

Summary

During the conclusion of this study a familial search in the Dutch DNA database for criminal cases proved to be successful for the first time since the introduction of new legislation in April 2012. In a so-called 'cold case' two men were arrested on suspicion of the murder of Henk Opentij and Mary Run, an Amsterdam couple who were found murdered in November 1997.¹ The familial DNA database search pinpointed the DNA profile of a relative of one of the men, whose DNA profile strongly resembled that of an incriminating crime scene profile, suggesting a possible family relationship with the donor of that profile. Both men subsequently confessed to the murder.²

Serious, unsolved crimes can haunt us. Certainly for violent crimes such as homicide not only those closely involved but society as a whole will feel a deep sense of dissatisfaction when 'cold cases' remain unresolved. New developments in the field of forensic DNA technology can make a significant contribution in tracking down suspects, even for crimes that were committed years ago. The national forensic DNA database plays a central and frequently crucial role in this. A match can be found between the DNA profile obtained from biological cell material found at a crime scene or on a victim and the DNA profile of a person that is stored in the database.

New legislation introduced in 2005, the DNA Testing of Convicted Offenders Act (DNA-V Act), is based on the above idea and aims at preventing, investigating, prosecuting and judging criminal offences where cell material was left behind by the offender. The DNA-V Act empowers the police to take a DNA sample from anyone convicted of an offence for which pre-trial detention is allowed and a (conditional) custodial sentence, detention or community service has been imposed,³ and to load a DNA profile derived from this onto the Dutch database for criminal cases.⁴ A match may arise when these profiles are compared with profiles obtained from crime scene samples that were secured from unsolved crimes.⁵ The legislator assumes that this option has a preventive effect not only on potential repeat offenders but also on those considering committing offenses for the first time. In this study the emphasis is on crime detection and less on the preventative aspects of the Act because there was little data available for the latter. Is the application of the DNA-V Act effective as a tool to identify possible suspects of unsolved crimes by pinpointing possible donors of the incriminating cell material? How efficient is the application of this Act throughout the criminal justice system? The results should support the Ministry of Security and Justice in making decisions about the use of DNA testing as a means of detecting suspects and in improving the performance

¹ For information: <http://www.mickvanwely.nl/opentij-eerste-arrestatie-moord-door-verwantschapsmethode/>.

² A familial DNA search is undertaken to identify persons in a database or in a mass screening whose profiles closely resemble DNA obtained from a crime scene sample. As profiles of relatives may be very similar, a close resemblance may be taken to suggest that the unknown donor of the crime scene sample is a relative of the person whose DNA profile bears a strong similarity to that of the crime scene sample.

³ The order to take a DNA sample will be given directly after a conviction in the first instance. The conviction can be appealed. If acquitted on appeal then both the cell material and the DNA profile have to be destroyed.

⁴ The retention time is between 20 and 80 years for living convicted persons, dependent on the length of the sentence that the crime carries.

⁵ Of course a match can also serve to exclude a suspect.

of the criminal justice system.

The effectiveness of the application of the DNA-V Act for solving crimes can be measured at a general level, as for example by the outcome of the investigations in well known cases such as the "Putten murder case" and the "Andrea Luten case".⁶ In both cases, a match between the DNA profile derived from cell material found at the scene of crime and the profile of a person convicted of another crime held in de Dutch DNA database for criminal cases led to the detection of the actual donor of the found cell material. In this study we go further than a few high-profile cases, and we investigate whether various secondary goals have been achieved. These goals have to do with several elements in the process from requiring to submit cell material from an offender, up to and including the identification of this person as a suspect in another case (the so-called "chain process"): entering as many DNA profiles as possible of convicted offenders into the DNA database, using these for comparison with DNA profiles produced from crime scene samples and finally detecting as many matches as possible leading to the identification of suspects in hitherto unsolved cases. The indicators for achieving these secondary goals are the percentage of 'DNA V-worthy' convicted persons whose DNA profile eventually ends up in the DNA database, the percentage of convicted offenders with a DNA profile in the database that has led to a match with a crime scene sample and the percentage of completed matches that have led to the identification of a suspect. The nature and number of those 'excluded', i.e. 'DNA V-worthy' convicted offenders who, by design or otherwise, disappear at various times from the chain process, is also examined.

