F37   Developing an Introductory Analytical Science Training Program for Lawyers and Judges

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Learning Overview: After attending this presentation, attendees will better understand the role of analytical science in criminal cases and how to educate lawyers and judges regarding analytical evidence.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by introducing an easily replicated model for a basic analytical science training program to improve the competency of lawyers and judges who encounter analytical evidence.

Scientific evidence is often the most persuasive evidence in a case. The 2009 National Academy of Sciences poignantly discussed the legal profession's insufficient understanding of scientific evidence.[1] A lawyer must be able to competently challenge scientific evidence to satisfy the Constitutional right to counsel.[2] A lawyer cannot ethically represent a client unless the lawyer is able to effectively challenge scientific evidence.[3] Failure to effectively challenge scientific evidence can result in wrongful conviction.[4]

Advances in analytical science have increased the sophistication of and reliance upon analytical evidence in the courtroom. Gas Chromatography/Mass Spectrometry (GC/MS) is used by many forensic disciplines to confirm the identity of unknown substances. DNA analysis is often used to connect evidence to a person. Analytical evidence is commonly encountered in many types of criminal cases, including prosecutions involving drugs, Driving While Intoxicated (DWI), and sexual assault. A metropolitan laboratory may annually analyze thousands of pieces of evidence affecting thousands of criminal cases.

While existing programs offer lawyers analytical science training, these programs are too expensive and too small to reach the entire legal community.[5] Existing programs are like a bespoke suit—high-quality and tailored for a specific fit—but the majority of people are better served by an affordable, nice suit from the rack of a department store. The Forensic Science Learning Lab, Harris County Public Defender's Office, and the National Association of Criminal Defense Lawyers partnered ("the Partnership") to create a model for an adaptable, expandable, cheaper alternative to other analytical science training programs while providing high-quality education. Similar programs can be offered by a wide range of qualified professionals nationwide. Programs can use existing educational facilities and funding resources to provide cheap or free training to lawyers and judges.

A basic analytical science course addresses the theory and knowledge needed to understand analytical evidence. The Partnership's model for a basic GC/MS training program includes the principles of GC/MS, methodology, documentation, data analysis, instrument design and maintenance, sample preparation, and demonstrations. The model features legal topics including the aftermath of the 2009 National Academy of Science Report, discovery, expert witnesses, and *Daubert*/*Frye* challenges.[1] Programs are tailored by jurisdiction and can include in-laboratory exercises and interactive problems. The Partnership is currently creating a lecture-based DNA program using the same general model used to create the GC/MS program.

Lawyers and judges need training regarding scientific evidence. Analytical science is commonly encountered in criminal cases and can be critical evidence. Basic analytical science training programs play an important role in the effective representation of the accused and in ensuring fair trials. The Partnership's model for an introductory analytical science training program is an adaptable, expandable, cheaper alternative to other programs and can meet the legal community's need for better scientific training.

Reference(s):
1. National Research Council (NRC), Committee on Identifying the Needs of the Forensic Science Community. (2009). *Strengthening Forensic Science in the United States: A Path Forward.* Washington, DC: The National Academies Press.
2. *Hinton v. Alabama*, 571 U.S. 263, 273 (2014).
3. Model Rules of Prof'l Conduct R. 1.1 (2018).
4. Emily West, PhD and Vanessa Meterko, MA. Innocence Project: DNA Exonerations, 1989-2014: Review of Data and Findings from the First 25 Years, 79 *Alb. L. Rev.* 717, 744 (2016).
5. *Hands-on Forensic Chromatography Course*, Axion Labs (last visited July 13, 2018), available at http://www.forensicchromatography.com/.

Continuing Education, Program Development, Analytical Science