HFSC Expands Blind Quality Program into AFIS, Digital Multimedia

The Houston Forensic Science Center’s blind quality control program has entered a new and exciting phase with mock cases introduced into the digital multimedia evidence section and others that target the database used by latent print examiners.

The expansion of HFSC’s blind quality control program makes it one of the most robust in the country, if not the world. Currently, HFSC has blind testing in six of its seven forensic disciplines and has introduced into the workflow about 400 mock cases in the past 18 months.

The program is designed to bolster mandatory proficiency tests, which are provided by a commercial company. Analysts are aware they are taking a test in those cases, and the commercial vendors do not always create cases that truly mimic the work analysts at HFSC do daily, said Quality Division specialist Aimee Grimaldi.

“By adding blind quality testing to our proficiency program, we are enhancing the system,” Ms. Grimaldi said.

“This program also allows HFSC to expand the scope of testing to include samples that are not traditionally provided by commercial vendors. And this opens the door to truly test our system before it tests us with extreme challenge samples,” she added.

The Quality Division introduced the first cases that could be searched against the county’s AFIS database in recent weeks after working closely with Latent Print manager Tim Schmahl to ensure the cases were realistic and the donor fingerprints could be pulled from the system following a “hit.”

The blind case “hit” in late November to the correct candidate in AFIS, and the examiner properly prepared the preliminary investigative lead report and uploaded it to LIMS for distribution to HPD.

“By creating ‘mock’ cases but mimicking real world conditions, examiners and processors are less prone to alter their performance or mindset as they might do when they know they are taking a test,” Tim said.

“It also allows us to test the performance of AFIS as after the blind is finished, we can query the system to see if a candidate was missed by the examiner searching or whether the system didn’t ‘hit’ on the known candidate,” he added.
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 (CFSO) 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.

November and December are a time not only for shopping and eating, but also for reflection, a time to review our accomplishments and to set future goals. And so, I find myself reflecting, sizing up and thinking ahead.

HFSC has had a good year. We have made significant progress toward achieving our long-term goals. We introduced blind quality controls into six sections, making HFSC’s program the largest in the country, if not the world. A new LIMS is rolling out and HFSC’s overall turnaround time, excluding latent prints, is about 24 days.

Does that make 2018 the year of rest?

Far from it.

While I am proud and happy, I am not yet satisfied. The road ahead of us is long, and there will be many obstacles along the way—some unanticipated.

LIMS implementation will continue, and it will be painful at times. The external-facing web portal and HFSC’s move to its own network will mark the end of this year-long project, and also make us the first crime lab to be fully cloud-based. While in the short term, turnaround times might increase, in the long term, the new system will increase efficiency.

In 2018, HFSC’s Client Services/Case Management Division and Crime Scene Unit will seek accreditation. CS/CM will be accredited by the International Association of Property and Evidence, which will dictate rules for evidence handling. CSU will meet an ISO standard through ANAB.

Finally, backlogs and turnaround times. With only two backlogs remaining—latent prints and DNA—it is realistic to believe that by year’s end HFSC will have a sustainable, overall average turnaround time of less than 30 days. That moment is significant for Houston, as the lab will no longer have to decide whether a homicide is more important than a sexual assault and vice versa. Evidence will be analyzed as it arrives, and HFSC might be able to do work it never had the capacity to consider before.

And so, while I am excited when I think about all we’ve accomplished in 2017, I am even giddier considering the progress we will make in 2018.

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 each Friday.
The Houston Forensic Science Center’s Controlled Substances Section is processing drug cases in an average of seven days.

This record-breaking turnaround time was after the section made changes to how evidence is handled in response to a request from Harris County District Attorney Kim Ogg to process drug cases more quickly to assist with jail overcrowding. The problem at the jails has become more significant since Hurricane Harvey, which pummeled the courthouse leading to significant trial delays.

Before these changes were made in the Controlled Substances Section, analysts had been operating on an average turnaround time of 11 days, still significantly low.

It had taken years to eliminate a longstanding backlog that at its peak included more than 40,000 requests for drug testing and a turnaround time of more than 500 days. So Controlled Substances manager James Miller was not sure he would be able to further pare down his team’s turnaround time.

