of prolific offenders, and some robberies had been linked as a series under a single combined investigation. Despite this, it was clear analytical tools to identify possible linked cases were not utilised to their full effect.

A US study by Brandl and Frank (1994) focused on the relationship between burglary/robbery follow-up investigations, the time that detectives spent on them and the strength of evidence collected during initial investigations (n=609). The purpose of the study was to examine whether the time spent on cases and the leads relating to suspects at the beginning of follow-up investigations were associated with case outcomes. The results indicated that both the time spent and strength of suspect information were related to the outcome of the case. For both burglaries and robberies, more time was found to be spent on cases where the suspect was arrested. Furthermore, a higher proportion of cases where suspect information was strong resulted in an arrest compared to cases where information was seen as either 'moderate' or 'weak' (see Tables 6.3 and 6.4).

**Table 6.3: Arrest rates for cases by strength of suspect information, burglaries and robberies, data from Brandl and Frank (1994)**

	Strength of suspect information		
	Weak	Moderate	Strong
Burglary	10.8%	33.7%	62.1%
Robbery	1.8%	35.5%	64.5%

**Table 6.4: Average time spent on investigating cases, burglaries and robberies, data from Brandl and Frank (1994)**

	Time spent on investigating cases	
	Suspect arrested	No arrest made
Burglary	6.72 hours	3.23 hours
Robbery	9.12 hours	4.07 hours

Logistic regression analysis was also performed to assess whether the two variables, time spent investigating and suspect information, interact with each other. The results indicated that, for both burglary and robbery cases, the strongest predictor of case outcome was time spent on cases with moderate suspect information. Effort invested in terms of hours worked was related to whether cases are solved, but this was most applicable in cases with moderate suspect information. This was assumed to reflect the fact that when suspect information is strong, less work needs to be done; for cases with weak information, it may be that no amount of work will lead to an arrest or detection.

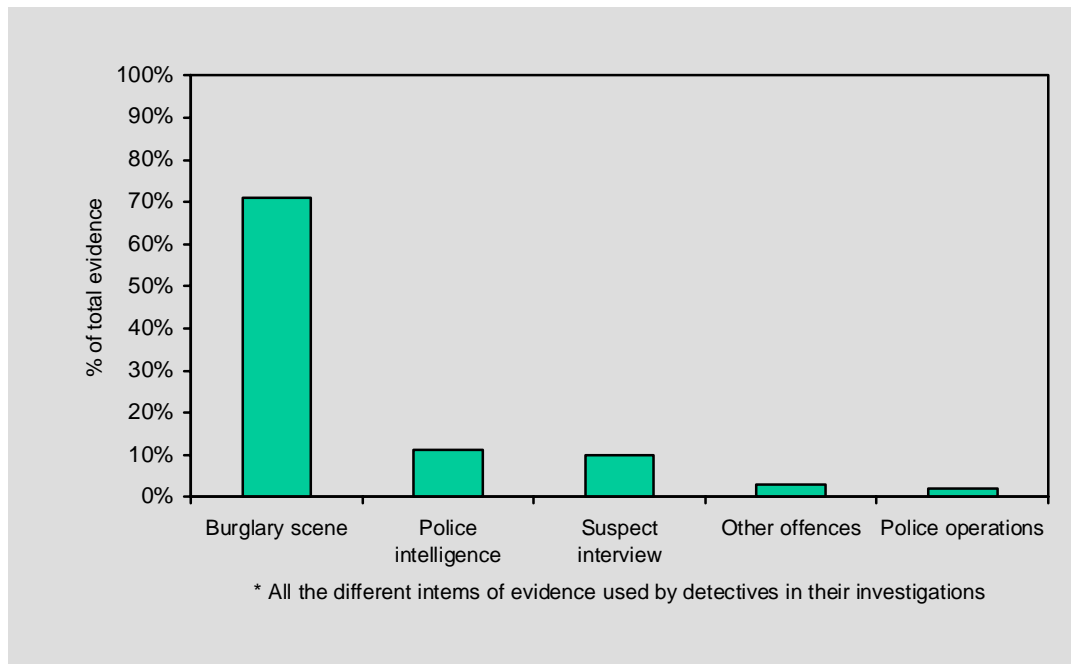
Along with recontacting the victim, Eck (1983) found that following leads and information relating to possible suspects was a common action during secondary investigations. Where the name of a suspect had been obtained by the initial enquiries, it was found that this lead was always followed up by investigators. However, this provided no guarantee that the person named had actually committed the offence, or, even if it seemed likely that he/she had, that involvement could be proved. The research also identified following up 'good' leads as being part of the investigative process undertaken by detectives. 'Good' leads were pieces of information that were useful for investigators and which might lead to the suspect being identified. However, 'good' leads required effort to identify suspects, although the amount of work necessary to achieve detections was found to vary. It could be that only by piecing together leads from several related crimes are results achieved. Finally, the detectives interviewed considered using informants as a further essential follow-up activity, although their use appeared to be infrequent and the information obtained not always useful. The use of informants was advocated by the Audit Commission (1993) as a way to collect intelligence about prolific criminals, although their effectiveness and management has since been questioned (see Maguire, 2003 for further discussion).

### Information collected

Some studies have attempted to explore the whole range of initial response and secondary investigation activities, so as to assess the types and sources of information collected, including the contribution they make to the outcomes of investigations.

Coupe and Griffiths (1996) found that in many burglary cases there was no information available, with leads obtained in only a little over a third of the burglaries. Where evidence was available it was mostly (in over 70% of cases) obtained from the burglary scene (see Figure 6.2). Unsurprisingly, more items of evidence were obtained in burglaries resulting in a detection than in those that were not solved (2.6 items versus 1.4 items).

**Figure 6.2: Origin of evidence (from Coupe and Griffiths 1996)**



## Summary

Secondary investigations are actions that are carried out after the initial police response (providing the case has not been filed for no further action). By no means all volume crime offences are allocated for secondary investigation. A number of screening processes, both formal and informal, are employed, often on the basis on the perceived 'solvability' of a case to filter cases for additional investigative effort. The quality of information provided by the first responding officer is critical in determining whether a case is allocated for secondary investigation – the decision is often based on this information alone. A number of screening models have been developed and evaluated for particular volume crime type. In general they have been found to predict accurately those cases that are subsequently detected. The majority of screening policies are employed as a means of making better use of resources (efficiency) rather than trying to increase detections (effectiveness). Furthermore, successful screening models tend to work on the principle of screening the vast majority of cases out. In practice, solvability factors are usually one of a number of issues that influence what crimes are screened in or out for subsequent investigation.

When considering the types of volume crimes that are screened, vehicle crimes are rarely allocated for follow-up investigation; it is more usual for burglary offences to be screened in. The types of actions undertaken by officers during the secondary investigation are likely to be more varied than at the initial response stage. The research evidence shows that secondary investigations can include several actions such as revisiting crime scenes, examining crime reports, interviewing victims and witnesses, undertaking surveillance operations and stop-checks, using informants and linking offences to known suspects. There appears to be a lack of consensus about how useful revisiting scenes and reinterviewing witnesses actually are. In some cases it will be justified because the initial response has been poorly executed, but the number of times additional pieces of information are generated from repeats visit may be limited. Also unclear from the research reviewed is how useful each specific action is in successfully generating suspects and ultimately detections. Unlike the 'routine' actions carried out during the initial response, secondary investigations, by contrast, are more dependent on the leads and information available, and this is likely to vary according to the circumstances of each case. Volume crime investigations are complex and often do not advance in a linear fashion, therefore a degree of flexibility is needed in how best to progress the investigation. For this reason, the research evidence surrounding secondary investigations, and the effectiveness of actions that are undertaken, can be difficult to marshal and hard to interpret.

