

WHAT'S NEWS @ HFSC

HOUSTON FORENSIC SCIENCE CENTER • SEPTEMBER 2017

Trump Administration Makes its First Foray Into Forensics

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The Trump administration made its first foray into forensics in August when Deputy Attorney General Rod Rosenstein announced the formation of a “forensic science working group” whose top priority will be to set uniform standards for testimony.

Rosenstein made the announcement during a keynote address at the International Association for Identification (IAI) annual conference in Atlanta.

The announcement followed criticism by defense attorneys and other criminal defense advocates of Attorney General Jeff Sessions’ decision to eliminate the National Commission on Forensic Science.

“We must use forensic analysis carefully. But we must continue to use it,” Rosenstein said, according to the Associated Press. “We should not exclude reliable forensic analysis _ or any reliable expert testimony _ simply because it’s based on human judgment.”

Rosenstein told IAI attendees the “forensic science working group,” which replaces the commission, will be headed by Ted Hunt. Hunt, the chief trial attorney at the Jackson County Prosecutor’s Office in Kansas City, Missouri, has 22 years of experience. He was also a member of the commission disbanded by Trump.

The focus on testimony follows an FBI announcement in 2015 that hair examiners had overstated their scientific findings in court. The impacted cases go back decades, and has forced the forensic science community to address testimony issues across disciplines. Trump’s DOJ initially suspended work that began under the Obama administration to create guidelines forensic experts could use to standardize testimony.

Hunt’s group will now renew some of that work. Rosenstein said Hunt “will assist the department in deciding its next steps to enhance forensics.” In part, Hunt will review more than 250 comments the DOJ received after the commission’s elimination.

DOJ issued in 2016 a draft of standards for examining and reporting forensic findings. These guidelines had been created after the DOJ reviewed hundreds of trial transcripts involving microscopic hair analysis and found at least 90 percent had errors. The cases were all pre-2000. Since then, the use of mitochondrial DNA analysis has helped improve accuracy.

The guidelines would have covered seven forensic disciplines.

Although required public comment on the standards had been received, the Trump administration’s decision to suspend the work means they never became official.



A Few Words From Our PRESIDENT

HOUSTON FORENSIC SCIENCE CENTER

Peter Stout, PH.D.
CEO/President

Later this month, in honor of National Forensic Science Week, HFSC is hosting its annual symposium. This year, the discussion is focused on evidence handling and risk management, in part because we have had our own problems, but also because there is more national attention on this topic than ever before.

And that's a good thing.

Clearly, evidence collection, handling and preservation impacts all scientific analysis that follows. However, as a community, both in forensics and other parts of the justice system, we have often failed in this arena, negatively impacting cases, trials and, ultimately, justice.

Now, through new state legislation which requires tracking of sexual assault evidence, and a more vocal national discussion on the topic, HFSC is also improving its evidence management.

First, we are revamping our Crime Scene Unit to ensure our investigators are trained and practice the most up-to-date protocols for evidence collection.