The efficiency of the chain process in applying the DNA-V Act has been studied by comparing the formal chain process that is based on the Process Description-DNA⁷ drawn-up by the Dutch Public Prosecution Service (who in turn have based this on the existing legislation), to the daily practice. Furthermore, an inventory has been made of the extent to which bottlenecks, described in a previous efficiency study concerning the process evaluation of the DNA-V Act, have been addressed.⁸

The DNA profile of 67% of the people convicted in 2011 for DNA V-worthy offences have been added to the database (23,877). From the moment that the DNA-V Act came into force (February 2005) to February 2012, a total of 115,824 profiles of convicted offenders have been added to the database. Not every person who is convicted of a "DNA V-worthy" crime will be required to submit cell material: the profile may already be on the database from a previous conviction or the offender may have had his profile entered as a suspect. In some cases, personal and/or practical circumstances ensure that the offender in question falls under a legal exemption rule. Reasons for

⁶ For information: http://www.om.nl/actueel-0/strafzaken/puttense_moordzaak/ en http://www.om.nl/actueel-0/strafzaken/andrea_luten/.

⁷ An internal document from the Public Prosecution Service, created in agreement with the chain partners. These process instructions contain the main items for executing the DNA research in criminal cases, they give the normal approach ("as it should be") so that differences in the method of work between the public prosecutor's offices are minimized. Small differences in execution can be tolerated if they remain within the margins of the law, according to the announcement in these process instructions. We have used the draft Process description DNA version 1.0, which is practically identical to the final version of September 2012.

⁸ Kruisbergen, E.W. (2008). *Van vonnis tot DNA-profiel. Procesevaluatie van de Wet DNA-onderzoek bij veroordeelden*. Den Haag: WODC.

not loading a profile onto the database are that an objection of the offender to the inclusion of a profile in the database may be honoured by the courts, that a person is acquitted on appeal, that a non-inmate offender does not present himself at the DNA clinic for DNA sampling, or that errors are made in the procedures or with data entry.

Of all the recorded DNA profiles of convicted offenders entered in the database since the introduction of the DNA-V Act (2005), 7.3% have led to a match with the profile of a crime scene sample. Not all of those matches are relevant: it may be that the case in question has been solved (the profile of the crime scene sample should possibly have been removed), or that on closer inspection the crime scene sample turns out not to be related to the crime. It may also be the case that the person in question came under police scrutiny in a different way, for example by being caught in the act. In 50% of cases examined the match was decisive in detecting the suspect. This would amount to almost 900 key matches, if applied to the data from 2011.⁹

In the course of the chain process a case may or may not be followed up for further investigation which may ultimately lead to a conviction. Little is known about the outcome of these next steps because the judicial authorities and the police never specifically record that the solution to a case arose from a match with an offender whose DNA profile was recorded in the database.

To what extent the costs of detecting a suspect through a match are different to those using other (conventional) means of crime detection, is a question which cannot be answered as there are too many case-specific factors that play a role. But it has been calculated - within certain parameters - that the cost of proceedings related to consulting the DNA database for a match amount to approximately 500 Euro.

Specially trained forensic prosecutors assess whether an offender qualifies for having cell material taken under the DNA-V Act. A reason not to do so is that the DNA profile of the person is already available in the database. This check is performed by all prosecutors. In the DNA-V Act a second exception has been made consisting of two categories. The first concerns a situation where DNA testing is expected to contribute little or no significant help to the investigation, prosecution and judging of the offence, for example in the case of perjury. A second situation occurs when there is no justification for taking and storing the cell material, as in the case of an offender for whom it is very unlikely to have committed a previous offence and/or to commit one in the future, for example as a result of a serious injury.

Prosecutors vary in the application of these exceptions. This ranges from "all DNA-V offenders must give cell material and afterwards an objection may be filed if there is disagreement with this" to an extensive prior "assessment" taking in such factors as whether the person concerned is a minor, the existence and nature of a criminal record, the seriousness of the offence and other factual and personal circumstances.

⁹ A word of warning, it is not clear whether the cases analyzed by us are representative for all matches. The application of this percentage on the total amount is only indicative.

Both the above and the available case law suggest that legal practice is not completely in sync with the law regarding the definition of 'exceptional personal circumstances'. The case law points in the direction of excluding minors from DNA sampling when in combination with the absence of a criminal record and a relatively minor offence (relatively light sentence), and if the chance of reoffending is estimated to be very low. It is however not advisable to apply special rules to *all* first offenders, precisely because of the potential deterrent effect of including the DNA profile in the database. It can be concluded that the scope of the DNA-V Act may need some refinement.