Some research has been quite critical of the contribution of secondary investigations stating that the majority simply replicated actions undertaken during the initial response without generating any new information. However, the UK evidence suggests that they yield 12 per cent of all burglary detections (Coupe and Griffiths, 1996).

## 7. Proactive investigations

Proactive investigations do not fall neatly into the PIP stages, which largely follow a typical reactive approach to the investigation of crime. Yet proactive investigations are an important part of the overall approach to investigating crime and have been subject to a limited amount of study.

Before outlining the research evidence on the effectiveness of proactive investigations it is helpful to define this type of investigation. There is no agreed definition of proactive investigations or how these differ from the more traditional reactive investigations. Maguire (2003) highlighted a number of ways in which proactive investigations might be defined. These can relate to the focus of the investigation (reactive investigations tending to be case-specific, with proactive being offender-specific). Alternatively, it might be possible to distinguish them in terms of the way in which the investigation is initiated (reactive tends to be through a report from the public; proactive through the acquisition of intelligence). Finally, it might be evident from the method of investigation (house-to-house, for example, is seen to be part of the reactive investigation process, whereas more covert techniques like surveillance might be applied in proactive investigations). Arguably, the most helpful way of distinguishing between these two styles of investigating crime, however, appears to be in terms of the approach to using resources. Reactive approaches give priority to responding to day-to-day demands (in particular, dealing with crimes reported by the public), while proactive approaches give more weight to longer-term planning and priorities set by the police (Maguire, 2003).

Jacobson *et al.*'s (2003) study of burglary investigations in three forces examined general issues relating to the process of investigation and concluded that a neat separation of reactive and proactive work may not be appropriate. One of the key findings was that reactive and proactive methods are tightly interconnected, especially in the case of burglary investigations. Rather than being two distinct categories, reactive and proactive work was best seen as being two ends of a continuum. Many investigations were found to draw on both elements. For example, a lead consisting of a suspect description resembling a well known offender may be derived from a reactive response to burglary, but the investigation will involve a proactive approach, using surveillance to follow the suspect and contacting informants to find out whether the offender has been active. Furthermore, reactive and proactive methods are interdependent; proactive work will usually rely in some part upon information obtained during a reactive response to burglary offences.

### Proactive policing in a UK setting

In England and Wales, an important milestone in proactive investigations was the Audit Commission report (1993), *Helping with enquiries: tackling crime effectively*. The report focused on the way police investigations are conducted, and how the practices should be changed to improve performance. One particular problem the report identified was that the rise in the number of crimes detected by the police was not sufficiently high to match the increase in the number of crimes committed, with consequent reductions in detection rates. The report was based on the examination of crime management in five forces in detail, with eight further forces examined in terms of specific aspects of investigations (such as fingerprinting) and analysis of interviews with officers, documentation and data analysis. The report recommended that in order to optimise investigative performance, the police should move away from a mostly reactive investigative pattern to one that was more proactive, i.e. target criminals rather than just crime. The recommendations of the report were largely based on analysis of the key problems, rather than being driven by a critical review of empirical evidence about what would be the most effective way to address the problem.

The Audit Commission produced a follow-up report *Detecting a Change: Progress in tackling crime* in 1996, which concluded that although the changes recommended in the original report would take some years to be fully implemented, progress was being made and was having an effect. On the basis of an examination of six forces, improvements in practice to tackle



domestic burglaries were noted as having a positive effect on both crime and detection rates. The number of burglaries in the forces visited had fallen by 12 per cent, whereas the number of burglaries detected rose by 51 per cent between 1993 and 1995. According to the report, these improvements were linked to changes in practice recommended in the original report. In one of the forces studied, the division which had invested most resources in proactive work had also recorded the greatest decrease in the number of burglaries and increase in detections. However, as the changes had not been fully implemented in many areas, it was not possible to assess their full effect.

### Methods used in proactive investigations

As Maguire (2003) has indicated, one of the features of a proactive approach to investigating crime is the use of intelligence to direct investigations. This information is often generated through dedicated units known as intelligence units. These units produce intelligence analysis and 'packages' based on information received (for example, on prolific offenders or particular problem areas), which are then submitted to investigators for action. The study by Amey *et al.*, (1996) examined intelligence units as part of their evaluation of Crime Management Models. In one year, the intelligence team in one BCU, produced 91 'packages', of which 38 had been used and actions taken as a consequence. Similarly the number of informants, and the intelligence obtained from them, had increased since the implementation of the model. Of the intelligence files produced, 60 per cent had been initiated based on information or activities involving informants, and of these three-quarters had resulted in an arrest, or the recovery of stolen property. However, research has also identified problems in the implementation and use of proactive investigations. The study of robbery investigations by Newiss (2002) found that in the five BCUs sampled, investigating crimes through proactive methods was rare. The main obstacle for proactive investigations was the limited resources available, as ultimately responding to more pressing crimes and duties often took priority.

### Targeting the offender

Proactive investigation is one of the few areas of research into investigations and detections that have been subject to more robust, experimentally designed assessment. This fact, and the generally positive findings coming from several studies (albeit with different types of intervention), has led some to recommend this approach to the investigation of crime. Indeed, Sherman and Eck's (2002) review of evidence on effective policing highlights the high quality evidence for case for 'proactive arrest' tactics. The Repeat Offender Project (ROP), introduced in 1982 in Washington DC, aimed to apprehend previously convicted high-rate repeat offenders by employing teams conducting proactive investigations. A study into the effectiveness of the project, conducted by Martin and Sherman (1986), represents one of the few examples of the application of a Randomised Controlled Trial approach to investigations. In the study, 212 pairs of 'targets' – i.e. active criminals – were randomly allocated to the ROP teams alongside a control group of officers who were *not* applying proactive principles to their investigations. The control group were unaware of the identities of these targets who had, in effect, been allocated to them. The findings showed that the targets allocated to the ROP teams were more likely to be arrested (50% of targets arrested) than those allocated to the control group (8% of ROP targets arrested and 4% control group 'targets' arrested).

When considering the types of arrest made by the two groups of officers (40 officers from the ROP team and 169 officers from the control group), the analysis showed that the offenders arrested by members of the ROP teams had more previous arrests than those arrested by the control group of officers (8.4 versus 4.2) – in other words they had longer criminal histories. When comparing arrestees of the ROP officers in 1981 and 1983, the arrestees were found to have more prior convictions in 1983 than in 1981 (8.4 versus 5.6) indicating that the differences were not due to individual officer performance. Those arrested by the ROP team were also less likely to be arrested for minor offences in comparison to those arrested by the control group (15% of ROP arrests for minor offences versus. 30% for the control). This difference reflects the fact that ROP officers, altogether, made fewer arrests than officers in the control group (5.7 versus 12.4). The two groups had equal numbers of arrests for serious offences, but officers in the control group achieved a higher number of arrests for minor offences. Based on these results, ROP teams were less effective in terms of the *number* of offenders arrested, but the arrests they made were targeted towards those committing more serious offences.

A second randomised control trial carried out in Phoenix, Arizona (Abrahamse *et al.*, 1991) involved the evaluation of a post-arrest case enhancement programme. The randomised experiment took place over one year ending with 257 cases allocated to the experimental group and 223 cases allocated to the control group. The Phoenix Police Unit employed post-arrest investigations which were designed to enhance the evidence in the most recent case, based upon the length and nature of the criminal record. Analysis of the case disposition patterns showed no significant increase in conviction rates, but revealed an increase in the likelihood of incarceration and longer prison terms. These changes appeared to be the result of the way in which officers in the experimental group developed additional charges against defendants and documented their previous offending histories.