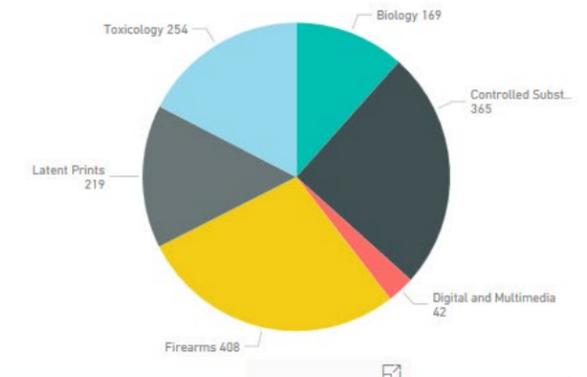
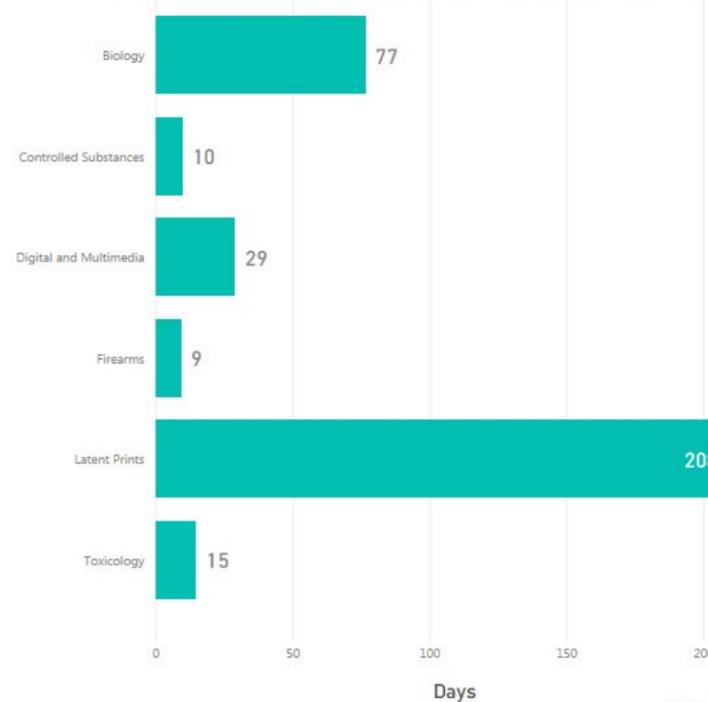
In July, we told you about new technologies to minimize human error. RFID _ or radio frequency identification _ technology is allowing HFSC to affix antenna-based tags to evidence and follow it through the entire scientific process. In addition to tracking the evidence, it helps us identify bottlenecks and become more efficient.

As we progress and expand this project, we will keep you posted.

Peter Stout, PH.D.
CEO/President

HFSC At A Glance

Average Turnaround Time for August 2017



Turnaround Time - Days	49
Completed Requests	1457

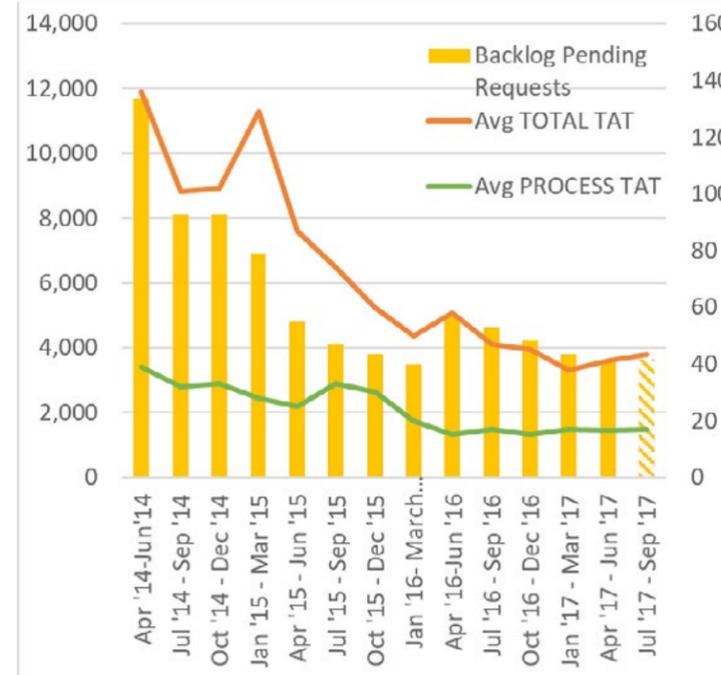
Month Completed

- 01-January
- 02-February
- 03-March
- 04-April
- 05-May
- 06-June
- 07-July
- 08-August
- 09-September

Year Completed

- 2014
- 2015
- 2016
- 2017

This data is current as of 9/8/2017.



The Houston Forensic Science Center continues to plug away at two remaining backlogs in DNA and Latent Prints to achieve a sustainable average turnaround time of 30 days or less across disciplines.