The offender has two weeks to submit an objection from the moment that cell material has been removed. It is legally not possible to object to the sample being taken. In practice, however, a prosecutor waits at least 42 days before giving the go-ahead to make a profile of the DNA and adding it to the database. That period is available for the court to report to the Public Prosecution Service that an objection to the inclusion of the DNA profile in the database has been submitted. If that is the case, and the objection is accepted, the cell material has to be destroyed. An estimated 35% of objections *submitted* are upheld by the courts (in absolute figures, there were 218 in the year 2011). If it turns out that no objection has been filed within the set time limit, an order may be given for profiling and inclusion in the database. This prevents a profile being unlawfully added to the database leading to an (illegally found) match.

The application of the appeal procedure can be improved by making formal and informal agreements between the district public prosecutor's office and the courts to forward reports on filed objections faster to the Public Prosecution Service. This will facilitate a faster prosecution if there is a relevant match. This seems a feasible option considering that some public prosecutor's offices already have such agreements with the court. Moreover, this ensures that agreements on set dates and completion times of criminal cases are met as laid down in the national criminal code.

The implementation of the DNA-V Act appears to be more complex than it might seem at first sight. The existing formal Process Description-DNA is particularly focused on the duties of the Public Prosecution Service. Desired processing times are not specified, yet respondents in our research – in response to questions put to them – do comment on the entire chain process and turnaround times of the different actions required in the context of the application of the DNA-V Act.

One obstacle to the efficiency of the chain process is illustrated by the following situation. If the DNA profile of an offender is added to the database and a match is found with a crime scene trace that is already in the database, this is reported by the Netherlands Forensic Institute to the Public Prosecutor of the 'convicted person'. He/she will then report this match to the officer of the 'matching case'. However, if there is a match with the profile of a convicted person that is already in the database at the time that the DNA profile of a crime scene sample is added, then the match is reported to the officer of the 'matching case'. Apart from the fact that two different practices can lead to confusion, the route via the officer of the 'convicted person' is cumbersome. An additional step is added that causes unnecessary delays, and makes the efforts of the relevant prosecutors unnecessarily interdependent.

Bottlenecks identified by Kruisbergen in 2008 like the arrears at the Public Prosecution Service and at the Netherlands Forensic Institute have been resolved. The communication between the various criminal justice partners concerning the application of the DNA-V Act has also been significantly improved by the creation of the so-called DNA-offices at the public prosecutor's offices for handling forensic DNA investigations. The digitization and automation of the process has been addressed through the development of the so-called GPS-DNA registration system. Besides storing the required information, this Public Prosecution Service system facilitates the digital communications between the Public Prosecution Service and the Netherlands Forensic Institute, though not with the other crime justice partners. Digital links are also missing between GPS-DNA and other registration systems used by the Public Prosecution Service and the other crime justice partners. The data have to be entered multiple times and monitoring the entire process regarding the implementation of the DNA-V Act is laborious. This is partly due to the fact that no record is made if the investigation and prosecution of a criminal case results from a match with an offender. It can be concluded that in the area of automation and digitization various improvements are possible.

Finally, the study shows that orders required for the removal of DNA profiles from the DNA database are often not made or take too long. On the one hand, this may apply to the profile of an offender who is acquitted on appeal, which may give rise to an unlawful match; on the other hand, this may concern the profile of a crime scene trace obtained in a case that has already been solved. The result is that a match found by the custodian of the DNA database creates unnecessary work for the judicial authorities and police, who in the end have to conclude that the match is not relevant.

We can conclude from the findings of the study that the application of the DNA-V Act contributes to the detection of crime suspects. The degree of effectiveness for the prosecution and ultimately for the criminal justice system as a whole is more difficult to assess.

However, it is plausible that the DNA-V Act does contribute to the successful prosecution and trial of offenders. We see this from the following indicators:

- some high-profile criminal cases such as the "Putten murder case" and the "Andrea Luten case" would probably never have been solved if it had not been for the existence of the DNA-V Act;
- there is a large number of matches (8,405 matches in 7 years);
- the processes for finding and handling matches have been greatly improved; previously identified problems have been resolved;
- it is likely that the DNA-V Act has a preventive effect on the group of potential 'first offenders'.

Despite the aforementioned problems and risk factors that the application of the DNA-V Act entails, we believe that the benefits of a DNA offender database justify its existence and use.