Both the Phoenix and Washington studies provide evidence of the benefits of targeting offenders – as Sherman and Eck note, “both projects aimed at increasing the incarceration rate of the targeted offenders, and both succeeded” (Sherman and Eck, 2002, p312). Drawing the simple conclusion, however, that proactive investigations are therefore effective under most circumstances is a different matter. Martin and Sherman (1986) note that the findings of the ROP study should be treated with some caution. First, there was no measure of the effects of the project on levels of crime. Also, there were direct costs involved in obtaining the necessary equipment for the unit (e.g. for surveillance), and the overall arrest productivity of officers decreased. Finally, the authors acknowledge that there is a question as to whether the outcomes would be replicated if the project was repeated in other settings.

Even putting some of the cautionary observations to one side, a critical issue in proactive investigations is that of how targets are selected. In the ROP, no systematic mechanism was developed for setting up active targets – selection was based on informal understandings of what makes a ‘good’ target. ROP officers deliberately ended up targeting offenders wanted on warrant (accounting for 46% of total arrests). Other ROP targets who were believed to be actively committing felonies accounted for only 24 per cent of arrests, while the balance (30%) were offenders who were encountered ‘serendipitously’ in the course of pursuing ROP targets. A central feature of effective proactive strategies is, therefore, likely to be identifying and then effectively targeting those individuals most likely to be prolific offenders. In England and Wales, the list of nominals (target offenders) is usually generated by a intelligence unit based on information known about the offending population in the area. However, some work exploring offender targeting carried out by Townsley and Pease (2002) in one BCU found that the offenders being nominated by the intelligence unit did not, in the main, appear to contribute disproportionately to the level of crime in the BCU. It has also been suggested that even if the target offenders chosen are appropriate, further actions may need to be taken to yield long term crime reduction benefits (Eck, personal communication). Unless alongside the targeting repeat offenders, existing opportunities for committing crimes are removed, new offenders are likely to discover and exploit these opportunities in the future.

### Specialist squads and operations

The types of squads operating in police forces vary from those that focus on the investigation of specific crime types (e.g. vehicle crime), through those who are structured to deal with police work in a less traditional manner, and those that are convened for specific operations targeting specific problems.

Bloch and Bell (1976) examined the effectiveness of team policing and their investigations in a US town. The investigative personnel and management in the force had been restructured, and there had been an indication that this had led to an increase in arrest and clearance rates. An initial evaluation had showed that the increase in clearance rates in some of the areas that had been restructured were due an improvement in performance rather than other factors. The purpose of the study was to examine the effectiveness of the restructured teams and explore the reasons why the new team structures were associated with improved performance. The investigative personnel had been allocated into Co-ordinated Team Patrols (CTPs), each team consisting of uniformed patrol officers, detectives and dedicated supervisors. The team objectives were specifically to improve arrest and clearance rates. The research examined the effectiveness of this approach for burglary, robbery and theft investigations by looking at over 7,000 cases retrospectively.

The study found that those investigators organised as teams had higher rates of arrests and clearances compared with a control group that were not structured in this way. For example, teams were 50 per cent more likely to make an arrest as a result of a burglary investigation, and three times as likely to make an arrest in robbery cases as those not organised in teams. The teams were also more likely to make on-scene arrests. The factors contributing to the success cited were that the teams were more aware and focused on arrests as a performance measure, made more responses to in progress cases and used photographs of criminal suspects more than the control group. In general, the study indicated that improved arrest rates were a function of better screening and performance focus in the teams, combined with effective supervision. In this particular case, screening procedures appear to have had a positive impact on the *effectiveness* of investigations, in addition to their efficiency.

In spite of these positive outcome measures, the rates for *prosecution* were found to be similar between teams and the control group. Furthermore, the arrests that the teams made at the scene were less likely to be prosecuted than on-scene arrests by the control group. Overall, although the study provided some evidence of the success of different management of investigative resources in terms of improved outcomes, these effects may be due to factors other than team organisation alone. First, as the authors point out, the supervision allowed more flexibility in the investigative procedures allowing the teams more flexibility in terms of actions taken. Furthermore, the results indicate that the teams were focused on the arrest rates, but these did not necessarily lead to greater numbers of offenders prosecuted.

There have also been specific proactive operations aimed at identifying and apprehending repeat offenders. In the late 1970s and 1980s there were a number of 'sting' operations in the US, which usually involved police purchasing stolen goods, posing as handlers of stolen goods. The evaluations of the operations were reviewed and summarised by Weisburd and Eck (2004). According to the authors, the evaluations suggest that these operations did appear to apprehend more criminally active and older offenders in comparison to general arrestee profiles. However, as the authors also point out, the research designs employed were often not strong enough to draw any firm conclusions.

### Broader evaluations of police operations (including investigative components)

Proactive investigations have also featured as components within several (evaluated) over-arching operations to tackle specific crimes (focusing on robberies and burglaries). Operation Bumblebee was launched by the MPS to tackle a particular burglary problem. At the same time two other forces, Gloucestershire and Hampshire, implemented similar initiatives. Stockdale and Gresham (1995) evaluated these initiatives in terms of their effects on burglary levels and detections, and the police perspective on these operations. Although the operations shared many features, there was also considerable variation in the initiatives. For example, all the operations emphasised the use of intelligence in investigations, but whereas those run in the MPS and Gloucestershire had a publicity campaign, Hampshire did not. Also, Operation Gemini in Gloucestershire was designed to target vehicle crime (in addition to burglary offences).

There were reductions in the number of burglaries and increases in the detection rate for this crime, particularly in the MPS area. The increase in detections appeared, however, to be mostly due to increases in the number of offences that the offender asked the police to take into consideration at the time of the interview or at a later stage when imprisoned for another offence. Furthermore, as the authors point out, the evaluation was conducted rather soon after the implementation of the operations, and the causal link between the operations and effects on crime (and detections) cannot be established due to the presence of external factors influencing performance. Detection *rates* can, of course, increase simply due to the impact of falling numbers of crimes detections remaining constant.

Stockdale and Gresham (1998) examined the effectiveness of Operation Eagle Eye, designed to combat street robberies in London. The operation was launched by the MPS and British Transport Police, and aimed to reduce street robberies and increase the number of robberies cleared up. The operation had a proactive focus with emphasis on the use of intelligence in policing. The operation was also intended to improve investigative practice and focus resources more effectively together through the deployment of better quality equipment. In

order to evaluate the operation, two other forces that used different means for targeting street robberies were chosen for comparison. Statistics on crime levels and detection rates for Operation Eagle Eye areas were compared to rates before programme implementation, as well as to MPS areas where the operation was not implemented.

The findings were somewhat inconclusive. There had been an increase in the detection rates during the operation but the figures were not perfectly comparable over the period. As the authors point out, the areas were chosen because they were had a robbery problem and other areas may have had their own initiatives. Furthermore, there was some indication of displacement, while there was a concern that the results indicated that the positive effects of the operation would not be sustainable.

The authors conclude that although the general effects of the operation were positive, considering the costs, sustainability, required commitment, changes and effort, the long-term applicability of the programme was unclear. However, the evaluation identified several positive features and good practice that could be applied to street robbery operations, without having to implement the operation comprehensively.

## Summary

There is still no commonly agreed definition of what constitutes a proactive investigation and this hinders any assessment of their effectiveness. Some studies have focused on operations that target particular offenders at large. A further complicating issue is agreement as to what the main outcome of proactive investigations should be. Proactive investigations might be seen primarily as a crime reduction technique rather than a mechanism for ensuring better investigative performance or higher rates of incarceration.