Hurricane Harvey shutdown HFSC operations for more than a week, dealing a blow to some of our plans for chipping away at backlogs. While we have reached a 30-day or less turnaround time in most sections, we still have a lingering DNA backlog of more than 240 requests and a Latent Print backlog of 2,700 requests.

Now operating at full capacity again, we hope to make progress in the coming weeks.

Please visit the HFSC website at www.houstonforensicscience.org to get the most up-to-date information about backlogs and turnaround times. The information is updated every Friday.

The Latest on Blind Quality Controls

HFSC LEADS THE WAY ON BLIND TESTING

The Houston Forensic Science Center is further expanding its blind quality control program, now one of the most robust in the nation, and possibly the world.

HFSC's goals for the program are to drop a total of 21 "mock" cases in five different disciplines each month. The breakdown is as follows: eight toxicology, eight controlled substances, two biology, one latent print processing and two different types of firearms blind samples monthly.

A new latent print software that grants HFSC access to a regional database will allow the Quality Division to fully implement blind quality controls in that area as well.

Blind quality controls, in the form of "mock" cases or "blind" verifications, are designed so an analyst does not know whether they are working a real case or simply taking what amounts to a pop quiz. By blinding the information from the analyst, a laboratory can get a better sense of a specific analyst's performance and productivity, but also more easily identify where and when a systemic problem exists and find solutions.

Other laboratories in the country and in Canada are taking greater interest in blind quality controls and the benefits they bring to an overall system, however, they generally can only introduce a handful of mock cases annually.

"It is clear from conversations at forensic conferences that laboratories are getting a better sense that blind controls can help identify not only errors, but also bottlenecks and other issues that could be interfering with production," said Dr. Peter Stout, HFSC's CEO and president.

However, as HFSC has learned, successfully introducing these mock cases is not simple.

"This is trial and error in many ways. We have learned that analysts pick up on things, including handwriting and spelling, that help them figure out that they are working on a blind and not a real case," said Lori Wilson, HFSC's Quality Division director.

In 2018, HFSC is also looking for ways to blindly monitor testimony. Trial transcripts will be randomly selected for review by experts.

The Quality Division is also looking to introduce mock cases into the

"BLIND CONTROLS CAN HELP IDENTIFY NOT ONLY ERRORS BUT ALSO BOTTLENECKS."

Digital Multimedia Unit. The division has also been working with the Harris County District Attorney's Office and the Houston Police Department to get firearms and drugs marked for destruction. The more closely the blinds mimic and represent the majority of HFSC casework, the better it is able to test the process.

By obtaining real "guns" and drugs, such as crystallized meth, the Quality Division can also create cases that are more challenging to analyze.

Already, the Quality Division has inadvertently submitted two controlled substances cases that challenged the process.

In one instance, a substance

chemically transformed into its liquid form prior to analysis. This tested the entire process. The Client Services & Case Management Division followed its protocol and repackaged the evidence and documented the event in the case notes before notifying supervisors in the Controlled Substances Section.

In another case, a chemical used to mix a controlled substance masked the drug that was present. The analyst was able to deduce out the controlled substance, and the section manager used the example as a learning opportunity for other section staff.

Since beginning the blind program about a year ago, HFSC has introduced more than 270 blind cases. The goal would be to introduce enough cases to better able to statistically determine HFSC's error rate.



HOUSTON FORENSIC SCIENCE CENTER

HFSC Focuses on Testimony



The Houston Forensic Science Center has long had a vigorous testimony monitoring program designed to ensure analysts testify professionally and accurately.

However, with all the recent developments showing how often it is the courtroom where forensic science goes awry, HFSC has decided to expand and improve its testimony monitoring program. The goal of the program will be to ensure our analysts are accurately portraying their results in court and explaining their findings in a manner that can be easily understood by laypeople, or a jury.

The additional part of HFSC's testimony monitoring program will include reviewing a random selection of trial transcripts. The written transcripts provide different perspective to those reviewing them then what is absorbed when we do on-site monitoring with a staff member physically in the courtroom while an analyst is testifying.

