QUALITY ISSUE NOTIFICATIONS IN FORENSIC DNA CASEWORK: CHARACTERISTICS, INCIDENCE RATES, AND IMPACT?

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The Netherlands Forensic Institute (NFI) has conducted an analysis of quality issue notifications in forensic DNA casework. Quality issue notifications were bench marked using actual workload data (over 400,000 DNA analyses) in the period 2008- 2012.
We will present the framework that is used by the NFI to evaluate quality issue notifications. Such notifications are defined as any incident in the NFI laboratory practice that might lead to a discrepant outcome of the analysis. This can have consequences for the outcome of a DNA analytical result and the conclusions in forensic testimony.

We have developed a comprehensive framework for categorizing quality issue notifications into different types of incidents (e.g. contamination or administrative), and into various degrees of seriousness of their potential consequences and of their actual expected consequences in court. We will zoom in on the issue of contamination as one of the most frequent and serious types of incidents. In-depth knowledge of the various types of incidents in the DNA-analysis process is of key importance in the design of stringent protocols that can prevent ~~of~~ future incidents. Although it has been recognized by the National Research Council that the forensic society should encourage research programs on sources of error rates, there are no actual data available in the scientific forensic DNA literature and it was not possible to compare our results with studies from other forensic DNA laboratories. In addition to sharing the data on error rates with the forensic scientific community the NFI has made the information available for the public on the internet.

The use of a comprehensive and standardized framework should allow other forensic DNA typing laboratories to benchmark their performance against the NFI or comparable organizations.