The ROP study provides robust evidence that targeting known offenders can be productive. There remain, however, concerns about how effectively this particular initiative could be replicated elsewhere. Moreover, a critical issue for all proactive approaches is the effectiveness of the targeting process and the ease with which the most appropriate targets can be identified, located and a case built against them. Additional barriers include investigators' workloads, managing competing priorities and abstractions and more generally, the dominant culture of reactive policing.

The final factor may be a consequence of the way that proactive investigations/approaches are viewed within the wider debate about the allocation of resources. They are often considered to be an alternative to reactive investigations. However, research has suggested that these two approaches to investigating crime should be used in a complementary fashion. Reactive investigations often provide the intelligence required to drive proactive investigations and proactive techniques are often useful in gathering evidence once a suspect has been identified in a reactive investigation.

## 8. Conclusions

The study has examined the research literature into volume crime investigations. It has aimed to permit a better understanding of the investigative process, and in doing so, identify effective and efficient approaches to the investigation and detection of volume crime. The review also attempted to identify investigative practices and actions that are likely to lead to positive outcomes.

There are two approaches to investigating crimes that the police can adopt: reactive and proactive. A reactive investigation is typically carried out in response to a crime reported by a member of the public and can therefore be argued to be crime-focused. By contrast, proactive investigations take as their starting point the offender, often initiated on the basis of police intelligence, and frequently target repeat offenders. The research reviewed, however, has indicated that most studies have concentrated on reactive investigations (or components of them), and these still account for the vast majority of volume crime investigations.

### Research into the detection of crime

A central finding from early studies in the 1970s was that the police have only limited control over whether crimes are solved. Police investigations are often highly complex. Although the range of initial investigative actions investigators have at their disposal is not extensive, how they are applied and their outcomes, are highly dependent upon the context of a particular crime. Some crimes virtually solve themselves (for example in cases where the victim/witness is able to name the offender). By contrast, there are crimes that remain unsolved regardless of the resources and effort invested in the investigations (for example in cases where there are no witnesses, forensic evidence or other leads). In the middle of these two extremes are cases where leads are available, but investigative efforts need to be expended to follow up the leads in order to solve the crime. The context of the crime plays a central role in determining whether or not it is detected.

Four other points are worth highlighting from the general overview of the research in terms of how detection rates vary and what solves crime. First, variations in the 'crime mix' of a particular area have been found to influence overall detection rates. Second, after controlling for other factors, police officers per head of population, and the number of crimes per officer, have been found to be associated with clear-up rates (higher number of police officers per head and fewer crimes per officer each being associated with higher detection rates). Third, the public have been found to play the key role in crime investigations and, ultimately, in determining the outcomes of investigations. A high proportion of detections are achieved through information from the public. Finally, both preliminary *and* secondary (follow-up) investigations (and information obtained from each) have been found to be important in solving crime. Although preliminary information guides the direction of the investigation and provides leads, the specific actions taken by those undertaking follow-up investigations were found to significantly predict the likelihood of detection. For those offences that fall into the middle category of detectable offences, what the police do to investigate crimes does appear to make a difference to the outcome of a case.

### The investigative process

The initial contact and police response is the first stage in the investigation process and provides the police with the first opportunity to collect information about the crime and to respond to the crime promptly. Research has indicated that this stage in the investigative process is highly context-specific and heavily dependent upon the quality and timeliness of information provided by the public. Arresting offenders near or at the scene makes a relatively large contribution to total detections for volume crime offences. However, the main factor determining whether an offender is apprehended at the scene is the length of time between the crime being committed and reported. Crimes that are reported in progress and responded to without a delay are associated with much higher chances of detection. However, reflecting the context-specific nature of investigative actions, speed of police response is only important



in this subset of crimes. Whether crimes are reported without a delay is highly dependent on victims and witnesses. The subsequent police actions – call grading, resource allocation and police response are dependent on the circumstances of the crime reported. By no means all volume crimes receive a response even an initial police response. To manage resources, forces will sometimes assign crimes for telephone investigation only.

A considerable proportion of all suspects are identified and arrested on the basis of the actions conducted by the first responding officer. The range of actions carried out at the scene are often limited; the circumstances of the crime will influence what actions are carried out, and how useful they are in leading to a positive outcome. Taking statements from, or more generally speaking to victims and witness, are the most commonly undertaken actions across all volume crime types. They appear to be associated with positive investigative outcomes; many studies have indicated that a large proportion of crimes are detected through the information obtained from victims and witnesses. The association between these actions and positive outcomes needs to be carefully interpreted. It might simply reflect that detectable crimes have victims or witnesses present who can provide helpful information, not that the process of taking statements in itself detects crime. On the other hand, a commitment by investigators to seek out and locate witnesses and effectively interview them might well be associated with more comprehensive investigations (and possibly better outcomes).

Very little research has explored the quality of routine initial actions or the decisions investigators make at this critical stage, and how this influences investigative outcomes. However it is not only the actions undertaken *per se*, but *how* these are undertaken that will influence the quality of the investigation. There is likely to be variation in the quality and extent to which actions are carried out, possibly due to differences in officers' investigative skills and experience.

The choice of actions at the scene is influenced by crime type –house-to-house enquiries are often a key part of burglary investigations, whereas area searches are more helpful in yielding useful information in robbery and vehicle-crime investigations. The evidence base around other actions is, however, less conclusive due to the specificity of context.

Just as not all crimes are attended, not all crimes continue to be investigated after the initial enquiries have been completed. Some are filed at this stage, typically due to lack of leads and low likelihood of the case being solved. The decision-making process by which cases are allocated for further investigation is generally known as case or crime screening. The screening processes may be either formal or informal. The evaluation of one screening tool found it to be effective in identifying cases that could be detected, but it resulted in the majority of cases being screened out. The main aim of screening tools has been to improve the efficiency of investigations by ensuring resources are targeted towards the most promising cases, rather than improving effectiveness (through obtaining more detections). Nonetheless it may be that through better targeting of resources, some cases are investigated more thoroughly and therefore are more likely to be detected.

Research has shown that investigations that are screened in for secondary investigations generate a more diverse set of investigative actions than at the initial response stage, reflecting the context-driven nature of actions. How further investigations are carried out is dependent on the leads available from the initial enquiries. The research evidence has shown that secondary investigations may include actions such as revisiting crime scenes, reinterviewing victims or witnesses, surveillance operations and use of informants. Whether these actions are appropriate and/or effective is, again, dependent on the specific circumstances of a case. Therefore assessing their contribution to the detection of crime is difficult, and the available research evidence is inconclusive in terms of identifying actions which might generally be seen as being 'effective' at the scene.

What does appear to be clear from the research evidence is that whether cases continue to be investigated after the initial enquiries, and if so what actions are carried out, is dependent on the information obtained during the initial investigations. Hence the quality of information obtained during initial enquiries, and how this is recorded, is likely to be extremely important

in both the selection for and subsequent progress of secondary investigations. The initial police investigation therefore plays a dual role in terms of providing the best opportunity to detect a crime, and otherwise being an important influence on the decision to continue an investigation.