The on-site monitoring allows a staffer to monitor how their co-worker looks

and speaks. They can gather some of what is being said, and get a good indication of how their colleague does under the pressure of cross-examination by watching their body language and other queues.

However, sometimes the nuance in language and word usage is missed. By reviewing written transcripts, HFSC will be able to delve deeper into how an analyst's words might be interpreted by a jury or others in the courtroom. HFSC will also be able to have a group of laypeople _ nonscientists within the organization _ review the transcripts to get a better indication of whether the language being used by analysts can be understood and properly interpreted by a broad range of people with different life experiences and educational backgrounds. This is a jury, and that is the audience in the courtroom.

HFSC hopes that by adding this layer of monitoring to its program it will be able to better identify weaknesses in the testimony it offers and pinpoint training needs.

LIMS

STORM DELAYS

NEW LAB

DATABASE

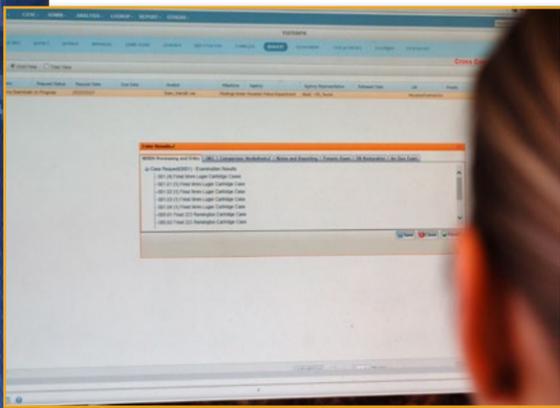
The greatest impact Hurricane Harvey will have on HFSC's long-term operations is to the implementation of a new Laboratory Information Management System (LIMS.)

HFSC had been set to launch the new JusticeTrax LIMS on November 1. That timeline has been changed to December 4 not only due to time lost in HFSC operations, but also because the Center is reliant on other stakeholders, including the City of Houston and the Houston Police Department, to successfully launch the system.

HFSC has to be cognizant and understanding of its stakeholders' priorities following Harvey.

Since taking over management of HPD's forensic operations in April 2014, HFSC's computer systems have largely lived within HPD's network, tying it closely to the city's IT systems. Divorcing those is a complex process that requires time and effort from all parties, as well as close coordination. All have been part of the LIMS implementation from the beginning and have an interest in ensuring the process is completed successfully. If the only way to do that is to delay full implementation of LIMS, HFSC will make sure it is in line with HPD and the city's needs.

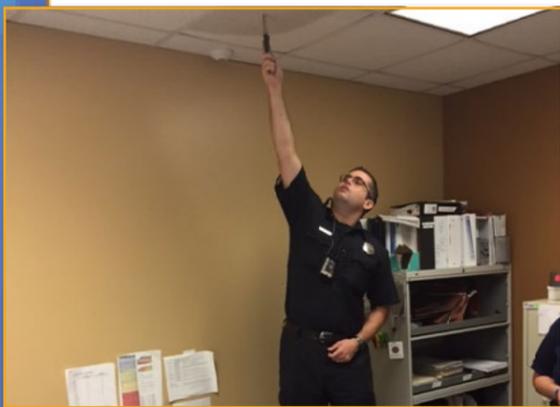
HFSC WEATHERS HARVEY



HFSC staff test the new Laboratory Information Management System



Flood debris on front lawns in southwest Houston following Harvey



An HFSC CSI helps fix a leaky ceiling tile during Harvey

Harvey hit Houston with 50 inches of rain in some places, pushing bayous, rivers and reservoirs to record-setting heights after the storm first made landfall as a hurricane further southwest.

HFSC's first concern was for the safety of staff and their family members. In an attempt to both ensure all were unharmed, and to try to help those who might require assistance, HFSC implemented its "calling tree" three times during the dayslong weather event. The calling tree is designed to allow HFSC directors, through telephone or text communication, to confirm that all staff members are safe.

