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## Texas leading massive review of criminal cases based on change in DNA calculations

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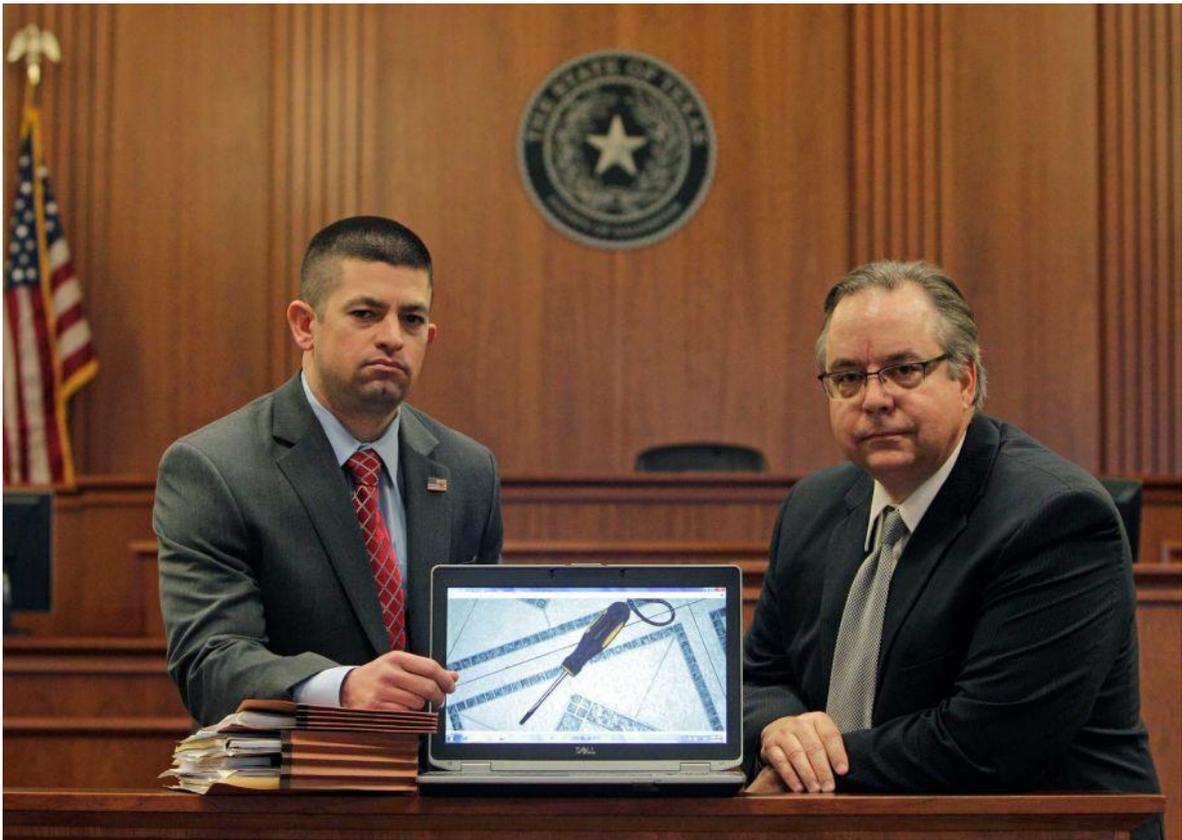


Photo: Steve Gonzales

Galveston County District Attorney Jack Roady, right, and Matthew Shawhan, an assistant district attorney for the county, show an image of a screwdriver believed to have been used by German Perez-Vasquez in a homicide. DNA analysis on the screwdriver initially showed there was a 1 in 290 million chance that a different person of a similar ethnic background to the defendant had touched it. The new protocol, released back in January 2010 but implemented unevenly across the country, found a 1 in 38 chance. The differing estimates had no bearing on the case, since the defendant claimed he killed the victim in self defense. But the results had a startling effect among criminal justice stakeholders, helping them understand the new protocol could have significantly different results. (Steve Gonzales / Houston Chronicle)

Texas criminal justice organizations have begun reviewing thousands of cases that relied on an outdated method for calculating the odds that a particular person left DNA evidence at a crime scene.

At issue are samples that include more than one person's DNA, such as evidence swabbed from a countertop after a convenience store heist or taken from bodily fluids in a rape kit. Experts revised national guidelines for calculating odds in these scenarios six years ago, but no one sounded an alarm or asked prosecutors to re-examine cases that used the previous methodology.

Now, Texas labs and lawyers are reviewing pending prosecutions and thousands of adjudicated cases, including those of death row defendants who had this type of evidence presented at trial.

The science behind DNA testing hasn't changed, but for mixed samples, analysts now focus on fewer factors in their results before determining the odds of someone being at the scene. The findings are more conservative.

Inaccurate calculations still might be happening around the country, said Barry Scheck, director of the Innocence Project, a legal nonprofit that has reviewed post-conviction DNA evidence since 1992. Scheck took an informal poll last week among forensic scientists at a national conference on the outdated "multiple contributor" DNA protocol, and all agreed: "Texas is the only place that's systematically trying to correct it."

The review was initiated by crime labs and coordinated by the state's Forensic Science Commission. Prosecutors, defense lawyers and judges have joined the effort to comb through old cases, contact affected parties and, in some instances, halt the judicial process to ensure the science is up to date.

Signs posted in Texas prison libraries in December tell inmates in English and Spanish about the issue and provide a Harris County post office box to which inmates may write if they believe their cases included this kind of DNA evidence.