### Managing the investigative process

One area which has not yet been explored in detail is the overall management and supervision of the investigative process. This is something which covers all stages of the investigation. Several studies have highlighted management and supervision as being important factors within investigative performance. Hewitt's (2002) exploratory study identified supervision and controlling the quality of investigations as key issues that affect case attrition throughout the investigative process. The general causes of poor supervision and quality control included problems with unclear lines of responsibility, staff inexperience, high workloads, management support and force culture. Low status of certain personnel/roles was also identified as hindering performance; many roles that are crucial for effective policing, such as custody officers and crime managers, are seen as low in status and given to officers who have not excelled on other duties. Similarly, the status of roles within the criminal justice system arena was often low, and not seen as important to 'real' police work. The study also flagged force philosophy, clashes with performance regimes, lack of use of available advice and guidance, and issues with inadequate IT systems. Newiss (2002) identified problems with supervision, unclear responsibilities and hence lack of accountability as hindering effective robbery investigations. Burrows (1986) identified the management style as being influential on the effectiveness of burglary investigations. The supervisors and senior managers based in higher detection rate areas were found to be more aware of detection performance; they also placed more value on this as a measure of police performance.

### Overall themes and observations

The following key themes can be taken away from the existing research literature.

- *Investigations are dependent on the context and circumstances of individual crimes.* How easy it is for the police to solve a crime is affected by various factors some of which are outside their control. Furthermore, the appropriateness and effectiveness of investigative actions, at every single stage of the investigative process, are dependent on the context and circumstances of the crime.
- *Assessing the effectiveness of specific investigative actions is difficult.* This is largely due to the context-specific nature of crimes and their investigations. The actions the police undertake and their effectiveness are confounded with other factors such as the actions of victims and witnesses. Unravelling the effects of one from the other is challenging, and more research needs to be done to gain a better understanding of these relationships.
- *There is variation in the quality of investigative actions.* Effectiveness of investigative actions at any given stage is likely to vary according to the investigative skills and experience of the investigating officers. Therefore how thoroughly and how well any particular action is carried out is likely to influence the outcome of the action.
- *The contribution of proactive investigations to detections.* Of all the aspects of the investigative process, proactive investigations have arguably been subject to the highest quality research. Studies of the impact of operations to undertake 'proactive' arrests of known offenders have yielded positive results in terms of incarceration rates and longer sentences. A study to compare the assignment of 'targets' to a repeat offender team and a control found that, although overall arrest productivity decreased, teams undertaking targeted arrests apprehended offenders who had longer criminal histories and were committing more serious offences (compared with the control). However some cautionary points are worth making. The best evidence of impact has been confined to handful of US studies; the UK evidence base is limited. A critical issue remains about which particular offenders are the most appropriate focus for proactive investigations. Recent research has moved towards downplaying the distinction between reactive and proactive

investigations – the complexity of the investigative process has highlighted the symbiotic nature of these two approaches to the investigation of crime.

- *Organisational and human resources factors can have an impact on investigations.* Problems in organisational procedures, management of staff, perception of roles and responsibilities at any stage of the investigation can all have a negative impact on investigative performance. Conversely, particular ‘investigation friendly’ management styles and effective supervision appear to be linked to better performance.

## General comments and recommendations

The general message from the research reviewed is that there is no single solution to improving investigative performance. The research evidence reveals that effective investigative practice is far too context-specific to allow for this. At the same time, however, this should not be interpreted as ‘the police can do nothing about investigative performance’. There are currently clear boundaries to understanding in this area. Effective witness and victim management is central to detection but this is more than simply taking statements. Not locating and effectively interviewing victims and witnesses will increase the likelihood of investigative failure. What the research offers less clarity over is, other factors being equal, what kinds of witness searches and statement taking bring investigative success, given a specific set of contexts?

There are a number of areas that can be highlighted as elements where the police service could focus efforts. At this point it is worthwhile to return to Eck’s triage. Putting an investigative framework on Eck’s triage would imply that the police should ensure that the following procedures are carried out:

- All minimum effort cases are handled effectively at the initial response stage and seen through successfully to charge
- The number of medium effort cases to result in detections is maximised
- Genuinely unsolvable cases are screened out as early as possible, with any freed up capacity devoted to the second category of investigations, notwithstanding the need to use resources to provide reassurance to victims.

More specifically the research would appear to highlight the following as critical actions and points in the investigation where the police could improve investigations:

- *Improving the quality of initial response.* This stage is critical because: almost all offences go through this stage; they yield most detections; better information saves repeat visits and, increases the likelihood of appropriately targeted secondary investigations. Also, if the quality of the initial police response was improved, it is likely that the quality of information being passed on to any subsequent proactive investigation will be enhanced.
- Exactly what this might entail in practice is hard to determine but it will probably include:
  - ensuring up-front resource capacity to respond to crimes in progress;
  - better and more intrusive supervision;
  - training/mentoring new officers in how to think about crime solving, not just to adopt a task by task approach to investigations;
  - developing the right kind of performance regimes to yield success in 1 and 2 triage cases; and,
  - improving BCU commanders/supervisors’ understanding about failures to successfully detect 1 and 2 triage cases (i.e. what is the predominant reason for initial response investigative failure within specific contexts – are there generic issues like witness intimidation, etc., present?).



- The second critical point of intervention would appear to be at the post-arrest stage. The rationale is slightly different to focusing on initial response. The critical issue with the charge stage is, notwithstanding Crown Prosecution Service involvement in the decision to charge, minimising missed opportunities to charge offenders who have been arrested.
- Overall improvements in management and supervision of investigations
- Looking at proactive investigations in more detail and identifying what good proactive volume crime investigation actually means in practice.

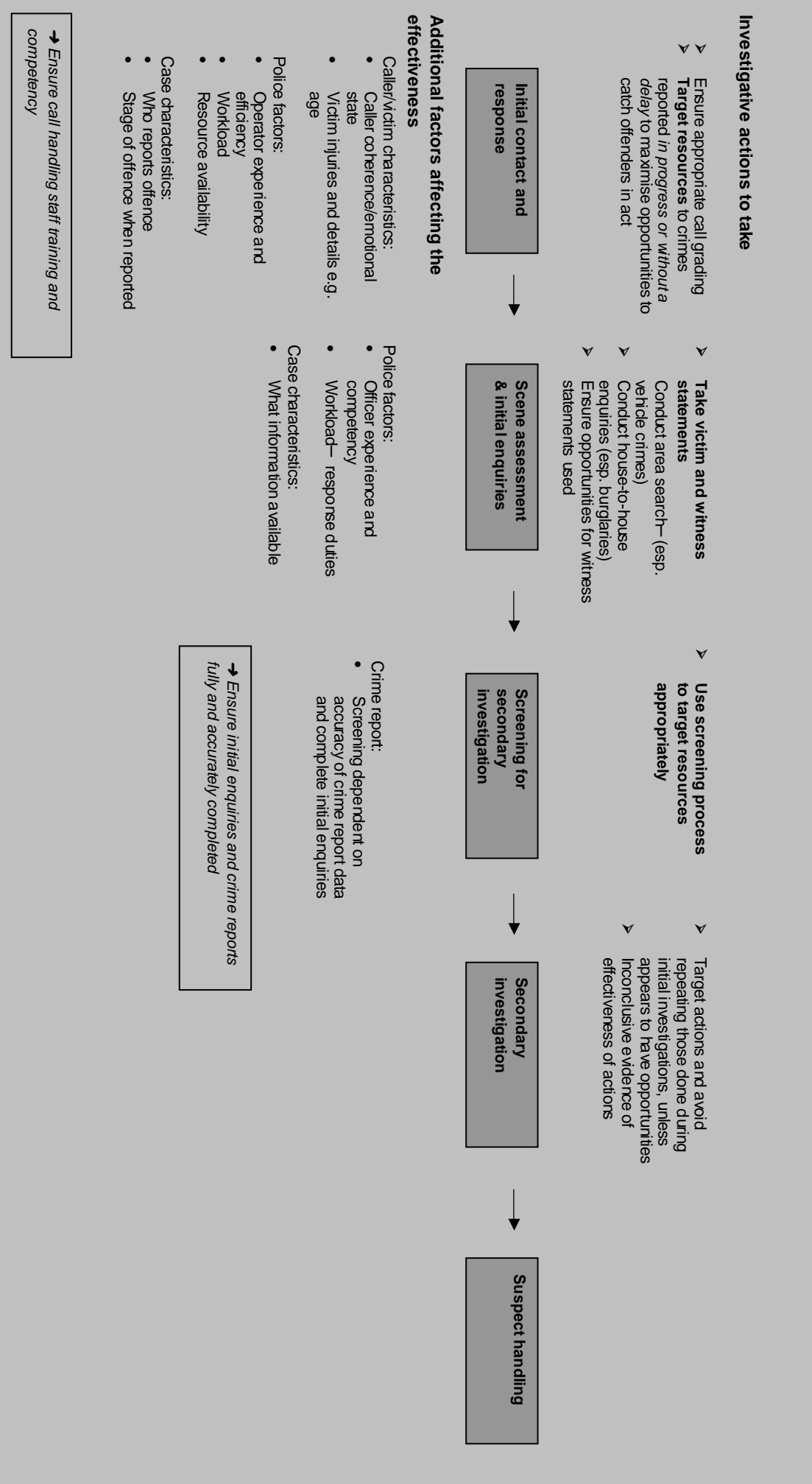
Finally, on a more general level, given the critical role of the public in influencing the outcome of investigations, it would be worthwhile for the police service to focus some effort on generating a more iterative and improved relationship with the public. In order to encourage speedy reporting, rather than dampening the expectations of the public as to investigative outcomes, the police should encourage a positive outlook in order for victims and witnesses to engage with the police and recognise the key role they play in the investigative process.

