B85 The Implementation of Blind Proficiency Testing in Drug Analysis

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After attending this presentation, attendees will better understand the advantages and challenges of implementing a blind proficiency program in drug analysis.

This presentation will impact the forensic science community by providing a model for implementing a blind proficiency program in controlled substance testing. Laboratories, saddled with backlogs and high-priority cases, often do not have the time or resources needed to implement a blind proficiency program. After attending this presentation, attendees will recognize the benefits of blind testing despite the challenges and costs associated with the program.

Accrediting bodies require laboratories to participate in a minimum of one proficiency test annually in each area listed on the scope of accreditation. To fulfill this requirement, laboratories have used open proficiency testing provided by a commercial vendor as a tool to evaluate the performance and competency of staff, as well as to gauge the system's overall quality. The successful completion of these open proficiency tests demonstrates the quality of the test results and the staffs' competency. These commercially created tests attempt to mimic real casework, but often do not encompass the entire scope of testing. While the external commercial proficiency exams meet accreditation requirements and demonstrate competence, the laboratory is often limited to administering tests provided by the vendors. This means the tests may not always be representative of the majority of a laboratory's real casework. Blind proficiency testing has shown to be an advantageous quality control tool that can objectively test an entire system; however, implementing such a program can be challenging.

The Houston Forensic Science Center (HFSC) created its blind proficiency testing program in September 2015. The goal was to create and submit blind samples equal to 5% of the Center's average monthly caseload. Initially, tests had been created using old proficiency samples and non-controlled substances created in-house by the Quality Division staff. HFSC quickly learned of the challenges associated with obtaining samples of controlled substances that could mimic actual current casework. Another challenge involved packaging and describing evidence in a manner reflective of the laboratory's primary client. To further complicate matters, HFSC's Laboratory Information Management System (LIMS) is connected to the client's management systems. This allows for information exchange that could potentially expose the blind sample as a test.

As a result, HFSC had to work with the client to ensure tests remained disguised from receipt to reporting. To master evidence packaging, HFSC's quality team met with narcotic sergeants to learn their packaging and submission process. In addition, HFSC had to make a formal request to the Houston Police Department to receive approval for the use of narcotics' evidence submission forms and envelopes.

Obtaining controlled substances proved to be the greatest challenge due to state laws surrounding the forfeiture and destruction of seized drugs. Alternatively, negative samples that can be equally challenging to the system can be submitted, but it has proven to be difficult to create samples similar in appearance to true controlled substances. The key to overcoming these challenges has been a collaboration between the laboratory, the client, and the legal system.

Despite these challenges, the value gained from the program has been immeasurable. One researched benefit of blind testing programs is behavior change described as the "observer effect." Research has shown that when individuals believe they are being watched, their behavior changes. For this reason, a blind proficiency program can be a tool to combat perceived bias in forensic science. In addition, the clients and the analysts unanimously agree the program instills added confidence in testing results. The blind proficiency program is just one tool that HFSC uses to provide its clients with better service.

Blind Proficiency Test, Quality Control, Drug Analysis