

# Summary

## Forensic assistants in the forensic investigation process

### Employment, results and experiences in The Netherlands

#### Background and objectives of this research study

In order to improve the performance of forensic investigation after a serious murder case in which the wrong offender was apprehended and convicted (Schiedam park murder), the Dutch Minister of the Interior and Kingdom Relations decided to employ 500 additional forensic assistants, to be recruited in during the period 2008-2011. The objective of this study is to provide an overview of the number of forensic assistants at work and the way in which they are deployed. In addition, the study considers the extent to which the deployment of forensic assistants contributes to the quality and efficiency of forensic crime scene investigation, and in particular the solving of residential and commercial burglaries.

#### Tasks of forensic assistants

Forensic assistants gather a variety of forensic evidence at standard crime scenes (standard CSs). Standard CSs generally refer to the premises where residential and commercial burglaries took place. The forensic evidence gathered usually includes DNA, fingerprints, shoe prints and tool marks. By deploying forensic assistants at standard CSs, the existing forensic investigation capacity can be deployed for more complex cases; which we refer to as 'task specialisation'

#### Three components

This study has three components:

- 1 Documentation: we studied research reports in the area of forensic science, policy papers and quantitative information of the organisations involved.
- 2 Questionnaires: a written questionnaire was sent to the heads of the regional police force forensic investigation units. On receipt of the completed questionnaires they were interviewed by telephone in greater detail. In both cases, the response rate was 100%.
- 3 Interviews: a total of thirty-eight people involved in forensic science and investigation were interviewed, including operational personnel and strategic decision makers. The interviews enabled us to appreciate the decision making processes involved in the initial reporting of a burglary, its investigation and the judicial process.

#### Policy reconstruction

In 2005, the Public Prosecution Service, the police and the Netherlands Forensic Institute (NFI) established that, due to a lack of manpower, the police often failed to carry out investigations at standard CSs. A greater number of standard CSs investigations are important, because this would result in more cases being solved directly. In addition, a greater amount of forensic information could be generated that would identify clusters of similar offences, offenders and offender groups. An expansion of police personnel by 500 persons— referred to as forensic assistants – was thus

desired. In 2007, this became Cabinet policy and the forensic assistants were to be employed in four stages in the period 2008-2011: 125 a year.

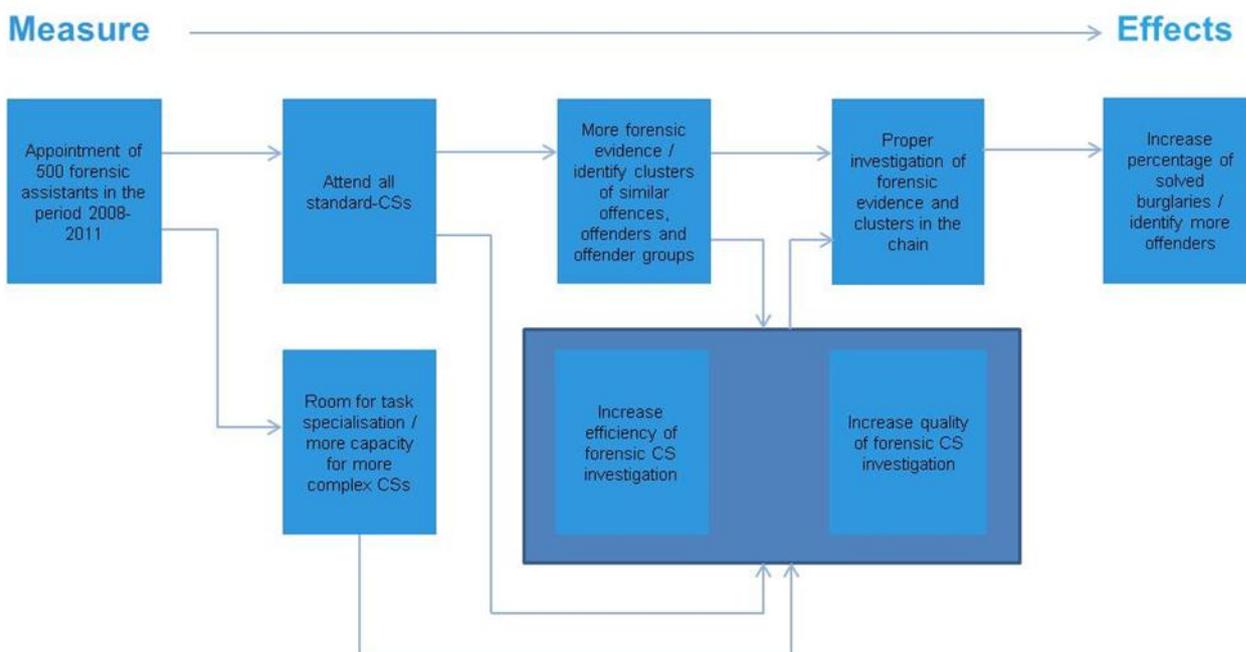
The resulting expenditure amounted to over 30 million euro a year in 2011. In 2006, the Ministries of the Interior and Kingdom Relations and Justice studied the chain of consequences of taking on 500 forensic assistants and concluded that this expansion would only have an effect if the chain partners, which included tactical detectives, the Public Prosecution Service, the NFI and the National Police Services Agency (KLPD), were also expanded.