Between the calling tree, text messages, emails and social media, HFSC also successfully communicated to staff when they might be expected to return to work. HFSC staff and their families also helped reunite one family following a harrowing evacuation.

HFSC also quickly learned that more than a half-dozen members of the staff had suffered significant flooding in their homes.

Several others had more minor damage, largely due to roof leaks, and a few were under mandatory evacuation for several days while officials released water from the Barker and Addicks reservoirs.

Now that HFSC is fully operational it is easier to assess the production damage done by shutting down operations for six business days.

It took several days for all disciplines to become fully functional once offices had been reopened because instruments had to be validated, the DNA area had to be thoroughly cleaned and other staff had to content with some damage that had occurred to ceilings and around windows in some areas of the laboratory.

Work that would have continued to chip away at two remaining backlogs in the Latent Print and Forensic Biology sections came to a halt, yet by September 8 HFSC had achieved a 25-day average turnaround time across disciplines.

Overall, HFSC weathered the storm well and

has not had any long-term damage to its operations.

There, however, is room for improvement and HFSC will review emergency procedures and continuity plans to determine what worked well and what should be improved.

For HFSC staff who have been displaced from their homes, like others in the city, Harvey's impacts will be felt for many long months, if not years.

But just as Houston as a whole has been able to take pride in the spirit of community, helpfulness and volunteering that rose from the floodwaters, so can HFSC.

As soon as word spread that members of the staff had been flooded or needed

assistance getting out of their homes, coworkers stepped up to offer help. People offered to open their homes to staff. A gift card drive to assist flooded staff members yielded more than \$1,000 in donations.

An HPD employee who is managed by HFSC helped get a crime scene investigator's husband downtown while the Crime Scene Unit operated on 12-hour shifts and neighborhoods transformed into autonomous islands.

Now, as HFSC seeks ways to help rebuild the community it serves, an outreach committee is looking for opportunities for group volunteering so staff can spend a few afternoons during the coming months helping others.

The enthusiasm and desire to help not only one another, but Houston at large — which for many at HFSC is a new city and a new community — is heart warming and should fill us all with pride.



CLASS OF 2017

HFSC CSI ACADEMY TRAINEES GRADUATE

HFSC's first-ever group of Crime Scene Investigator trainees graduated from a 400-hour academy on Friday, September 8.

The trainees will now begin training in the field at real crime scenes, where they will shadow and train with experienced CSIs.



The academy, the first of its kind for HFSC, was designed to train new college graduates with science-based degrees to become CSIs. The 13 trainees are the final group needed for HFSC to completely civilianize its Crime Scene Unit by year's end.

In coordination with HPD, HFSC has been slowly transitioning out HPD officers who had traditionally done crime scene work and hiring civilians.

CSU director Jerry

Pena, who oversaw the civilianization of Austin's Crime Scene Unit, and supervisors Carina Haynes, Alison Hutchens, who previously worked in a civilian crime scene unit in North Carolina, led the academy. All HFSC disciplines also assisted as did CSU's more experienced investigators.

The academy has been popular from the beginning and within 48 hours of advertising the training positions, HFSC had received more than 400 resumes. Candidates were screened and interviewed before being officially accepted into the academy. Before being released to field training, the group had to pass a week of competency exams that included hands-on and written tests.

The Quality Division will evaluate the trainees' skills, including note taking and report writing, before approving them for unsupervised casework.

The CSI Academy provided the trainees with the "necessary foundation of knowledge to process crime scenes," Alison said.

Each student was "engaged, participated in a variety of practical exercises and showed initiative and a willingness to learn about their career."

Their growth has been remarkable, Alison added.

CSI Academy graduates and their supervisors



Two milligrams of carfentanil received by HFSC



Fentanyl Overdoses Rise

More than 64,000 people in the U.S. overdosed on drugs in 2016, an increase of over 22 percent from the previous year, according to the Centers for Disease Control and Prevention (CDC).

