

WHAT'S NEWS @ HFSC

HOUSTON FORENSIC SCIENCE CENTER • MARCH 2018

HFSC transitions to cloud-based computing, improving security, cost-efficiency

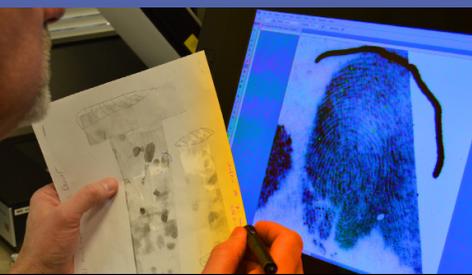
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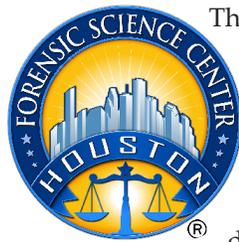
6 HFSC is taking on projects designed to improve quality and efficiency



7 HFSC will eliminate its longstanding latent print backlog by year-end



8 Teamwork delivers quick, quality results



The Houston Forensic Science Center has successfully transitioned software applications and databases to the

Microsoft Azure cloud environment, putting it on the road to becoming the first crime lab in the country to be fully cloud-based.

The complexity and importance of this transition _ which will be complete in a few months _ cannot be underestimated. Once HFSC is fully cloud-based, which will occur once its new Laboratory Information Management System (LIMS) is fully in use and online in the cloud, it will have greater network security and almost limitless storage capacity for a fraction of the cost.

HFSC's push to move forward on the project results from its contractual agreements with the City of Houston and the Houston Police Department (HPD), which require the Center to be on its own network by March 31.

However, as with all worthwhile journeys, this one also has been littered with hurdles, foreseen and unforeseen, surprises _ good and bad _ and frustration.

To successfully transition crucial softwares and databases to the cloud environment, HFSC had to have a five-day partial shutdown. During this

time, HFSC and important stakeholders, including HPD, tested the systems to ensure the different databases would still properly communicate to allow stakeholders to request analysis and submit evidence.

"Despite a few sleepless nights and some anxiety, the transition has gone well and will better serve all of us _ internally and externally _ once all the parts are fully in place," said Dr. Peter Stout, HFSC's CEO and president.

In the coming months, HFSC will also complete its move to a new LIMS that is better designed to serve the needs of the laboratory and its stakeholders. HFSC is also creating a more user-friendly request submission portal, Where's My Result. Until this is complete, the entire transition to cloud computing will not be finalized.

HFSC's operations are currently divided between LIMS although external users do not see a difference. Currently, digital forensics, seized drugs and latent prints are operating in the new JusticeTrax LIMS. The remaining disciplines are in the old system.

Although some disciplines are already operating in the new LIMS, all requests are being made through the old web interface until the new website is ready. If a request for analysis is made for a discipline operating in the new LIMS, the requester will receive a message explaining a report will be emailed along with a phone number to call for additional assistance.



A Few Words From Our PRESIDENT

HOUSTON FORENSIC SCIENCE CENTER

Peter Stout, PH.D.
CEO/President

Dr. Peter Stout, HFSC's CEO and president, initially joined the agency in 2015 as its chief operating officer and vice president. He has more than 15 years of experience in forensic science and forensic toxicology. Prior to joining HFSC, Dr. Stout worked as a senior research forensic scientist and director of operations in the Center for Forensic Sciences at RTI International. Dr. Stout also has served as president of the Society of Forensic Toxicologists (SOFT). He represented SOFT in the Consortium of Forensic Science Organizations and has participated in national policy debates on the future of forensic sciences in the United States. Dr. Stout has a doctorate in toxicology from the University of Colorado Health Sciences Center in Denver. Dr. Stout also served as an officer in the U.S. Navy Medical Service Corps.

The industry we work in is literally (if not figuratively) under a microscope. We provide information to different players in the justice system that decide the guilt or innocence of a person and can make or break a case.

The work we do can save lives. It can ruin lives. The responsibility is enormous. The stress associated with getting it right is unparalleled.

And there are two things that are the backbone: ethics and integrity.

There really is no assumption that we will never make a mistake. But there is an expectation that when an error is made it will be handled appropriately.