Ultimately, the 500 FTE were differentiated in functions: forensic assistants investigating standard CSs, additional functions within the forensic investigation units of the regional police forces, forensic advice in the forces and capacity for fingerprint investigation for forces and the KLPD.

The objectives for hiring forensic assistants were, on the one hand, to attend all of the standard CSs – some sources speak of all standard CSs *that qualify for attendance* – and on the other, to increase the number of solved crimes – defined as the number of suspects the police link to burglaries divided by the total number of registered burglaries. Focus is mainly on burglaries in residential and commercial premises and to a lesser extent on vehicle crime.

### Policy theory

The appointment of forensic assistants is a measure targeting various effects. Measure and effects form a policy theory:



Source: DSP-groep

The upper parts of the policy theory have been distilled from various documents in which the appointment of forensic assistants is elaborated and clarified. The lower parts follow from the research plan of this study.

### **Numbers of forensic assistants**

Until the end of 2010 the regional police forces were diligent to the objective of employing the 500 forensic assistants. In 2008, the employment was slightly ahead of the target of 125 per year and in the years 2009 and 2010 was slightly behind. The employment rate then fell further behind resulting in a total of 407 employed late 2011. There were two reasons for this.

Firstly, in 2011, it became apparent that the intended formation of the forensic science service within the forthcoming National Police would probably have to make do with fewer forensic assistants. As a result, regional police forces were becoming more hesitant in employing them. The second reason was that in October 2011, the Minister of Security and Justice indicated that if forces could attend all of the standard CSs with fewer than the intended 500 FTE, fewer forensic assistants needed to be appointed and the capacity could be deployed elsewhere. Consequently, of the 407 FTE forensic assistants employed on 31 December 2011, 312 FTE were available for work at or for the benefit of standard CSs and the other FTE were employed to fulfil the other functions that were part of the arrangement.

### **Tasks of forensic assistants**

Regional police forces deploy forensic assistants to secure traces of DNA and fingerprints at standard CSs. In addition, the majority of the regional forces deploy them to secure shoe and tool marks. However, this is with the exception of Amsterdam-Amstelland and Haaglanden. Unless these two forces have a reason to execute a larger investigation at standard CSs they limit themselves to DNA and fingerprints. This 'narrow' versus 'broad' deployment of forensic assistants has major consequences for the number of forensic assistants required and the amount and character of forensic evidence their work yields. Opinions concerning the effectiveness and efficiency of both approaches vary, and further study is required to establish the most effective and efficient deployment of forensic assistants.

Positive side-effects of the work of forensic assistants at standard CSs are to reassure and support victims and provide crime prevention advice. In addition to securing the specified forensic evidence at standard CSs, all forces deploy forensic assistants for other tasks related to forensic science, the most important task being administrative assistance at more complex CSs. Forensic assistants, on average, spend 87% of their time on forensic research at standard CSs and 13% on other tasks. The average time spent at a standard CS is over 3 hours, which includes travelling, administration and processing.

### **Number of standard crime scenes attended**

An important objective of the appointment of forensic assistants was to attend *all* standard CSs. Whether this objective was realised depends on the definition of a standard CS. Unfortunately, those involved did not define standard CSs sufficiently or unambiguously. Subsequently, whilst standard CSs mostly always included burglary in residential and commercial premises, not always did they include vehicle crime and in fewer cases still did they include shed and garage burglary. Notably, attendance at the CSs of residential burglaries is of the most primary importance to forces. Our research shows that regional police forces have been attending the majority of residential and commercial burglary CSs. In late 2011, they even had sufficient numbers of forensic assistants to attend all burglaries in residential and commercial premises. In practice, however, forces have to make choices: sometimes because the chance of securing forensic evidence at a CS is so unlikely

that attendance is not justifiable and sometimes because the occurrence of burglaries at a specific time period is too high to allow for all of the CSs to be attended. In the latter case residential burglaries take priority over commercial burglaries. Additionally, it shows that forensic assistants do not spend all of their available time attending standard CSs – they also execute other useful tasks in forensic investigation. The number of CSs attended by forensic assistants is proven to have doubled in the period 2009-2011, so we conclude firstly that forces have taken on sufficient capacity to attend CSs of burglaries in residential and commercial premises and secondly that in practice they have succeeded in attending most standard CSs.