“Controlled substances took the challenge, and found a way to succeed, possibly against all odds,” said Dr. Amy Castillo, HFSC’s COO and vice president. “And in doing so, they found ways we could shave off even more days _ in collaboration with external stakeholders _ if we are asked to do so.”

Mr. Miller began looking at his internal process using a map, and this proved to be eye opening. The analysis process was already highly efficient, and few changes could be made to further cut that down in the current facility. At least not quickly.

So Mr. Miller looked instead at the process before the evidence arrives at the lab.

“It all came down to the evidence. The evidence was the key. Where was the evidence?” Mr. Miller said. “We needed to get the evidence from the defendant to the analyst faster.”

And that is when it became clear that if analysts received cases more than once a week _ as had been the practice _ cases could move more quickly through the system.

Analysts had traditionally received evidence every Monday. The evidence was from the previous Monday through Sunday. But if Monday and Wednesday, the analysts would still have about the same caseload, but evidence that previously would have waited for pickup until the following week would be pushed more quickly out of the HPD Property Room door.

To do this, however, HFSC’s Digital Forensics analysts now receive evidence twice a week.

“The evidence was the key. Where was the evidence?” James Miller, Manager

The Houston Forensic Science Center's Digital Forensics Section went live on November 14 in the new JusticeTrax LIMS, the first discipline to begin fully operating in the new database. Digital Forensics requests received prior to November 14 are being completed in the old LIMS environment. All requests received after November 14 are in the new LIMS. This first phase of the rollout has been completed with minimal difficulties, and any unexpected occurrences are being reviewed to prevent similar incidents as we continue moving other sections into the new LIMS environment.

Several more disciplines and supporting groups will transition from the old Porter Lee LIMS into the JusticeTrax LIMS in December, including Controlled Substances, Toxicology, Latent Prints, Audio Video and the Client Services/Case Management Division.

Although the change for HFSC in these stages is significant, stakeholders will be minimally impacted at this time as requests will be submitted in the same manner. Test reports will also continue to be emailed upon completion as is the current practice. However, the look and feel of testing reports will change at this time. All will be consistently formatted between disciplines to better facilitate readability and provide a better customer experience.

A new portal for requesting forensic analysis will roll out in February.

Client Services/Case Management Division had to change its process. That group also has limited resources, but the group successfully reworked its evidence handling to accommodate DA Ogg’s request.

The result: an average turnaround time of seven days.

That also shaved days off the time between offense and case report.

“This has a huge impact on the defendant, especially if they are sitting in jail,” Mr. Miller said.

It also allows prosecutors to more quickly make decisions on plea offers and trials, ultimately easing jail overcrowding.

In addition, HFSC’s research has uncovered other areas where evidence handling can be made more efficient, though it will require collaboration with external stakeholders.

And the main lesson could possibly be adapted in other disciplines as well.

“It wasn’t the analysis. It was all about the evidence. That was the key takeaway,” James said.
On a recent Friday afternoon in May a Houston Police Department sergeant called with a routing request to expedite alcohol testing in a case involving an internal affairs investigation.

It was the Toxicology Section’s response to the request that was not routine: the testing has already been completed. An analyst was reviewing the data and writing the report. By Monday, the final report was on the sergeant’s desk.

Two years ago, the Toxicology Section’s turnaround time averaged more than 100 days. Cases had to constantly be prioritized based on offense type and officer request.

Today, with no backlogs in alcohol, this is rarely the case.

“One of the most difficult parts of having a backlog is having to decide what’s more important — the sexual assault or the homicide,” said Dr. Peter Stout. “This is why achieving a sustainable, 30-day turnaround time is so crucial. It means all cases are of equal importance and are simply part of the workflow.”

Dr. Dayong Lee, manager of the Toxicology Section, sees the difference even though there are still cases that need to be expedited.

“Every so often we do have a request that requires us to pull a case to the front of the line. But our turnaround time is so quick now, it doesn’t happen as often, usually just once every couple of months,” Dr. Lee said. “Rushing a case always takes other things out of order, so the fewer requests like that we get, the smoother our process and operation.”
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