Ethics and integrity. It is the only way to fix mistakes. And so we must be transparent.

It is painful sometimes, for me and for my staff, to make public a mistake or expose the person that made the error.

But we must own our mistakes in order to correct them and prevent them going forward. We must be transparent internally and externally. We have to talk about problems in order to find solutions.

That is transparency.

And the more we talk about our mistakes more broadly with the forensic community the better we are able to learn from one another and make widespread changes that improve the justice system and public safety.

Spoken here, this may all seem counterintuitive, but transparency has not always been accepted in forensics.

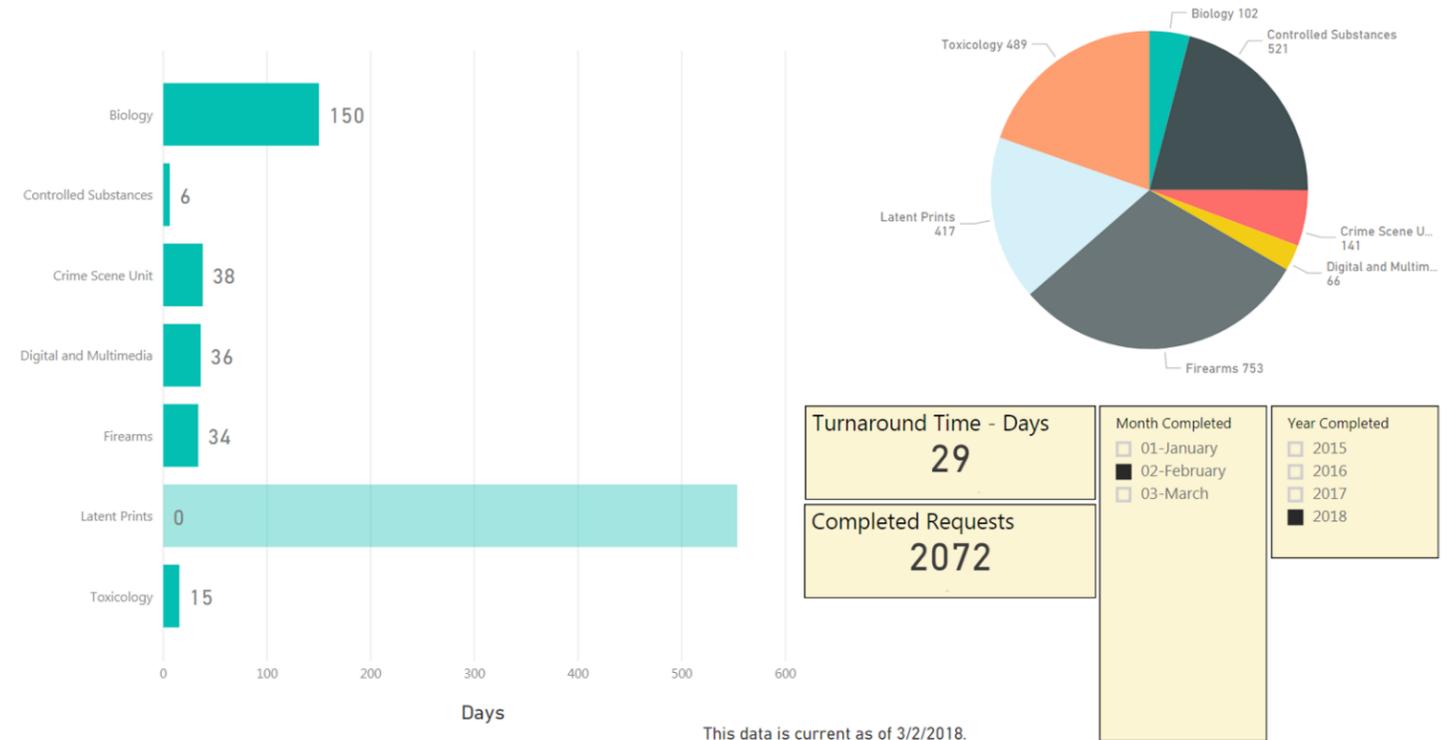
This is slowly changing, to the benefit of all. It is certainly HFSC's mission.