What is also apparent from the review is that there are clear gaps in the knowledge of what works. Maximising the effectiveness of reactive and proactive investigations is critical for improving police performance in detecting crimes. However, the research evidence has also indicated that there are limitations to the extent to which investigations can yield detections. Investigations are highly context specific, and circumstances surrounding any one crime have a major impact on what police can and cannot do.

There may, however, be scope for new approaches and innovations in this arena that can further improve aspects of performance. For example, Eck (personal communication) has noted the possibility that interventions developed for crime prevention and reduction may have an impact on crime detection; these interventions work by increasing the risk offenders face thus also potentially providing the police with more or easier opportunities for detections. Pease (1998) has highlighted the fact that repeat victimisation is often due to the activities of repeat offenders, so by making an effort to detect repeat victim crimes the offenders caught are likely to be more serious criminals accounting for a larger proportion of crimes. Furthermore, if efforts are made to link these offenders to other crimes committed, detection opportunities can certainly be maximised.

Finally it is noted that, as the reviewed research evidence indicates, effectiveness of police investigations is typically measured in terms of the immediate outcomes such as arrests or detections. Whilst these can be argued to provide some proxy measures to the extent to which police investigations contribute to offenders being brought to justice, the lack of a developed research base looking at the contribution investigations make to crime reduction is evident. These are topics that may benefit from further examination.

Figure 8.1: Summary of the key factors in investigative process



## Appendix A. Search terms

Terms used in the literature searches.

- Investigation(s)
- Volume crime
- Robbery
- Burglary
- Vehicle or car crime
- Non-serious stranger violence
- Detection(s)

In many instances a very large number of records were retrieved. In these instances the searches terms were combined to narrow the search parameters (e.g. 'investigation(s)' and 'volume crime').

Also, a list of additional terms describing specific processes, such as 'call handling' were used to search each source. This was done to ensure any studies about particular investigative actions would be retrieved. These terms included:

- call handling
- case or crime allocation
- crime screen(ing)
- case screen(ing)
- (unit) despatch
- house-to-house (enquiries)
- house (enquiries)
- caught in action
- cell tech(nology)
- CCTV & investigation(s)
- stranger violence
- failed cases
- fail(ure) convict
- convict burglary/ robbery/ vehicle or car (crime)
- interview victim burglary/ robbery/ vehicle or car (crime)
- interview witness burglary/ robbery/ vehicle or car (crime)
- modus operandi
- interview suspect burglary/ robbery/ vehicle or car (crime)
- crime scene burglary/ robbery/ vehicle or car (crime)
- detection burglary/ robbery/ vehicle or car (crime)
- identif(ication) burglary/ robbery/ vehicle or car (crime)
- ANPR
- proactive policing/investigations

## Appendix B. Details of studies

**Table B.1: Volume crime investigation studies meeting inclusion criteria**

Author, title, publication date, location	Objectives	Area(s) of the investigative process examined	Methods used	Sample summary	Outcome measures
Amey, P., Hale, C. and Mieczkowski, T. (1996). <i>Development and evaluation of a crime management model.</i>	Evaluation of the effectiveness of crime management model.	Crime management.	A survey, analysis of recorded crime and detections, activity analysis, and staff survey.	A nationwide survey of crime management in police forces; two sites from two forces chosen as pilot sites, with other sites within these forces as control sites, with 154 members surveyed.	Recorded crime, detection rates, staff attitudes.
Audit commission. (1993). <i>Helping with enquiries: tackling crime effectively</i>	Assess crime management practices, their efficiency and how these can be improved.	Crime management.	Observations, document analysis, official statistics, victim survey.	Research carried out in forces in UK; five examined in detail. No further details provided.	Crime rates, detection rates, organisational structures and systems (inc. associated problems).
Audit commission. (1996). <i>Detecting a change: progress in tackling crime: bulletin</i>	Identify practices that account for good performance at force level.	Overall investigative process.	No information provided.	Six forces were selected for inspection, based on their good performance in terms of house burglary detection rate.	Number of crimes recorded, number of clear-ups, clear-up rate.
Blake, L. and Coupe, R.T. (2001). <i>The impact of single and two-officer patrols on catching burglars in the act</i>	Evaluate the effectiveness of single and two-officer patrols at catching burglars in act, and the effects of other factors.	Initial contact and police response.	Case file analysis of crime reports, self-completion questionnaires, site observation.	Sample of 441 burglaries reported in progress were sampled from one UK force, also over 100 officers were surveyed and some burglary sites observed.	Whether offender caught in act or not.

**Table B.1: Volume crime investigation studies meeting inclusion criteria**

Author, title, publication date, location	Objectives	Area(s) of the investigative process examined	Methods used	Sample summary	Outcome measures
Bloch, P.B. and Bell, J. (1976). <i>Managing investigations: The Rochester system</i>	Evaluate the effectiveness of a policing strategy and factors contributing to the success.	Organisation of investigations.	Analysis of case files, qualitative interviews with and observation of police personnel, self-completion questionnaire administered to police.	The evaluation was conducted in some divisions in one city, comparison of performance of two team patrols and a group of non-team patrols (326 staff) chosen to be representative of characteristics of division officers; 7,582 case files examined, 120 officers surveyed.	Clearance and arrest rate, on scene arrest rate and rate for prosecution, preliminary investigation arrest rate, follow-up investigations arrest rate and prosecution rate; also factors affecting these.
Brandl, S.G. and Frank, J. (1994). <i>Relationship between evidence, detective effort, and the disposition of burglary and robbery investigations</i>	Evaluate the relationships between time spent on follow-up investigations, strength of evidence available and case outcome.	Follow-up investigations.	Case file analysis.	Data was obtained from one medium sized municipal police department. All burglary and robbery cases with follow-up investigations from July 1990 to 1991 were examined, altogether 609 cases.	Case closure status- arrest vs. no arrest.
Burrows, J. (1986). <i>Burglary: police actions and victims' views</i>	Examine factors associated with differences in clear-up rates and to identify effective investigative strategies.	Overall investigative process.	Analysis of crime reports, observation of the police, semi-structured interviews. Analysis of sub-divisional statistics, offence details, crime classification practices and activity analysis.	Six areas were chosen based on their burglary rates and clear-up rates; a matched pairs design. From these random sample of 636 cases drawn.	Clear-up rate.
Burrows, J. and Taiting, R. (1982). <i>Clearing up crime</i>	Examine variety of factors affecting clear-up rates.	Clear-up rates (and factors affecting them).	Analysis of crime statistics, data relating to forces e.g. number of officers from police, use of sociodemographic data.	Crime statistics were obtained from 41 forces, one year's statistics.	Clear up rate, clear up rate without TICs and other clearances without proceedings, and relative clear-up rate (relative to clear-ups per offender and crime rate).