### **Efficiency and quality**

The heads of the forensic investigation units agree that the deployment of forensic assistants has resulted in an increase of attendances to standard CSs. In the past attendance at more complex CSs would often taken precedence over standard CSs. In addition, they believe that the introduction of forensic assistants has meant that standard CSs are dealt with more efficiently and at a lower cost, since they are on a lower pay scale. On the other side, more people also implies higher costs. Finally, the heads of the forensic investigation units think that the deployment of forensic assistants results in securing more relevant forensic evidence. All things considered, our research reveals that the heads of the forensic units are very satisfied about the deployment of forensic assistants, which on average they score at 8.1 (B+) in the questionnaire.

### **Contribution to solving burglaries**

The heads of the forensic units believe that the deployment of forensic assistants has resulted in solving more residential burglaries. Although still mainly positive, they are a little less so about commercial burglaries, because of the priority given to residential burglaries. The number of forensic traces sent to the NFI and the National Police Services Agency proves that the work of forensic assistants has resulted in an increase of traces – but not a very large one. This may be because of the fact that forensic assistants have taken over the work from forensic detectives who also used to secure many traces. It may also be because DNA and fingerprints – the traces investigated by the NFI and the KLPD – are found only at a limited number of the CSs. During the years 2005-2011 the percentage of solved burglaries in residential and commercial premises shows a decreasing trend. We can further add that the total number of residential burglaries increased considerably in the period investigated, and that the number of residential burglaries solved decreased slightly. Taken together these figures are responsible for the descending trend in the percentage of residential burglaries solved. Things are different in the case of burglaries in commercial premises where the total number decreased markedly and the number of solved burglaries even more so. It is questionable whether there is a relationship between the work of forensic assistants and the percentage of burglaries solved. In addition to external factors that cannot be influenced, this depends mainly to the extent to which the chain of investigation functions as a whole.

### **Collaboration in the chain of investigation and prosecution**

Not all traces and matched clusters of traces result in follow-up investigations. This may be the result of an assessment of how probable a successful follow-up investigation might be or because certain choices have to be made about specific hotspots or offender groups. Even if there is a suspect, the Public Prosecution Service can still decide not to prosecute, because there is

insufficient evidence. By and large the tactical detectives and the Public Prosecution Service make their very own assessments in terms of investigation and prosecution and whilst forensic information can inform this assessment it does not constitute a starting point. The policy theory that assumes the appointment and work of forensic assistants will lead to further tactical investigation and prosecution is not realised in this respect. The connection between the forensic information available and the demand for this by the Public Prosecution Service and the tactical detectives seems to be incomplete. Another consideration is the available resources that the Public Prosecution Service and tactical detectives can allocate for burglaries in residential and commercial premises. In 2006, a study ordered by the Ministries of the Interior and Kingdom Relations and Justice established that, resulting from the additional recovered forensic traces found by forensic assistants, additional resources for tactical and judicial follow-up investigation were required. These additional resources were not realised. From 2008 to 2010, during which time a large number of the forensic assistants were appointed, residential burglaries were not a policy priority for the police or the Public Prosecution Service. Occasionally however, additional attention was given to residential burglaries on a local and regional level. A positive effect may be expected now that residential burglary teams are brought together in more regions.