Peter Stout, PH.D.
CEO/President

HFSC At A Glance

Requests Completed by Section

Average Turnaround Time for February 2018



The Houston Forensic Science Center ended the month in surprisingly good shape considering the rash of events _ from ice days to network changes _ that have brought operations to a standstill.

The graphic above represents the turnaround time without the latent print section. As has been in done in the past few months, they are removed to provide a more accurate picture of the workload. Due to the age of the latent print backlog _ which dates back to 2014 _ the more they plug away at the oldest cases the higher the turnaround time appears, impacting the overall average and providing a poor reflection of most of the work. All violent crimes are at a 30-day turnaround time and the entire backlog will be eliminated by years-end.

More information on the latent print backlog is on page 7.

For more information, please visit the HFSC website at www.houstonforensicscience.org.

Meet HFSC's BOARD OF DIRECTORS



(Far left) Board chairwoman Nicole Casarez speaks in a documentary highlighting HFSC. (Left) HFSC's newest board member, Philip Hilder, an attorney

When Houston pulled its crime lab out from the police department to make it a separate entity, it chose to put it instead under an arcane Texas law that allows for the creation of a quasi-governmental corporation. These local government corporations are overseen by a board of directors. Meet HFSC's.

By 2012, Houston's crime lab was on a road to recovery.

The DNA section, which had been shutdown due to incompetence, poor training and myriad problems, was operating and accredited. Work had started to eliminate a backlog of more than 6,600 sexual assault kits.

And yet, the lab's reputation flailed.

So the City of Houston and the Houston Police Department seized on a recommendation by the National Academy of Sciences that crime labs should be independent of law enforcement and moved to pull its forensic services out from under police.

Still, they needed to find a winning formula. One that would withstand scrutiny. Something different. It had to be not only independent of law enforcement, but also somewhat insulated from politics.

This crime lab's reputation was so battered, the plan had to be perfect.

And so the city made its crime lab a local government corporation overseen by a board of directors.

The board is made up of community volunteers that hold two- or three-terms. They are nominated by the mayor and confirmed by City Council. But they can only be removed for cause, effectively protecting the board from some of the political ups and downs of a government body.

The board also has broad fiduciary powers, approving HFSC's budget, large contracts and can hire or fire the CEO and president.

This formula has received national attention as other cities and municipalities watch Houston to see if the concept will work.

Now, meet the board:

Chairwoman Nicole Casarez is an attorney and a professor of communications at the University of St. Thomas. Ms. Casarez has been on the board since its inception. She helped exonerate Texas death row inmate Anthony Graves.

Vice Chair Sandra Guerra Thompson is a University of Houston Law Center professor and director of the school's Criminal Justice Institute. In 2015, Ms. Thompson published a book about HFSC "Cops in Lab Coats: Curbing Wrongful Convictions through Independent Forensic Laboratories."

Dr. Stacey Mitchell is a clinical associate professor of forensic nursing at Texas A&M University. Previously, Dr. Mitchell, who has more than 20 years of forensic nursing experience, served as administrative director for Harris Health System's Risk Management/Patient Safety and Forensic Nursing Services.

Anthony Graves spent nearly 20 years in prison, more than half of them on death row, for six murders he did not commit. Mr. Graves was exonerated and released from prison in 2010. Ms. Casarez played a crucial role in his exoneration.

Janet Blancett is a senior manager in business consulting with Sapien Global Markets. Previously, Ms. Blancett served as a former senior technical safety engineer with Shell, and has more than 20 years of experience in

the oil and gas industry.

Dr. Robert H. McPherson is a dean and professor in the University of Houston's College of Education. He has more than 35 years of experience in the fields of public and higher education.

Francisco G. Medina is an attorney who started his career as an



assistant district attorney with the Harris County District Attorney's Office. He later worked as a criminal defense for about 20 years and is now a personal injury trial lawyer and a public finance lawyer.

Philip H. Hilder is HFSC's newest board member. He is a criminal defense attorney with Hilder & Associates, P.C. Formerly, he was the attorney-in-charge of the Houston Field Office of the U.S. Department of Justice, Organized Crime Strike Force. He also served as an assistant U.S. attorney for the Southern District of Texas.

