The Houston Forensic Science Center has been considering several options for tracking sexual assault evidence and plans to install a tracking software in the next year.

Sexual assault cases and the analysis of evidence associated with those incidents have been in the local and national spotlight for years. The reasons for this are clear: these are some of the most sensitive, high-profile crimes and the victims often live with the trauma and scars for the rest of their lives. The national backlog of untested sexual assault kits (SAKS), some of them decades old, and the hundreds of millions of dollars in grant funding available to eliminate those backlogs have helped focus more attention on this contentious issue.

Here at HFSC we eliminated our backlogs of sexual assault kits allowing us to take a more critical and holistic look at the entire issue of testing sexual assault evidence. Our experience has taught us that testing the evidence is not the only major issue crime labs confront. Simply tracking that evidence as it makes its way from a medical facility to a property room to a lab and then back again is fraught with potential problems, mistakes and inefficiencies. And there is the additional difficulty of keeping stakeholders informed on whether the analysis has started in process or has been completed. Legitimate questions, but not always easy to answer.

This question of tracking sexual assault evidence has been raised on the national stage, and some states have passed laws requiring labs to install such software, and in the Texas legislature which is considering such legislation.

“We at HFSC have decided that regardless of whether installing such softwares becomes law, we will take this necessary step ourselves,” said Dr. Peter Stout, HFSC’s CEO and president. “We believe tracking this evidence is not only crucial for the stakeholders but will also help make our processes more efficient, allowing us to more quickly provide information to investigators, attorneys and survivors.

HFSC is looking at several options for such software, and is looking for a method that will track SAKS from the point of manufacture. Ideally, we would like the tracking of sexual assault kits to be the first step toward tracking ALL evidence. As such, we are seeking a solution that we could eventually in other disciplines and with other evidence.

As we move to implement this system, which will impact all stakeholders, we will keep you informed of the progress we make and what to expect.
A Few Words From Our PRESIDENT

HOUSTON FORENSIC SCIENCE CENTER

Time flies when you’re having fun, the saying goes. Based on that, we are having a blast. Or we’re just so busy the days and months fly into one another and suddenly fiscal year 2017 is ending, a good time to review what we have accomplished and think about 2018.

In FY17, HFSC continued to decrease turnaround times and eliminate backlogs while juggling a more than 30 percent increase in requests and a relatively flat budget.

Next year, HFSC must continue to decrease turnaround times to ensure the information we provide reaches the justice system when it can have the greatest impact. By improving communications with our stakeholders—from law enforcement to attorneys—we are getting a better understanding of those needs. Our goal for FY18 is to focus on implementing change that best serves our stakeholders.

The Crime Scene Unit will remain a top priority as we continue to recruit to ensure investigators are available not only for the most violent crimes—homicides and officer-involved shootings—but we also hope for armed robberies, aggravated assaults and other incidents. We will work to improve the quality of the unit’s work so it can achieve accreditation.

HFSC plans to implement a tracking system for sexual assault evidence to ensure all involved—from victims to attorneys—are aware of the status of a case.

Six new latent print examiners are being hired so HFSC can better address property crimes, especially those that occur at night.

A new Laboratory Information Management System is being created to allow for better data tracking and to make it easier for the end user to make requests and access information.

After completing our lean six sigma efficiency project in the Forensic Biology Section we will seek to implement similar programs in other disciplines.

Turnaround times again decreased in March for a total of 34 percent on average in the past 12 months. This is the time from the moment a request is made to HFSC to the time a report is issued. At the same time, requests are continuing to increase on average by 37 percent in the past year. Also encouraging is that the total average process time is also continuing to drop. This is the time it takes for work to be completed and indicates that turnaround times can and will continue to decrease. However, as HFSC increases efficiencies and reaches a point where the process has improved, turnaround times are expected to drop more slowly.

Total average turnaround times include all sections averaged from the start of the last 12 months measuring the turnaround time from the request by the agency to report. This is compared to the same preceding 12 month period. In the last 12 months TAT was fewer than 40 days on average. Requests received is the total of all requests received in the 12 month period. This was about 35,000 in the last 12 months. Total average process time approximates the time from when the laboratory starts processing to reporting. Average process time was fewer than 20 days in the last 12 months.
LIMS Rollout Planned for September

HFSC’s NEW LIMS ON ITS WAY

The Houston Forensic Science Center is investing nearly $1 million in a new Laboratory Information Management System (LIMS) that will be rolled out in phases beginning November 1. LIMS is the backbone of our operation internally and externally, allowing us to manage, preserve and mine data, while providing stakeholders with a more efficient way to make requests for testing and retrieve the results.

