

Around Your Town

STORY AND PHOTOS BY JESSE FORQUER

An Interview with Allegheny County Medical Examiner

Dr. Karl E. Williams and a tour of his modern facility in the Strip District



Allegheny County Chief Medical Examiner Dr. Karl E. Williams is pictured here in the toxicology lab at the Allegheny County Medical Examiner's Office.

On March 11, the Sewickley Senior Men's Club welcomed Allegheny County Chief Medical Examiner Dr. Karl E. Williams as a guest speaker. About 100 people attended the meeting to hear a presentation from Williams and to ask questions. Following the meeting, this writer approached Williams about visiting the medical examiner's facility on Penn Avenue in the Strip District to learn more about his office's role as it aids both law enforcement and public health.

On April 4, I met with Williams at the Allegheny County Medical Examiner's Facility, the construction of which was authorized in 2006 by Dan Onorato and the Allegheny County Council. Williams was appointed a year later, in 2007, after a nationwide search conducted by a committee headed by Allegheny County Health Director Dr. Bruce Dixon.

Williams graduated as valedictorian of the Class of 1965 from South Hills High School in Mt. Washington. He majored in biology at Oberlin College in Oberlin, Ohio and earned his medical degree at the University of Pittsburgh. Williams completed his residency training in pathology at Allegheny General and Shadyside hospitals. He completed training in forensic pathology at the coroner's office in Allegheny County and was the director of the laboratories at Ellwood City Hospital for 20 years. He has been board certified in anatomic, clinical and forensic pathology since 1985. In 1994, after the crash of US Air Flight 427 in Hopewell Township, he set up and administered a temporary morgue facility for the identification of victims.

Williams said that after his appointment, one of his first

assignments as the chief medical examiner was to reorganize the entire facility and create a new management structure. As chief medical examiner, Williams is responsible for administering forensic pathologists to perform autopsies for all Allegheny County crime labs, including toxicology, tool marks/firearms, serology/ DNA, fingerprint, ballistics testing area, environmental monitoring, drug chemistry and trace evidence, in addition to the Mobile Crime Scene Investigation Unit.

Williams was able to take me through almost all of these labs. Access to some were restricted due to contamination concerns, especially the DNA lab. However, I was able to see those labs through glass window panels along hallways between the labs.

I also got to see the morgue, which is nothing like the one from the county's early days, when it was located downstairs in the City County Building and unidentified corpses were put on display 24/7 with the hopes that someone would come and identify them. The new morgue has two large coolers with a capacity to store up to 100 bodies. Williams said his staff of four forensic pathologists performs autopsies on approximately 1,200 cases a year. He also stated his office is required by law to examine all unnatural deaths and those deaths for which there is no physician to sign a death certificate.

Most deaths the office sees are natural, Williams said, but the current opioid crisis now results in almost one-quarter of all deaths being accidental. Williams expressed deep concerns about the county's opioid-related death rate. He said that in 2015, in Allegheny County alone, there were 393 drug overdose deaths, in addition to 150 suicides. Tests found some of the deaths were caused by heroin laced with fentanyl, a synthetic drug that is 80 to 100 times more powerful than morphine. The drug is detected using liquid chromatography and mass spectrometry, which are used by both the toxicology and the drug chemistry sections of the labs.

Williams said that toxic/poisonous components of any liquid, including blood and urine, or a solid, such as seized drugs, can be extracted from a sample by a variety of different techniques. Extracted samples are injected into the LC/MS and analyzed to determine if the samples test positive for poisonous substances or opioids, for example.

To test for DNA, the lab can use a process called polymerase chain reaction, which allows investigators to enlarge a sample from as little as a few human cells, such as those left on the surface of a gun. The specimen can then be submitted to an automated technique that looks for the presence of 13 very specific locations on several chromosomes. That information is then used to compare patterns to allow identification with other individuals who have had their DNA analyzed and show the same pattern.

A technician analyzes a fingerprint in the fingerprint lab at the Allegheny County Medical Examiner's Office.





Pictured above is the drug chemistry lab at the Allegheny County Medical Examiner's Office.

Williams' concerns about the current epidemic are well founded and based on the results of autopsies performed. This data is available to the public on a website Williams helped create at: overdosefreepa.pitt.edu/crisis. The website contains information about what to do in the event of an overdose emergency, including how to administer Naloxone and where it is available. The drug can counteract the effects of opioids in the event of an overdose.

Another of Williams' concerns is the import of synthetic opiates (designer drugs) that are not yet listed as illegal drugs and therefore hard to keep out of the country. An article from the theguardian.com linked on the overdosefreepa.pitt.edu website entitled "Synthetic opiate makers stay step ahead of US drug laws as overdose cases rise" explains this problem.

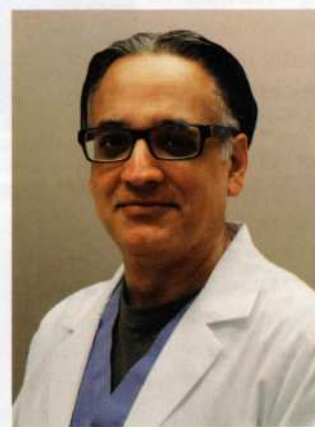
As I was writing this article, it occurred to me, "What foresight Dan Onorato and County Council had in 2006 when they decided to hire Dr. Williams and to build a modern, updated medical examiner's facility." My sincere thanks to Dr. Karl E. Williams for the educational tour of his facility that enabled me to write this article.



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