Improving HFSC EFFICIENCY

The Houston Forensic Science Center has selected two projects for an intense, six-month long process review and improvement program.

The two projects will be overseen by HFSC's Lean Six Sigma (LSS) Development Group, established to identify areas that need improvements and use data and fact-based methods to find solutions.

The first two projects, launched earlier this month, focus on improving two areas that impact a broad number of people.

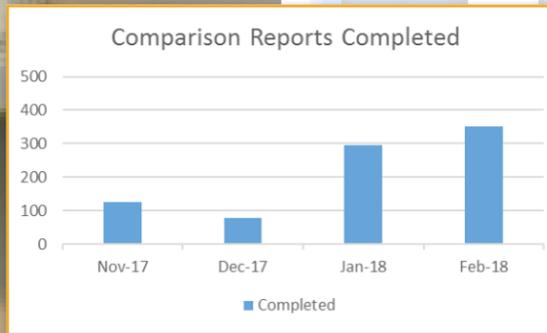
One project seeks to improve how HFSC interacts with the national DNA database, the Combined DNA Index System (CODIS), and provides stakeholders with information yielded from that system. The project team will improve how HFSC communicates to stakeholders crucial CODIS information, including when there is a "hit." It will also seek improvements to HFSC's upload process to increase efficiency.

CODIS is the final, and one of the most crucial steps, in DNA analysis. A DNA profile, sometimes an unknown, is uploaded into the database where it can "hit" against profiles uploaded by other crime labs in the region, state or nation. Sometimes it provides law enforcement with a name for unknown DNA found at a crime scene, leading to a suspect. Other times it can link between crimes and identify serial perpetrators.

The supply chain management project impacts nearly every part of HFSC. Improving the procurement and distribution of supplies increases efficiency HFSC-wide and can lead to cost savings.

The group has actively solicited project ideas and received about 20 ideas from staff company-wide. The group reviewed criteria including length of project and company impact when making their selection. Many of the remaining ideas will be tackled in the future.

The goal is to take on customer-driven process improvement initiatives to better provide stakeholders with the right answer at the right time.



LATENT PRINTS KILLING A BACKLOG

The Houston Forensic Science Center's latent print section will eliminate a longstanding backlog of more than 2,600 cases by the end of 2018.

Tim Schmahl, the section's manager, said the team ramped up production and has already eliminated a backlog on violent crimes. There are right around 30 cases designated as burglary of habitation in the backlog.

"It has taken time to get the right number of people and the proper equipment in place to effectively address the backlog," Mr. Schmahl said.

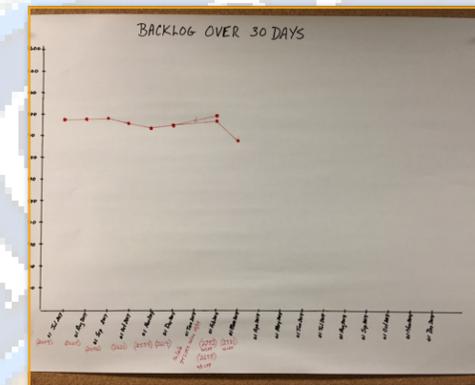
"But we now know that when the stars align our team is capable of completing more than 350 comparisons a month. So if all goes as planned, HFSC's latent print backlog will be gone by year's end," he added.

HFSC's latent print backlog grew over one week in April 2016 when the Houston Police Department found more than 2,400 cards in the property room that had

never been submitted to the lab for comparison. That was a year's worth of work. Delivered in a week.

The Center rapidly understood it could not eliminate the backlog with the personnel resources it had and with antiquated databases that took sometimes a full day to churn out a result.

The City of Houston responded to the needs and with additional funds, HFSC expanded its resources in the latent print



section, hiring additional examiners and updating equipment.

The new, state-of-the-art databases allow examiners to retrieve potential "hits" within minutes rather than up to a day with the old system, significantly speeding up the analysis process.

Five of the six additional examiners have completed HFSC training and are working independently.

Finally, a system in which examiners first provide stakeholders with a preliminary

report that includes investigative leads has allowed the section to weed out more than 80 percent of unnecessary work.