Of those, more than 20,000 deaths were fentanyl related. Just in the past year, deaths caused by these drugs have more than doubled. In the past three years, fentanyl-related overdose deaths have risen 540 percent.

[The New York Times in a story published earlier this month](#) compared drug overdose deaths to peak deaths from other past epidemics, such as HIV and car accidents.

Drug overdose deaths now surpass the peak points from those past epidemics, in some cases by more than double.

Fentanyl and fentanyl analogs, among the most dangerous and lethal opioids available, were responsible for the most overdose deaths in 2016 with just over 20,000. Heroin came in second with around 15,000 overdose deaths.

The steepest increases in drug overdose deaths in the United States have been reported in Delaware, Florida and Maryland.

Texas has not seen the same surge in opioid-related deaths, but has still seen a rise in usage and deaths in the past year.

The Houston Forensic Science Center saw this summer its first case of carfentanil, a lethal synthetic opioid whose only approved use is as an elephant tranquilizer. The two milligrams that arrived in the lab equalled about 4,000 lethal doses.

Experts expect the opioid crisis to continue and related deaths to rise further.

MEET HFSC'S COO DR. AMY CASTILLO

Dr. Castillo brings years of experience and a background in DNA



Dr. Amy Castillo, HFSC's new Chief Operating Officer (COO) and vice president, has more than a decade of lab experience and began doing forensic analysis for the city more than seven years ago when the Forensic Biology Section was still a part of the Houston Police Department.

After HFSC took over management of HPD's forensic operations, Dr. Castillo became the Research and Development Division director, overseeing grants, instrument validations and participating in large, special projects, such as the implementation of a new Laboratory Information Management System (LIMS.)

"I started off at the bottom of the totem pole in the biology section," Dr. Castillo said, remembering the months when she waited to be approved for casework.

This gives Dr. Castillo unique perspective to understand not only where HFSC is, but its future potential. It also means she has had plenty of time to think about what HFSC can become.

Now, as COO working closely with Dr. Peter Stout, HFSC's CEO and president, Amy has an opportunity to help

guide the company to its fullest potential.

Dr. Stout and Dr. Castillo want to make HFSC a model forensic agency, one others in the nation can turn to when they seek to improve their own operations.

In the short term, Dr. Castillo will oversee implementation of the new LIMS. The goal is to do this with minimal disruption to normal operations. Dr. Castillo wants the new product to allow staff to more easily access data and more efficiently report information to stakeholders.

"This will allow for our long-term goals to be more achievable," Dr. Castillo said.

Stakeholders should also find a more user friendly LIMS on their end.

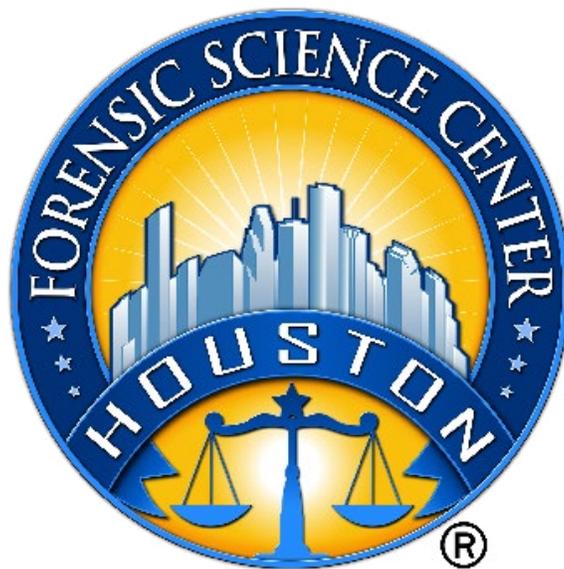
Over time, Dr. Castillo wants to grow and develop staff in specific areas, including leadership. She wants to help HFSC managers and leaders use data to make decisions.

"HFSC is already an example to the community and I see continuing growth in these areas as a way to make us the example for how forensic work should be done," she added.



A scientist holds a tray of evidence ready for analysis at the Houston Forensic Science Center

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