

Blood, sweat, and new leads

Empowering arrestee booking with rapid DNA

A state police crime laboratory and sheriff's department partnered to improve crime-fighting using the latest DNA testing technology



Summary

- The Louisiana State Police sought to ensure all lawfully owed arrestee DNA samples are enrolled in and searched against state and national databases while a suspect is still in custody.
- The state crime laboratory partnered with the sheriff's office of a local parish to implement rapid DNA, an advanced technology that generates, enrolls, and searches arrestee DNA profiles in as little as 90 minutes.
- The rapid DNA program was the final step in closing gaps in arrestee DNA databases, ensuring timely enrollment to help deter, prevent, and solve crime faster; and the state continues to expand its use.

"Fast information gets criminals off the streets. We're using never-before-seen technology to strengthen our law enforcement, help with communications, and keep our community safe."

- **Sid J. Gautreaux III, Sheriff, East Baton Rouge Parish, Louisiana; past president, Louisiana Sheriffs' Association**

Introduction

Charged with domestic violence, a 22-year-old Louisiana man was arrested and booked in October 2019, and a sample of his DNA was collected. Weeks later, his DNA was found to match DNA from the crime scenes of earlier unsolved violent assaults. By then, however, the man had left the state, and police had to search for him. He was eventually located and indicted, but what if he had gotten away and committed more crimes?

Throughout the US and around the world, it can take days, weeks, or months to collect, process, enroll, and search arrestee DNA records, and to notify law enforcement of a hit. Many labs have more samples to run than they have time and staff to process them—leading to backlogs and lag times of weeks or even months before arrestee DNA is run against state and national DNA databases.

Agencies looking to shorten the turnaround time to results have begun to implement rapid DNA, a fast, fully automated method of processing genetic information that makes it possible to analyze DNA right at the point of action. Rapid DNA is already being used by many law enforcement agencies (LEAs) to provide critical investigative information to fight a range of crimes. Not only is this cutting-edge technology helping to reduce backlogs and get criminals off the streets, but also—by involving LEAs directly in the processing of DNA evidence in partnership with forensic scientists—it is transforming the very way crimes are investigated and solved.

Overview

In an effort to reduce overall crime and get information faster, Louisiana has been investigating ways to improve crime-fighting and communication between its state crime lab and LEAs. The Baton Rouge LEAs started a violent crime unit 11 years ago to bring together all the agencies at the federal, state, and local levels, all housed at state police headquarters, so that homicides and other violent crimes could be investigated based on shared real-time information.

As part of that effort, the Louisiana State Police Crime Laboratory (LSPCL) had fully audited its DNA evidence process and made improvements in efficiencies; but they could still see gaps, including some arrestee DNA samples being missed and a lag time before samples made it to the laboratory. The lab's scientists periodically reviewed and reported on arrestee DNA matches to DNA from unsolved cases. They found instances where their law enforcement partners had difficulty locating individuals after a DNA match since the hits weren't obtained until after the individuals had been released from custody—in some cases, months later.

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“We had improved the process as much as we could,” explained Joanie Brocato, former DNA manager at the LSPCL in Baton Rouge. “We saw this as an opportunity to improve the process and try to close some of those gaps.” Brocato was convinced that pursuing rapid DNA could enhance the state's law enforcement efforts since rapid DNA integrated into the booking process helps ensure all arrestee DNA samples are collected and searched, while the arrestees are still in custody. The state crime lab began working with the FBI and its Combined DNA Index System (CODIS) to lay the groundwork for incorporating rapid DNA into their booking station's intake process.

“Early on, we realized we were going to need a law enforcement partner in order to complete this process,” said Philip Simmers, the CODIS DNA unit manager at the LSPCL. “So we reached out to the East Baton Rouge Sheriff's Office [EBRSO].”

The sheriff's office was equally excited to pilot rapid DNA given the ability of the advanced technology to provide, at the time of booking, a profile of an individual not yet in the system to run

against DNA profiles from unsolved crimes already in CODIS. Major Todd Morris, commander of special operations and crimes against persons at the sheriff's office, elaborated: “From a safety perspective in our community, we said, this is cutting-edge technology. This is really going to be awesome to be able to have an arrestee swabbed at the time of booking, then run their DNA sample in CODIS and hit to an unsolved crime before that individual has gotten out.”

In 2019, the LSPCL partnered with the EBRSO on an FBI-led rapid DNA pilot project, which was “a huge success for us both,” according to Simmers. It has led to an ongoing effort to fully integrate rapid DNA into the EBRSO DNA collection process. “EBRSO has been great in facilitating this vision that Louisiana State Police has had for several years and [helping us in] bringing it to fruition.”

How rapid DNA is integrated into the EBRSO booking procedure

Rapid DNA technology is now embedded in the intake processes of the booking facility where arrestees in East Baton Rouge Parish are brought and processed prior to their court date. Inside the booking area, officers have access to the Automated Fingerprint Identification System (AFIS), the main booking identification tool utilized by enforcement agencies. Accompanying the AFIS is Louisiana's rapid DNA instrument, the Applied Biosystems™ RapidHIT™ ID System. The instruments are synced to Louisiana State Police's Criminal Justice Information Services (CJIS) hub, automatically verifying the arrestee's identity and determining whether the offense qualifies for DNA processing and if DNA is already on file.

When an individual is arrested, officers will bring him or her to the facility. At the livescan digital fingerprinting terminal, the arrestee's demographic information is collected, and a full set of fingerprints is taken and submitted to the AFIS for identity verification.

Qualifying charge status is checked against Louisiana's computerized criminal history database. The entry is also checked to see if the arrestee has a DNA sample on file with the state. If the charge qualifies and there is no DNA sample on file, the deputy will be prompted to collect a DNA sample for submission to the state crime laboratory as well as an additional sample, which will be processed on the RapidHIT ID System. Because the RapidHIT ID System has been integrated into the arrestee collection workflow, the process for notification of a potential CODIS hit has been shortened from weeks to potentially hours.

Once the cheek swab is collected and run on the RapidHIT instrument, the arrestee's DNA profile is automatically searched against the CODIS database's DNA Index of Special Concern, which consists of profiles from unsolved high-priority cases. If a hit to one of these profiles is obtained, a DNA hit notification containing information about the profile is automatically forwarded to both the investigating agency and the booking agency. With information about the offender shared quickly between both agencies, the case can potentially be resolved in a much shorter time.

Conclusion

Louisiana's booking process that integrates AFIS livescan fingerprinting with the RapidHIT ID System is enabling answers in hours instead of weeks or months. This speed-to-result enables DNA hits against CODIS while an arrestee is still in custody at the booking station, providing a powerful advancement for law enforcement.

As the sheriff's office continues to work closely with the LSPCL, and as its rapid DNA program becomes more fully implemented, Morris foresees a time when law enforcement "no longer even needs to process the state sample that's submitted to the crime laboratory [for hit confirmations]." He explained, "Once we get to a point where we have several booking stations online sending us rapid DNA samples from throughout the state, it's going to save us resources at the lab, preventing us from having to run those second swabs."

"We're excited about this program," he added, offering advice to other law enforcement agencies interested in implementing rapid DNA in their booking process. "If there's anything that we at East Baton Rouge Sheriff's Office can do to help you implement a program, or if you have any questions, feel free to contact us."



Major Todd Morris at the EBRSO booking facility

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