

## DNA retention policy: results of analysis relating to the protections of ‘the Scottish model’

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### Summary

The Coalition Agreement<sup>1</sup> contains a commitment to introduce a policy framework for managing the DNA database which affords ‘the protections of the Scottish model of DNA retention.’ The Home Office Economics and Resource Analysis Group (ERAG) has undertaken an analysis of the salient aspects of the Scottish retention model. This paper presents the results.

The analysis considered the length of time for which the offending risk of a group of individuals who might be subject to the retention policy is above the level observed in the general population. This was taken to provide an initial indication of the retention period which might be prima facie justified on this restricted criterion. Factors such as the costs of retention and the non-quantifiable

effects on individual privacy would be expected to point towards a shorter, rather than longer, retention period, especially where statistical error gave a range of possible retention periods to be considered. Due to a lack of suitable information, it was not possible to consider these factors formally as part of the analysis.

The methodological approach was based on the estimation of ‘hazard rate curves’, which describe how the risk of different CJS disposals varies over time following some initial CJS event. These hazard curves were estimated on the basis of data obtained from the Police National Computer. The risk estimates described by the hazard curves were then compared with an estimate of the relevant risk in some comparable general population.

Figure SI presents the results of the analysis undertaken for the scenario where DNA profiles are retained when an individual has been charged with but not found guilty of

<sup>1</sup> [http://www.cabinetoffice.gov.uk/media/409088/pfg\\_coalition.pdf](http://www.cabinetoffice.gov.uk/media/409088/pfg_coalition.pdf)

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### Keywords

DNA  
Retention of profiles  
Offending risk  
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Scottish model  
Crime and Security Act  
Police National Computer  
Sanction risk

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a qualifying offence. A qualifying offence for this particular scenario is defined as one which appears on the existing Crime and Security Act (2010) offence list, with the addition of robbery. It shows hazard curves describing the risk of receiving a conviction or caution following the initial charge, estimated under differing treatments of pending cases, as well as upper and lower bounds (95 per cent confidence intervals) for those curves. It compares those curves against risks estimated for two possible comparable general population definitions. The results suggest that the earliest that offending risk in the charged group falls to the level present in a comparable general population is just over three years after the initial charge. This is based on a comparison of the lower bound hazard curve for the charge group and the risk estimated for all individuals in the general population (age- and gender-adjusted). The results also suggest that offending risk in the charge group might not fall to the level estimated for a comparable general population over relevant timescales. There is some statistical uncertainty associated with the results, as demonstrated by the distance between the upper and lower bounds, due to the relatively small available data sample.

Similar analysis was undertaken for the larger group of individuals who were arrested for a qualifying offence but with no further action. The results were similar, with hazard rates estimated to fall to the comparator level at least three years following the initial arrest, and not over

relevant timescales for some scenarios. The results of the arrest-based analysis were subject to less statistical uncertainty due to much higher available sample sizes.

Comparative analysis was also undertaken to explore the implications of different factors on relative policy treatments. The results suggested that, if temporary retention was assumed to occur on charge with no conviction, relative sanction risks were higher, four years after the initial arrest, in the group charged with serious offences than in the group charged with other offences. If temporary retention was assumed to occur on arrest with no further action, there was no clear difference in relative sanction risk four years after the initial arrest between those arrested for serious offences and those arrested for other offences. The analysis found that sanction risk following a fixed penalty notice appeared more similar to that following arrest or charge with no conviction (and relatively lower) than to that following a proven offence. Sanction risks following a first caution or non-custodial conviction were relatively similar four years after the initial offence; sanction risks following a second caution or non-custodial sentence (or combination of the two) were relatively higher. Finally, in all cases where a comparison could be made, relative risks in the juvenile sample were higher than in the adult sample.

It should be noted that the results are sensitive to the choice of general population comparator group.

**Figure S1: Charge-to-sanction hazard rates and comparable general population sanction risks for proposed offence list**