<b>Table B.1: Volume crime investigation studies meeting inclusion criteria</b>					
<b>Author, title, publication date, location</b>	<b>Objectives</b>	<b>Area(s) of the investigative process examined</b>	<b>Methods used</b>	<b>Sample summary</b>	<b>Outcome measures</b>
Clawson, C. and Chang, S. (1977). <i>The relationship between response delays and arrest rates</i>	Examine relationships between response times and whether offenders are arrested at scene	Initial contact and police response.	Case file analysis.	All the incident logs from one force for one year were included (if the calls had measured response times), altogether 2,532 cases.	Arrests made at scene
Coopers and Lybrand, (1994). <i>Evaluation of call grading.</i>	Examine call grading structures and systems in place; related issues such as call grading and staff training.	Initial contact and police response.	A nationwide telephone survey (England and Wales) and observations of call handling in the forces.	43 police officers (from forces in England and Wales) interviewed over the phone, 5 forces observed.	Call handling systems in place, call grading processes and policies, staff, training and IT systems.
Coupe, T., Elmwood, N. and Kaur, S. (2002). <i>Solving non-residential burglary.</i>	Examine police response to and investigation of non-residential burglary; assess actions that contribute to detections.	Overall investigative process.	Questionnaire surveys of officers, case file analysis of crime reports, interviews with victims and surveys of burglary sites	The study focused on one UK force; the case sample included 765 cases of which half were detected and half not randomly selected, 657 and 1008 officers surveyed in parts 1 and 2 of the study, 299 victims interviewed.	Detection rate and no of offenders caught in act
Coupe, T. and Griffiths, M. (1996). <i>Solving residential burglary</i>	Examine how burglary cases are solved, effectiveness of investigative actions. Also assessed victim satisfaction with police.	Overall investigative process.	Questionnaire surveys of police officers, analysis of police statistics, crime report analysis, observation of burglary sites and victim interviews.	The research was conducted in two divisions from one UK force. 704 burglary investigations were examined, out of 5,768 cases. (50% detected, 50% not)	Detection rate, staff time spent.
Diez, L. (1995). <i>The use of call-grading: how calls to police are graded and resourced.</i>	Assess how calls are graded and allocated resources; examine police response to calls.	Initial contact and police response.	Analysis of police data on calls, observations of call handlers and officers, also information was drawn from results of an unpublished study.	Four forces participated; a random sample of 10,000 calls was drawn (10% of population), and observations accounting for 85 calls undertaken.	How calls are received, how calls are graded, resourcing calls to police.
Eck, J.E. (1983). <i>Solving crimes:</i>	Explore characteristics of investigations e.g.	Overall investigative process.	Case file analysis and self-complete forms filled by	Sample consisted of 3 police agencies in the US, data collected over 8 months.	Actions taken, sources of information used, information

<b>Table B.1: Volume crime investigation studies meeting inclusion criteria</b>					
<b>Author, title, publication date, location</b>	<b>Objectives</b>	<b>Area(s) of the investigative process examined</b>	<b>Methods used</b>	<b>Sample summary</b>	<b>Outcome measures</b>
<i>the investigation of burglary and robbery.</i>	time spent, actions taken and information collected. Also to assess the contribution patrol officers and detectives make to arresting of suspects.		officers and detectives. In addition observations were undertaken to complement the data.	Three types of data utilised: departmental records e.g. crime records, self-report forms and observations.	obtained, days cases remain open, days spent on investigation, time spent on investigation, arrest rates.
Eck, J.E. (1979). <i>Managing Case Assignments: the burglary investigation decision model replication</i>	Assess appropriateness and validity of SRI case screening model, and compare it to other models.	Case screening.	Case file analysis.	The study was conducted in 26 police departments. Of each department approximately 500 burglaries committed in year 1977 were examined.	Arrest rate, allocation for further investigation.
Gill, M., Hart, J., Livingstone, K. and Stevens, J. (1996). <i>The crime allocation system: police investigations into burglary and auto crime.</i>	Examine crime allocation decisions and contribution to investigative performance. Also to explore how investigative actions and processes contribute to successful outcomes.	Overall investigative process.	Postal survey to all forces, observations of police work, semi-structured interviews with police officers.	Nine forces were chosen for more detailed study based on the postal survey findings and other statistics, each of nine forces observed for three days, and in three forces semi-structured interviews conducted with 655 investigating officers.	Case allocation structures, perceived effectiveness of investigative actions and processes, actions undertaken during investigations and their outcomes.
Greenberg, B., Elliott, C.V., Kraft, L.P. and Proctor, S. (1977). <i>Felony Investigation Model: Decision Model: An analysis of investigative elements of information.</i>	Develop screening models for different crimes.	Crime screening.	Case file analysis of crime reports.	The sample consisted of all cases from a three-month period for each crime, altogether consisting of 818 robberies and 1,187 vehicle crimes.	Evidence and leads available from preliminary investigation, clear-up rate.
Greenwood, P.,	Describe investigative	Overall investigative	A national survey of all	Altogether 300 departments were sent	Crimes reported, clearance

<b>Table B.1: Volume crime investigation studies meeting inclusion criteria</b>					
<b>Author, title, publication date, location</b>	<b>Objectives</b>	<b>Area(s) of the investigative process examined</b>	<b>Methods used</b>	<b>Sample summary</b>	<b>Outcome measures</b>
Chaiken, J. and Petersilia, J. (1977). <i>The Criminal Investigation Process</i>	organisation and practices: assess role of investigations in criminal justice, and reveal if differences in organisation, staffing and procedures effect outcomes of investigations.	process.	municipal or county police departments of sufficient size (majority postal questionnaires, some face-to-face), interviews, observations, police statistics and through case file analysis. Official FBI statistics/data for 296 departments also used.	surveys, of which 153 responded. Based on the information from this survey, four departments were chosen for more detailed study and visits. Relevant FBI statistics and data relating to all departments were also used.	rates, arrest related measures, how crimes are solved, quality of details given to prosecutors
Hewitt, M. (2002). <i>Nine force attrition study</i>	Identify causes of case attrition through the investigative process.	Case attrition.	Interviews with officers.	Nine UK and Wales forces chosen (variety of urban and rural, geographical characteristics), police officers and managers interviewed (N not known).	Key processes and stages where attrition occurs including factors affecting attrition.
HMIC. (1991). <i>Study of the investigation of offences of burglary in dwellings</i>	Assess nature of offences committed and how investigations are conducted i.e. what actions taken.	Overall investigative process.	Case file analysis.	The study was conducted in selected areas of one force, 2,477 case files of burglaries committed in 1989 were sampled.	Detection rate, actions taken during initial investigation, investigator details, offender details, victim details, type and value of property stolen.
Bleck, W. and Kessler, D.A. (1977). <i>Response Time Analysis</i>	Examine relationships between police response times and arrests, witness availability, victim satisfaction and injuries.	Initial contact and police response.	Observations of police officers responding to calls, analysis of taped conversations between call takers and those reporting crimes and interviews with victims of crimes.	Sample consisted of 949 crime calls made during 56 police shifts observed (from total of 207 shifts) in Kansas City.	Arrests made on scene, witness availability, level of injury received, victim satisfaction, reasons for reporting delays.



