

# 16 Years of Following False Clues in the Search of a Serial Killer Caused by an Error in DNA Sampling

## Quality Infrastructure

METROLOGY   STANDARDS   TESTING   **CERTIFICATION**   ACCREDITATION   QUALITY MANAGEMENT

### **PROBLEM** The swabs used to take samples were contaminated

The DNA samples found at the scenes of various murders were always the same, but they did not belong to the murderer. Instead they were of an employee of the factory that supplied the cotton swabs used for collecting DNA samples. Either by accident or negligence, the employee contaminated the swabs with her own DNA during the manufacturing process. This caused the German police force to follow a false trail for 16 years (1993–2009), impeding the resolution of more than 40 crimes, while investing nearly 20 000 working hours and around 25 million euros of public funds.

### **BACKGROUND** Police used an inappropriate kind of swab for its DNA analysis

There are different levels of sterilization of the cotton used for manufacturing swabs. In this case, the cotton used was only partially sterile and already contaminated with organic remains from the factory. Such swabs are for domestic use, but completely inappropriate for a DNA analysis. Thus, the error was committed by the police, because they chose an inappropriate type of swab for their investigations, and not by the certification institute, as they only monitored the phases of sterilization and not the finished product or its final use.

### **SOLUTION** Control of materials

To resolve this problem, it is necessary that the German police force revises their control system regarding the quality of their internal processes, including the choice of material. As seen in this case, it is crucial that the swabs have a certain level of sterilization. This should be guaranteed through a certification. This way the results of the analysis become reliable and can be used for further investigations, rather than causing waste of money and time by leading in the wrong direction.

### **IMPACT** Safety and reliability of diagnoses

Analyses as sensitive as DNA testing require a stricter control than any other analyses, as their results are very vulnerable. Especially when the results can affect an entire society, as it is the case in a police investigation of murder. The certification of an analysis, as part of the quality infrastructure, assures a greater reliability of the results. Not only for police investigations, but also for any public or private activity that requires a specific diagnosis and a reliable result.

## SOURCES

<http://www.stern.de/panorama/:Phantom-Wattest%E4bchen-Billig,/659372.html>  
<http://www.stern.de/panorama/:Phantom-Folgen-Ein-GAU-Kriminalistik/659294.html>  
<http://www.stern.de/panorama/:Phantom-Fall-Uns-Grenzen/659223.html>

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