



D66 Don't Blame the Forensic Scientist!

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After attending this presentation, attendees will learn how efforts to improve forensic science go wrong when critics play a blame game after errors are discovered. They will learn that improvements in forensics can be made, but only if we stop blaming forensic scientists and start thinking about improved organizational structures.

This presentation will impact the forensic science community by addressing an issue that forensic lab directors are always concerned about, namely human error and quality control. Error rates and their relationship to structural redundancy will be discussed with a view toward enhancing laboratory administration.

Critics of forensics have seized on sensational cases of error in a way that has put forensic science under siege. The unfortunate result has been a tug-of-war between the critics of forensic science who call for oversight and regulation and the defenders of forensic science who wish to preserve their legitimate autonomy. This tug-of-war has grown into an increasingly urgent public dialogue on the reliability of forensic science. Reform is coming. It is vital that such reforms make things better, not worse. The forensic science community must act effectively to ensure not only the continued validity of forensic science, but also continued public trust in the most vitally scientific element of our criminal justice system. To ensure a good result, forensic scientists should emphasize the role of organizational structures in quality assurance.

A properly designed system of redundant testing ("structural redundancy") in forensic science would reduce both error rates and the direct money costs of administering the criminal justice system. As in other areas such as research science and information theory, structural redundancy is necessary for error correction. Structural redundancy reduces the costs of administering the criminal justice system because wrongful convictions are costly. Costs of incarceration are so high (over \$20,000 a year for each prisoner) that even when errors are rare, the costs of redundant testing are swamped by the savings they produce in the costs of incarcerating the wrongly convicted. In this sense, forensic tests are cheaper than prisons. Cost estimates based on public documents reveal that greater funding of forensic science is economical because forensic science is a bargain for the criminal justice system.

The presentation explains how the research team uses experimental techniques to study the connection between error rates and structural redundancy. Results so far suggest a strong connection and the possibility of reducing error rates through an improved organization of forensic science. The latest experimental results reveal that improvement comes from the benefits of structural redundancy and not from any improvement in the performance of individual examiners in the system. Thus, it is a mistake to blame individual forensic scientists when things go wrong. Instead we should look for better organization. In particular we should look for ways to put the principle of structural redundancy into place.

The project described will have a great impact on forensic science by helping to eliminate the blame game and by revealing both the correct principles and fine details of how to institute structural redundancy in forensic science. Reducing error rates in forensic science will benefit society by improving justice. Mistakes in the criminal justice system are costly. The project will benefit society as a whole by lowering incidence of such mistakes and thus their cost. It will also reduce the costs of administering the criminal justice system, which helps to justify an increase in the funding of forensic science.

Blame, Structural Redundancy, Error Reduction