Under this process, fingerprints are first run through the Automated Fingerprint Identification System (AFIS), a database that houses millions of fingerprints. An examiner will provide potential "hits" to the requester after doing an initial comparison. The investigator reviews those findings and requests a full comparison if any of the individuals are relevant to their investigation. Instead of waiting weeks or months for a response, the officer will often have an answer within days.

This process has also helped significantly because often a fingerprint found on scene _ especially for property crimes _ links back to a homeowner or another individual who has a legitimate reason to be there. HFSC's research has found that investigators request additional comparison work only about 20 percent of the time. The removal of the extraneous work allows examiners to better focus their attention on cases that have information that could be useful to investigators and provide it more quickly.

HFSC TEAMWORK ACHIEVES:

The right answer at the right time

A carjacking ended as a murder in southwest Houston and police needed answers. Now.

The would-be carjackers, riding a motorcycle, drove up to the car and got in the front, where they ended up in a scuffle with the lone passenger. One of the suspected carjackers shot and killed the woman, one of two crimes on a violent night in Houston.

A single 40 Smith & Wesson cartridge case was found at each scene. Not much evidence, but enough to be potentially useful.

An HPD officer immediately put in a priority request for the firearms evidence, so quickly in fact one of the incidents had not yet been listed in HFSC or HPD databases.

In fact, HFSC's Crime Scene Unit was still processing the evidence.

One cartridge case from one scene was on its way to the property room. The second casing, however, was still in HFSC custody.

Normally, evidence from a homicide scene travels to the property room after being processed by the Crime Scene Unit. Only after it arrives there and an investigator requests testing does it return to HFSC for analysis. Fired evidence is automatically submitted for NIBIN testing.

But in this case HPD needed an answer quickly.

And HFSC responded.

It started with two conversations: one with a Crime Scene Unit supervisor and another with a firearms section supervisor. The officer wanted the evidence from the evening's two homicides to be analyzed together. Searching the National Integrated Ballistic Information Network (NIBIN), the national database of ballistic images, could be the quickest route to a lead, the firearms supervisor explained.

But how would the evidence get to firearms without first being routed through the property room?

The CSU supervisor opened the lockers, found the correct evidence item and delivered it directly to firearms. Meanwhile, HFSC's Client Services and Case Management Division manager documented the chain of custody.

The casings were immediately evaluated by a supervisor and imaged by a technician. An examiner reviewed the NIBIN hit.

The outcome?

The officer's request was made at 9:21 a.m.

The coordination, details and evidence transfers were complete at 11 a.m.

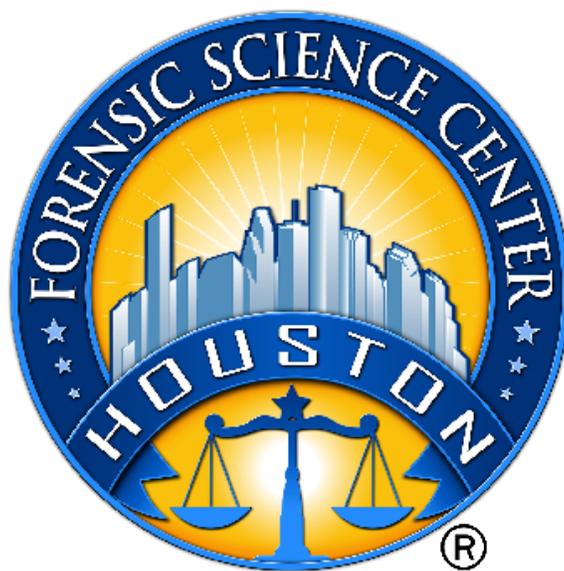
The NIBIN hit was reported to the officer at 2 p.m.

That is the right answer at the right time.



HFSC's NIBIN technician Joe Parian reviews evidence prior to uploading information into the national database of ballistic images

HFSC's disciplines focus on different areas of forensic science. Unlike on a TV, a DNA analyst does not do fingerprint comparison and vice versa. However, that does not mean they don't have to work together, communicate and collaborate to ensure stakeholders receive the information they need when it is most crucial to them. This story shows how important it is for all the varied disciplines work together to achieve their mission. Many crimes are complex and have evidence that requires forensic analysis of different kinds. If the communication fails, it is possible some of the work will not get done or that it won't be completed in a timely manner.



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