Bob Wicoff, head of the appellate division for the Harris County Public Defender's Office, said about five to seven letters arrive each day, but he anticipates the box eventually could receive hundreds.

Backed by a \$400,000 grant from the Texas Indigent Defense Commission, Wicoff will spend the next several years steering the statewide effort for the defense bar, aided by volunteer lawyers and law students. He will train lawyers to understand the science and vet cases to see whether they meet the criteria.

### **Methods under scrutiny**

The new results may have little or no bearing on a defendant's guilt. But in a rare show of solidarity in the adversarial legal system, leaders of the state's science, law enforcement and criminal-defense communities have banded together to deal with the problem.

"Texas is really the only state that's taking it seriously," said Sandra Guerra Thompson, a University of Houston criminal-law professor who has studied wrongful convictions and serves on the board of the Houston Forensic Science Center. "Instead of looking at this as a big mess, I think we need to be applauding our state's leaders for having the apparatus in the first place to deal with this issue and for using it."

Forensic science methods, including arson analysis, ballistic test interpretation and bite-mark comparisons, have come under scrutiny nationally for being inconsistent. Texas is far ahead of other states, Thompson said, because it has broader requirements for prosecutors to notify defense attorneys if a problem arises with scientific evidence.

[The new protocol became official in January 2010](#) when a national advisory group updated its recommendation about the method scientists used to calculate the probability that a particular person's DNA profile - swabbed, say, from a doorknob or pistol - could appear in nature. The new calculation required that more thresholds be met before the data could be conclusive.

For the most part, though, labs around the country maintained their own procedures, which may not have been consistent with the national recommendation.

But labs everywhere took note in April 2015 [when the Washington, D.C., crime lab lost its accreditation](#) and was forced to suspend operations due to substandard scientific practices in hundreds of criminal cases. Among the problems experts highlighted were the inappropriate probability calculations used to analyze mixed DNA.

A glaring example of [the lab's faulty analysis came from a swab of a stolen car's gearshift, the Washington Post reported](#). The lab said the chances a random person had the DNA features found on the shifter were 1 in 3,290. The auditors said the likelihood was 1 in 9.

### **New calculations**

When the D.C. crime lab came under fire, Lynn Garcia, general counsel for the Texas Forensic Science Commission, contacted Dr. Bruce Budowle, co-director of the University of North Texas Center for Human Identification. Budowle was one of two experts who had audited the D.C. lab.

Garcia said Budowle told her the problematic calculations [were occurring "everywhere, all across the county."](#)

An unrelated FBI announcement in May 2015 set the Texas effort in motion. The bureau notified crime labs it had [data-entry errors](#) in its population database, which scientists use to calculate probabilities. Texas labs told the district attorneys they would recalculate the data upon request.

Jack Roady, district attorney for Galveston County, asked the Texas Department of Public Safety to recalculate DNA probabilities in his cases and put pending cases on hold until new results came back.

In August, the results came back for [a screwdriver believed to have been used in a homicide](#). The initial results estimated the chance of somebody other than the Hispanic defendant leaving a particular DNA profile on the screwdriver was 1 in 290 million among Hispanics. The revised report found the probability was 1 in 38.

The original results said the defendant's and victim's DNA could have been on the screwdriver but ruled out the presence of DNA from a female defendant in the slaying. The new results said the woman could have left DNA on the screwdriver as well.

As the justice community began sharing Roady's startling change in statistics, prosecutors around the state hustled to retest DNA mixture results on pending cases. Next came the cases that had led to convictions, including defendants on death row.

Lynn Hardaway, at the Harris County District Attorney's Office, sent notifications to 31 death-row inmates who might have been affected. The Texas attorney general notified another 50 condemned inmates, according to spokeswoman Cynthia Meyer.

The Forensic Science Commission asked labs across Texas to begin identifying DNA tests they'd done using the outdated method. Prosecutors in Harris, Dallas, Tarrant, Bexar and other counties began going through lists from their crime labs. At the commission's suggestion, the Texas District and County Attorney Association advised prosecutors to inform affected defendants and tell them how to proceed if they wanted their results recalculated.

"We have a duty to look," said Inger Chandler, chief of the Conviction Integrity Unit for the Harris County DA. "We're not going to turn a blind eye to the fact that there might be a problem out there on cases."

### **'Could take a long, long time'**

Dawn Boswell, who headed the review for the DA in Tarrant County, said prosecutors work with five crime labs. One lab identified 3,400 cases in which police asked for DNA samples to be tested. Of those, about 300 of the samples belonged to cases filed with the DA's office, and 200 resulted in convictions. After reviewing those 200 convictions, she said, the DA sent out 13 notices to defendants whose cases involved the outdated protocol.

The Harris County DA has flagged 24,000 DNA cases to review. The effort involves a lab-by-lab review of cases, and each lab keeps its records differently. Once defendants have been notified, they're instructed to contact Wicoff, who is heading the defense effort.

Stakeholders agree this will be the biggest post-adjudication review project they or possibly any jurisdiction has undertaken.

Wicoff plans to set up trainings in the Panhandle, Dallas or Fort Worth, Austin, Houston and the Rio Grande Valley at which lawyers can get scientific background on mixture DNA protocol and learn the legal remedies if they think they have a case.

"It's impossible to say how many cases we'll have to review," Wicoff said, "but it could take a long, long time."