



A9 Adverse Consequences Stemming From the Conceptualization of the Forensic Science Laboratory as a Mere Testing Facility

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The goal of this presentation is to contribute to an awareness of the need for more scientific input in criminal investigations.

This presentation will impact the forensic science community by encouraging a reexamination and a broadening of the role of the forensic science laboratory.

A forensic science laboratory system should be more than a testing facility. Succinctly stated, it should be a scientific problem solving resource with a physical evidence focus. Of course, there are predefined analytical problems faced by the laboratory that arise in routine, high-volume cases such as drug testing. The testing facility conceptualization suffices with these. However, when the forensic science laboratory is viewed exclusively as a mere testing facility, the true nature of the forensic science enterprise is obscured. The function of a forensic science laboratory system must be directed to the optimal extraction of information from the physical evidence record produced during the events comprising a crime (or accident) to be investigated.

In most jurisdictions around the world law enforcement agencies assume control of the crime scene, and most commonly nonscientist investigators circumscribe and define the scientific problem(s) to be subsequently addressed by laboratory scientists. Although this is the well-entrenched traditional approach, it needs to be rethought. While it may be natural for law enforcement agencies to take initial control of the investigation. The physical evidence problems to be addressed should be defined by scientists. This should be done in the context of the scene, not later in the laboratory. Skilled definition of the scientific problem is critical to ensuring that the most appropriate testing is performed and that the most effective and efficient use is made of resources. These critical activities are properly in the domain of scientists. Overlooked possibilities for obtaining useful information from the physical evidence record may thwart case solutions, whereas meaningless testing is wasteful of resources. Beyond the scene, a further complication is that prosecutors can also become involved in decisions that effectively circumscribe laboratory activity, both early in the investigation and during the development of the prosecution case. While input from prosecutors may be valuable, it should not take the form of interference with scientific decisions.

Where the forensic science laboratory service is seen only as a testing facility, myriad adverse consequences flow from this misperception. Some of these are directly related to case resolutions and the quality of justice. Others affect such things as laboratory operation and funding.

In circumstances where both the definition of the scientific problem and the interpretation of laboratory results are left to investigators and attorneys, the laboratory assumes a reactive stance, and the scientists are cast into the role of technicians passively carrying out *tests on items* in response to naïve requests by nonscientists. It should not be a surprise to see poor, incomplete, inaccurate, misleading, and erroneous casework as a direct consequence. In these circumstances, the likelihood of successful case solutions and the concomitant physical evidence contribution to the conviction of the guilty would decline while the risk of wrongful conviction could rise. With more scientific input across the entire physical evidence continuum, from crime scene to courtroom, this situation would be reversed.

In addition to gaining more effective and equitable case solutions, a broader understanding, on the part of user agencies and the public, of the true role and capability of a forensic science laboratory system can be expected to offer other important positive benefits. It should result in improved funding and allocation of personnel resources and less uninformed interference by external agencies and critics. Laboratory manager's responses attempting to address some of this interference and criticism can be counterproductive and lead to unintended adverse consequences, such as over-reliance on "safe" but restrictive protocols that result in "cookie cutter-like" approaches to a succession of the highly varied case scenarios that are encountered "real world" practice.

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