The Houston Police Department launched its crime lab’s first LIMS in 2009. That LIMS helped the crime lab progress and had been considered revolutionary at the time. However, we have outgrown that system and now seek to build a LIMS more tailored to our current needs, including one that will allow us to more effectively analyze data to help increase efficiencies and identify bottlenecks.

The new LIMS will also be rolled out in waves. For external users the biggest change will be in the portal used to submit requests and retrieve reports. HFSC’s LIMS project team is meeting with stakeholders to clarify their needs. This portal will also be rolled out in waves.

“A RELIABLE, EASY-TO-USE LIMS IS CRUCIAL TO EVERY ASPECT OF OUR WORK.”

June 1, and staff will be trained on the new LIMS later that month.

For external users the biggest change will be in the portal used to submit requests and retrieve reports. HFSC’s LIMS project team is meeting with stakeholders to clarify their needs. This portal will also be rolled out in waves. The first phase is designed to streamline communications with the Houston Police Department, and will be closely coordinated with HPD. The second phase addresses communications with the Harris County District Attorney’s Office. The third phase will provide stakeholders with easy ways to retrieve reports, and the final stage will provide stakeholders with additional and simple ways to get information about case status.

The goal is to complete the final phase of the rollout by December 2017. As we move forward with the phases, each group will receive unique access information as well as training.

“We understand these systems can be complex, and changing them can be fraught with difficulty and frustration,” Dr. Stout said.

“We expect that with proper training and good communication with our stakeholders we will be able to minimize some of these issues.”

HFSC will continue to update stakeholders with information about the project, and we welcome feedback and questions as we move forward.

HOUSTON FORENSICS SCIENCE CENTER

HFSC Experts Testify at Texas Legislature

Dr. Peter Stout testifies before the Criminal Jurisprudence Committee

DNA Technical Lead Robin Guidry testifies at the Texas legislature

Dr. Peter Stout discusses the need for resources for Forensic testing

Dr. Peter Stout shared HFSC’s more recent experiences and frustrations tracking rape kits, including an instance in Houston in which a hospital inadvertently failed to release about 40 kits to the property room. The kits have not yet arrived at the lab, and some of them are nearly three years old. A tracking system, Dr. Stout told the committee, would help prevent such issues, which result from the sheer amount of evidence that moves between parties and places.

HB 1729 (Rep. Victoria Neave-D) establishes a crowd-funding system for a grant program that would provide funds to justice agencies for testing of sexual assault kits. The money would come through a donation people could make when applying for or renewing their driver’s license and would operate in a manner similar to other existing programs.

Dr. Stout told the committee flexibility in the grant program would better serve crime laboratories that lack resources to create the foundation needed to better analyze and test evidence.

“Grant programs for testing exist on the federal level, and while every dollar toward this is necessary, precious few resources are available to help crime labs create the supporting structure needed to conduct the analysis,” Dr. Stout said later, explaining his position.

“There are almost no grant dollars available for the critical infrastructure and software programs needed to make the testing efficient and useful to stakeholders. If the grant program is flexible, labs that lack the money for testing could use it that way, while others could use the money to invest in the other necessary elements.”
The Houston Police Department has eliminated a longstanding policy that imposed a five-day delay on analysis of fired cartridge casings for ballistic imaging.

This change, made in collaboration with the Houston Forensic Science Center, will allow firearms examiners to provide investigators with potential case-to-case leads within 48 hours of evidence being submitted to the lab.

The decision is part of a joint effort by HPD and HFSC designed to ensure work done in the labs is accurate and reaches investigators at a point that is most useful and relevant to their work.

“We are learning that late work can be as useless to the justice system as incorrect work,” said Dr. Peter Stout. “As such, we are working with all our stakeholders, especially HPD, to ensure the work we do is of the highest quality and reaches them at the right time.”

HPD’s original policy that imposed the five-day delay on firearms examinations had been put in place to ensure investigators had time to first request DNA or latent print analysis on the firearm. Firearms examinations can compromise such evidence.

However, it has become clear that it is rare to for usable DNA or latent prints to be retrieved from firearms. HFSC’s Forensic Biology Section found that of 173 swabs collected from fired and unfired cartridges, only three single source profiles have been recovered. None are CODIS eligible. One profile that had been uploaded to CODIS did not yield a hit.

