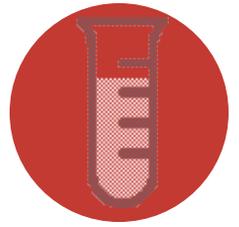


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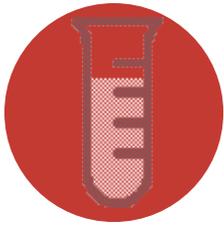


Five Keys to a Successful DNA Biological Screening Program

***Save time.
Save money.
Streamline testing.
Raise trust.***

October 28, 2015

National Forensic Science Technology Center®



Five Keys to a Successful DNA Biological Screening Program *Save time. Save money. Streamline testing. Raise trust.*

Sexual assault kit and DNA backlogs across the country are in the news with alarming frequency. With rising public outcry gaining the attention of media and lawmakers, it is critical that laboratory and agency leaders are forward-thinking in their approach to solutions and proposing efficient and effective new processes. If not, others may decide for them what they will be required to do, regardless of the long-term effects or unintended consequences from well-intentioned proposals, laws or expenditures.

Before building a full laboratory requiring significant outlays of time and millions of dollars¹ to approve, design, build, equip, staff, operate and maintain, agencies should consider a biological screening program. It is relatively simple to institute and can begin showing results quickly.

What is biological screening?

Biological screening is the process of finding stains on evidence and determining the presence of DNA. Steps in the process include:

- Unpacking and closely examining all evidence submitted for the presence of biological fluid. Evidence can be examined using magnifying glass and alternate light sources. Technicians can also determine through microscopic analysis of hair if DNA analysis should be attempted.
- When a stain is located, the screener can test to confirm evidence of biological fluids. Evidence positively identified with biological content is photographed and documented.
- Screeners can communicate with investigators to find out more information about the case and establish priority of the case for the DNA lab.



- Samples are prepared, labeled and sent to the lab for full DNA testing along with a full report of the screening results.
- Remaining evidence is repackaged and returned to evidence storage. If full DNA testing is required, only samples that have been confirmed to contain biological evidence are submitted to the lab.
- Screening team members are available to testify as to whether or not biological material was found on evidence they tested.

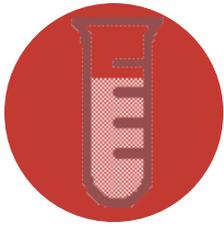
With other team members handling the screening, lab analysts are able to use their time more productively to complete DNA analysis and reporting.

Well-crafted screening programs have been shown to be effective and cost-conscious solutions. To illustrate, several agencies in Florida have instituted screening programs since 2009. Their structures are different, but the goals are similar: higher productivity, faster turn-around time and backlog reduction.

- Palm Beach County (FL) Sheriff's Forensic Biological Unit (FBU) established a Biological Processing Laboratory (BPL) in 2012². It is separate from the FBU and serves several cities within the county, screening evidence prior to submission for full analysis. The project was funded by National Institute of Justice grant monies, local funding, and fees paid by communities sharing in the services. A first year report of the FBU and BPL casework initiative showed the work had resulted in a 50 percent decrease in the time it takes to accept, process and report casework results.
- Marion County (FL) Sheriff's Office established an evidence pre-processing center for law enforcement agencies within its jurisdiction. Marion County screens its potential evidence items in three days and gets DNA results from the Florida Department of Law Enforcement (FDLE) in 52 or 53 days on average.² (Previously one year to 18 months)
- Seminole County (FL) Sheriff's Office also does their own screening and received the first cases they screened back from FDLE in two months.³



“Screening team members are available to testify as to whether or not biological material was found on evidence they tested.”



Five keys to success:

Agency structure and policies vary, but with a well-executed and properly resourced plan in place, many communities can benefit from adopting a screening laboratory program. Here are our keys to success:

- 1. All local agencies should be included in the initial planning of the program** The crime lab and agencies served need to establish new processes to include screening as the first step for biological evidence. Protocols for evidence handling may need to be adjusted to ensure steps are established, understood and documented for a new method and handling requirements by all affected jurisdictions. The laboratory and screening program should share the same protocol for accreditation, consistency and reporting.
- 2. Identify a location for screening** Although biological screening can take significantly longer than the actual analysis of the identified stains, it does not call for the same level of laboratory equipment and special rooms required for full DNA testing. At a minimum, the location should have a secure evidence storage area, computer access and connectivity, a dark room for alternate light source screening, reagent storage and a laboratory area for testing. The screening team should have a minimum of two trained technicians for reporting and redundancy.
- 3. Identify and train screening personnel** The screening team should be considered an integral part of the DNA process. Team members with scientific backgrounds will not only be better prepared to follow appropriate protocols, but can provide court testimony, high quality communication with laboratory analysts and proper report preparation. Making additional STEM jobs available is a bonus in any community.
- 4. Consider ways to increase flexibility** Rural communities might consider assembling a mobile screening team or trailer-based screening unit. This would offer services on site and not require potentially sensitive case evidence to be out of the possession of the agency for the screening processes. To reduce turnaround time, consider outsourcing case and report review tasks to a DNA contractor or testing facility. Securing this type of support strengthens report information by providing third-party confirmation without the full cost of private testing.
- 5. Report to community leaders** Provide regular reporting on the outcomes of the screening program to agencies and community leaders. Educating them on the status and success screening can result in increased understanding of the process, establish trust in the local agencies and secure better overall support.

For more information about setting up a screening program, DNA and forensic biological screening training, or other forensic training, visit www.nfstc.org.

¹ http://www.forensicmag.com/articles/2015/09/building-forensic-crime-lab?et_cid=4794276&et_rid=740358986&location=top

² <https://www.ncjrs.gov/pdffiles1/nij/grants/240203.pdf>

³ Both Marion County and Seminole County pre-processing laboratories follow with FDLE protocol and standards.