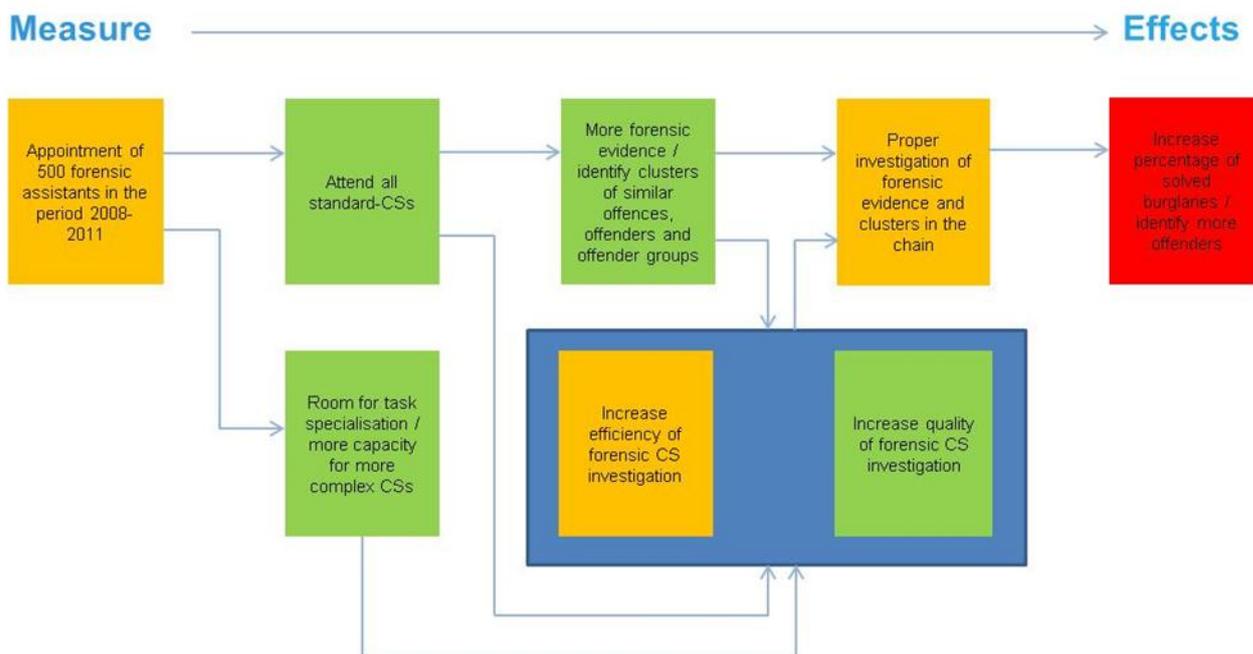
The conclusion is that follow-up investigation is taking place, but not in all cases. With the current establishment of priorities and the increase of residential burglary teams, an improvement may be expected, although this does not necessarily mean that forensic information will be used more structurally – a better harmonisation between demand and supply of forensic information is required for this, a matter that needs further study. Forensic assistants have a very limited knowledge of the follow-up investigations resulting from their work with most of their contacts limited to within the forensic units and those staff concerned with linking crime scenes and offenders. There is occasional contact with the tactical detectives, but this is not structural. In some regional police forces, forensic assistants have an advisory role to ensure that the basic police services stay attentive with respect to crime scenes and refer burglaries to the forensic units.

### **Task specialisation**

Task specialisation takes place in the sense that forensic experts and specialists limit themselves to working on more complex CSs and spend more time on each of these. This has resulted in a tripling of the number of DNA investigations by the NFI at more complex crime scenes. Additional observations are however that it is desirable for forensic experts and specialists to also be involved in standard CSs and that assistance by forensic assistants at more complex CSs has added value.

### **Conclusions**

The following figure presents the policy theory again, but this time indicates the extent to which the objectives of the policy measure to hire 500 forensic assistants has been achieved. Colour coding has been used: green indicates largely achieved, orange indicates an indistinct or limited achievement and red indicates not achieved.



Source: DSP-groep

Although not all of the intended 500 forensic assistants have been employed, their deployment can mainly be described as satisfactory. Good results have been achieved with the large majority of the residential and commercial burglary CSs being attended, investigation and clustering of traces running smoothly and the entire forensic investigation service profiting from the appointment of forensic assistants. The numbers appointed prove to be sufficient to attend all of the qualifying residential and commercial CSs. From the perspective of forensic science, the appointment of forensic assistants can thus be described as successful.

The picture is more diffuse when considering the contribution of the work of forensic assistants to solve residential and commercial burglaries. Forensic assistants make an important contribution to forensic information about residential and commercial burglaries, but there is a question as to what extent this information is useful for tactical and judicial follow-up investigation and prosecution. This benefit has been shown to vary: in some cases, forensic information has been extremely important in furnishing the proof required to conclude a successful investigation, yet at other times it has only played a minor part, if any. There are various reasons for this. Sometimes the forensic information does not lead to a suspect, and at other times the Public Prosecution Service finds that the gathered information is evidentially insufficient. On occasion the forensic information remains unused because more serious cases take precedence. In short, forensic information is not always usable or used. An improvement can be made in this respect through the better coordination between the need for forensic information about residential and commercial burglaries and its availability. The fact that an increasing number of burglary teams are being set up and that the Public Prosecution Service has given residential burglaries a priority is a positive development in this respect.

The decreased percentage of solved crimes has proven to be a bad measure in determining the success of the deployment of forensic assistants, because it is influenced by other parts of the investigative and judicial process as well as various other external factors. The concept of relating the contribution of forensic assistants to solving residential and commercial burglaries is thus a difficult one as the qualitatively good work by forensic assistants does not automatically result in more cases solved: the contribution of their work depends on what others do with it. It can be expected that if the connection between demand and availability of forensic information improves, the process of investigation and prosecution as a whole will become stronger and achieve better results. This is where the challenge lies in making the best use of the deployment of forensic assistants.