In addition, latent print labs across the country have reported little success recovering identifiable fingerprints from fired cartridge cases. In 2005, the California Criminalistics Institute released a study that found no usable fingerprints on fired cartridge cases. A 2006-2007 study conducted by the Minneapolis Police Department found a 0.38 percent likelihood of obtaining a suitable fingerprint for comparison from fired cartridge cases. Finally, the Denver Police Department’s Latent Print Section found in a review of its own data between 2008 and 2010 that of 200 fired cartridge cases processed for latent prints, none yielded fingerprints suitable for comparison.

“HFSC is proud of its practice of working collaboratively with its customers to maximize the benefits of its forensic services,” said Darrell Stein, HFSC’s Firearms Section manager.

“It is this partnership that allowed HFSC to demonstrate the tremendous advantage that using NIBIN as an investigative tool to quickly link gun crimes has over other types of forensic testing, such as touch DNA and latent fingerprints,” he added.

This policy change comes on the heels of another HPD decision also reached in collaboration with HFSC. That move impacts how crime scenes are processed and investigated. The new HPD policy requires all personnel to wear protective equipment, such as particle masks, gloves and shoe coverings when entering a crime scene. It also establishes two perimeters at the most sensitive crime scenes.

The outer perimeter, marked with yellow crime scene tape, is accessible to more investigators, while the inner boundary, marked with red tape, is only accessible to approved personnel. The goal is to decrease contamination of the evidence and the scene itself.

“These two recent policy changes demonstrate how important it is for HFSC and its stakeholders to communicate openly and collaborate to ensure both sides benefit from the work being done,” Dr. Stout said.

“We will continue the current efforts and hope to strengthen and expand them in the coming year to better serve all our clients, and especially the residents of Houston and the region,” he added.
The Houston Forensic Science Center is participating in a validation pilot study of the Accelerated Nuclear DNA Equipment (ANDE) Rapid DNA analysis system.

The pilot study will focus exclusively on analysis of sexual assault kits. It will allow NetBio, the manufacturer of ANDE, to compare results from their Rapid DNA system to those generated using traditional DNA techniques.

"HFSC is interested in participating in studies that seek to make forensic science better," said Dr. Peter Stout. "Better often means faster because the answers need to arrive to investigators and other stakeholders at a time when it is relevant to them. At the same time, quality cannot be compromized because the wrong answer endangers too many people."

ANDE is a fully automated robotic system that can develop within 90 minutes a DNA profile from biological evidence collected on a swab. The system is designed to complete the entire DNA analysis process during the time when a police investigation can be at its most crucial stage.

In the pilot study, duplicate samples will be taken during the collection of a sexual assault kit. One set will be processed by HFSC using traditional DNA techniques. The second set of samples will be processed using the ANDE Rapid DNA system. Those results would then be sent to HFSC, ideally within 48 to 72 hours after collection, to be compared to results from traditional testing methods.

The duplicate sample does not impact evidence that is normally collected or evidence that is retained after the initial analysis for future testing, for example at the request of a defense attorney.

ANDE is able to process buccal, blood, saliva, touch and semen swabs. The swabs are placed directly into a "chip" and processed from extraction through detection. The data interpretation of the profile is also done through the same instrument.

If a mixture or partial profile is found, the instrument sets off a "flag" requiring an analyst to interpret the results.

But single source profiles are interpreted by the system’s software and uploaded directly into a local database.

The federal government is currently considering legislation sponsored by Sen. Orrin Hatch that would allow Rapid DNA technology to be used in police stations nationwide.

"This technology is promising because it has the potential to provide law enforcement with crucial information at the start of an investigation, allowing them to include a suspect and exclude any potential false leads," Dr. Stout said.

"This study will help ensure that when the technology is deployed in the field it does what it is meant to do without increasing the possibility of errors."
CONTACT US
1301 Fannin St, Suite 170 Houston, TX 77002
info@houstonforensicscience.org
(713) 929-6760

LAW ENFORCEMENT AGENCIES, Attorneys AND COURTS
(713) 929-6760 for local calls
(844) 4RENSIC or (844) 473-6742 for toll-free long-distance calls
Fax: (832) 598-7178
info@houstonforensicscience.org
legal@houstonforensicscience.org

JOB SEEKERS
Fax: (888) 396-7190
hr@houstonforensicscience.org
Houston Forensic Science Center, Attention: HR Recruiter, 1301 Fannin, Suite 170, Houston, TX 77002

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Media resources are available 24 hours a day, seven days a week.
media@houstonforensicscience.org (Media requests)
pia@houstonforensicscience.org (Public Information Act requests)
(713) 929-6768 (Office)
(713) 703-4898 (Mobile)