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<b>Author, title, publication date, location</b>	<b>Objectives</b>	<b>Area(s) of the investigative process examined</b>	<b>Methods used</b>	<b>Sample summary</b>	<b>Outcome measures</b>
Jacobson, J., Maitland, L. and Hough, M. (2002). <i>Investigating burglary</i>	Explore investigation process of burglary, to develop general principles for effective investigation of burglary.	Overall investigative process.	Crime file analysis, interviews and focus groups with police officers, observations of officers work.	The research was conducted in three policing areas in UK, from two forces chosen to vary in terms of demographics and geography.	Investigative processes and underlying principles
Martin, S.E. and Sherman, L.W. (1986). <i>Catching career criminals: The Washington DC Repeat Offender Project.</i>	Evaluate problems and effectiveness of a proactive policing unit (Repeat Offender Project)	Proactive policing.	Analysis of case files and observation of officers at work.	424 ROP targets were chosen and assigned for teams. 209 officers (all ROP and sample of other officers) for comparison of arrests made between ROP and non-ROP.	Number of targets arrested by ROP and non-ROP, arrest histories and seriousness of those arrested, final case disposition and arrest productivity (total and crime type).
Newiss, G. (2002). <i>Responding to and investigating street robbery</i>	Identify critical factors in the police response to robbery including broader features of robbery investigations; assess how the quality of investigations could be improved.	Overall investigative process.	Analysis of crime reports and semi-structured interviews.	Sample of 293 robbery cases drawn from five BCUs, and 16 interviews (with 17 officers of various roles) conducted.	How crime reported and when, whether scene attended and when, type of information collected from scene, main lines of enquiry used, use of linking cases, how suspect identified, identification procedures and their results, results of suspect cases (e.g. whether prosecuted, convicted etc), wider issues relating to robbery investigations.
Spelman, W. and Brown, D.K. (1981). <i>Calling the police: citizen reporting of serious crime</i>	Assess applicability of Kansas City study results to other areas; examine why citizens delay reporting crimes to the police and the effects of the delays.	Response times.	Case file analysis, interviews with people involved in crimes.	A stratified random sample of 3,332 crimes (burglary, robbery, theft of motor vehicles, aggravated assault, larceny, rape) from four police areas drawn. 4,095 telephone or face-to-face interviews were carried out with victims, witnesses and/or bystanders of the crimes.	Response related arrests made, reporting delays and reasons for delays, length of reporting delays.

<b>Table B.1: Volume crime investigation studies meeting inclusion criteria</b>					
<b>Author, title, publication date, location</b>	<b>Objectives</b>	<b>Area(s) of the investigative process examined</b>	<b>Methods used</b>	<b>Sample summary</b>	<b>Outcome measures</b>
Stevens, J.M. and Stipak, B. (1982). <i>Factor's associated with police apprehension productivity</i>	Identify factors affecting arrest rates.	Factors affecting detection rates.	Case file analysis.	All crime cases for three month period within one US force were sampled, resulting in 1,284 cases.	Arrest rate.
Stockdale, J. and Gresham, P. (1995). <i>Combating burglary: an evaluation of three strategies</i>	To evaluate police operations designed to tackle burglary and to identify good practice associated with these.	Operation/proactive policing.	Use of statistics of crime and clear-ups, interviews with police officers and analysis of documentation about the operations.	Three forces where operations implemented examined, statistics were compared to other forces in terms of crime and clear-ups, 169 officers from these forces interviewed (chosen to represent a variety of functions).	Level of crime and detections; police perspective and support of operations/additional benefits and drawbacks.
Stockdale, J. and Gresham, P. (1998). <i>Tackling street robbery: A comparative evaluation of Operation Eagle Eye</i>	Examine the effects of operation Eagle Eye and other robbery operations on performance against street robbery including detection rate.	Operation/ proactive policing.	Interviews with officers and community representatives, analysis of documentation and crime statistics and data from forces.	Crime records and statistics were examined from all Metropolitan police operational command units, and three comparison forces. Altogether 160 officers with variety of roles and 20 community representatives interviewed.	Attitudes and views of efficiency of operations, numbers of recorded crime, arrests and clear-ups (including secondary detections and admin detections).

<b>Table B.2: Volume crime investigation studies not passing quality assessment</b>						
<b>Author, Title, Publication Date, Location</b>	<b>Objectives</b>	<b>Area(s) of the investigative process examined</b>	<b>Methods used</b>	<b>Sample summary</b>	<b>Outcome measures</b>	<b>Reasons for not passing quality assessment</b>
Pate, T., Bowers, R.A. & Parks, R. (1976). <i>Three approaches to criminal apprehension in Kansas City: An evaluation report</i>	To assess the effectiveness of distributing information about target subjects and to assess the effectiveness of different policing strategies.	Proactive policing.	Case file analysis.	The experiment was conducted in Kansas city police department, which included three divisions and different teams: a normal patrol team, LOP and POP (location and perpetrator oriented) teams.	Arrests, apprehension effectiveness (number of officer hours spent per arrest and conviction, nature of arrests). Quality of arrests (arrests made for robbery as considered more serious, previous convictions of arrestees). Disposition of arrests (arrests for which charges are filed and conviction rate).	The evaluation was constrained to assessing the relative effectiveness of the teams, but does not take into account the overall effect on the overall detection rates (differences would be expected based on different roles). Problems between researchers and police personnel may have biased the results as access to data was not always possible and ongoing programs within the force may have influenced the study outcome. In parts the reporting is not sufficient to assess the quality.
Gaines, L.K. (1983). <i>Case screening in criminal investigations: a case study of robberies</i>	Develop a case screening model for robbery and assess the extent to which the resulting model is similar to earlier models utilising different data.	Crime screening.	Case file analysis.	100 robbery cases from one rural police force in US, drawn from a total of 380 cases occurred during a sixth month period.	Case outcome (suspect arrested or not).	The sample is limited to one rural force in the US. Main limitations are due to the use of factor analysis; this is not fully reported, also some composite variables from the analysis appear arbitrary, (as not fully reported cannot assess). Also, these variables contradict later analysis.
Waegel, W.B. (1982). <i>Patterns of police investigation of urban crimes</i>	Describe detective work of follow-up investigations.	Secondary investigations.	Informal discussions and observations.	Observations in one police division, number of informal interviews not stated.	Actions taken.	Very few details reported, no mention of how data analysed. The report is verging on a discursive paper, some conclusions are not based on evidence presented in the paper.

<b>Table B.2: Volume crime investigation studies not passing quality assessment</b>						
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Thames Valley Police. (2001). <i>Crime Investigation Best Value Review</i>	Evaluate crime investigation systems, structures and processes; assess quality of criminal investigations and crime management.	Whole investigative process.	Self-completion questionnaires, observations, discussions, case file analysis.	The ten force areas were all sampled; 725 crime files were assessed, no details of survey, observation or discussions samples provided.	Systems, structures and processes for crime investigation, crime figures and rates, detection figures and rates.	Assessment of quality not possible due to many details being missing, also some conclusions and statements not based on evidence provided.

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