

**In The  
Supreme Court of the United States**

—◆—  
DONALD BULLCOMING,

*Petitioner,*

v.

STATE OF NEW MEXICO,

*Respondent.*

—◆—  
**On Writ Of Certiorari To The  
New Mexico Supreme Court**

—◆—  
**BRIEF OF AMICI CURIAE NATIONAL DISTRICT  
ATTORNEYS ASSOCIATION, CALIFORNIA  
DISTRICT ATTORNEYS ASSOCIATION,  
AMERICAN SOCIETY OF CRIME LAB DIRECTORS,  
CALIFORNIA ASSOCIATION OF CRIME  
LABORATORY DIRECTORS, INTERNATIONAL  
ASSOCIATION OF CORONERS AND MEDICAL  
EXAMINERS, NATIONAL ASSOCIATION  
OF MEDICAL EXAMINERS, CALIFORNIA  
STATE CORONERS ASSOCIATION  
IN SUPPORT OF RESPONDENT**

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## INTEREST OF AMICI CURIAE

This brief is submitted by the National District Attorneys Association, the California District Attorneys Association, the American Society of Crime Lab Directors, the California Association of Crime Laboratory Directors, International Association of Coroners and Medical Examiners, National Association of Medical Examiners, California State Coroners Association as amici curiae in support of respondent the State of New Mexico.<sup>1</sup>

The National District Attorneys Association (NDAA) is the largest and primary professional association of prosecuting attorneys in the United States. The association has approximately 7,000 members, including most of the nation's local prosecutors, assistant prosecutors, investigators, victim witness advocates, and paralegals. The mission of the association is, "To be the voice of America's prosecutors and to support their efforts to protect the rights and safety of the people." NDAA provides professional guidance and support to its members, serves as a resource and education center, produces publications, and follows and addresses public policy issues involving criminal justice and law enforcement.

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<sup>1</sup> Pursuant to Supreme Court Rule 37.6, amici curiae state that no counsel for any party authored this brief in whole or in part, and that no entity or person, other than amici, their members, and their counsel, made any monetary contribution towards the preparation and submission of this brief. Pursuant to Supreme Court Rule 37.3, amici state that counsel of record for all parties have consented to the filing of this brief in letters on file with the Clerk's office.



The California District Attorneys Association (CDAA), the statewide organization of California prosecutors, is a professional organization incorporated as a nonprofit public benefit corporation in 1974. CDAA has over 2500 members, including elected and appointed district attorneys, the Attorney General of California, city attorneys principally engaged in the prosecution of criminal cases, and attorneys employed by these officials. CDAA presents prosecutors' views in appellate cases when it concludes that the issues raised in such cases will significantly affect the administration of criminal justice statewide.

The American Society of Crime Lab Directors (ASCLD) is a non-profit professional society that was formed in 1974. The Society has over 600 members, composed of crime laboratory directors, managers and supervisors from the United States, Canada, Puerto Rico, Virgin Islands, China, Costa Rica, Finland, Hong Kong, Ireland, Italy, England, Israel, Sweden, Switzerland, New Zealand, Singapore, Taiwan, Turkey and Australia. The membership consists of biologists, chemists, document examiners, physicists, toxicologists, educators, instructors, and law enforcement officers whose major function is the management of a crime laboratory. The purposes of ASCLD include assisting the development of laboratory management, acquiring, preserving, and disseminating forensic based information, and promoting, encouraging, and maintaining the highest standards of practice in the field.

The California Association of Crime Laboratory Directors (CACLD) has existed for over 40 years, and is a non-profit corporation. Its 140 members are managers, directors, and supervisors of both public and private sector forensic science laboratories, including two federal laboratories administered by the Drug Enforcement Administration and the Bureau of Alcohol, Tobacco and Firearms, thirteen laboratories operated by the California State Department of Justice, Bureau of Forensic Services, and nineteen public laboratories administered by city and county agencies. All but one of these crime laboratories are accredited by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB), the largest forensic science accrediting body in the world. CACLD includes among its purposes improvement of management in forensic science laboratories, the effective exchange of forensic science information, assisting in the preparation of regulatory matters affecting forensic science laboratories, and promoting, encouraging and maintaining the highest professional and ethical standards in the field of forensic science laboratory services.

The International Association of Coroners and Medical Examiners (IACME) was founded in 1927, and includes members from the United States, Mexico, Canada, Georgia, the Philippines, Belgium, Saudi Arabia, Morocco, the Netherlands, and Australia. IACME conducts an accreditation program, and has over 70 years experience in the presentation of

educational seminars to assist coroners and medical examiners in performing their duties. This commitment is enshrined in the Association's Mission Statement which reads as follows: "The International Association of Coroners and Medical Examiners is committed to advancing the accurate determination of the cause and the manner of death through the utilization of science, medicine and the law."

The National Association of Medical Examiners (NAME) is the national professional organization of physician medical examiners, medical death investigators and death investigation system administrators who perform the official duties of the medicolegal investigation of deaths. It was founded in 1966 and has over 1,000 members in the United States and internationally. Membership is open to all physicians, investigators, and administrators who are active in medicolegal death investigation. NAME's purposes include fostering the professional growth of physician death investigators, disseminating professional and technical information vital to the continuing improvement of the medical investigation of violent, suspicious and unusual deaths, promoting excellence in medicolegal death investigation, and the highest practice of ethical conduct.

The California State Coroners Association (CSCA) is a non-profit organization founded in 1968 to promote and protect the interests of all Coroner and Medical Examiner professionals throughout California. Coroners, Sheriff-Coroners, and Medical Examiners have the mandated mission to determine

the circumstances, manner, and cause of all violent, sudden or unusual deaths. The Association promotes professionalism and expertise in the field of medicolegal death investigation. CSCA is committed to communicating its members' concerns to government and regulatory bodies, advocating for sound public policies that affect coroners and medical examiners, promoting professional standards that enhance the effectiveness of the medicolegal death investigation service to our communities, and providing excellence in training and education.

This case raises matters of concern to prosecutors and forensic laboratory professionals. The decision by the Court in this case will affect how crime labs examine and process evidence, and provide testimony in court as to lab results. It will also affect how prosecutors prepare for and prove cases involving forensic evidence; it may affect what evidence can in fact be proved in court, and even what cases may be barred from prosecution, depending on rules of constitutional dimension that this Court may announce.

Amici have expertise in the matters pending before the Court in this case, and believe that their brief will be helpful in this Court's decision on these matters.



## **FACTS AND PROCEDURAL BACKGROUND**

Following a vehicle collision in Farmington, New Mexico (petitioner rear-ended a vehicle that was

stopped at an intersection), police arrested petitioner, who refused to take a breath test. After obtaining a warrant, a blood sample was drawn from petitioner.

The blood was drawn by a nurse into two vials, observed by an officer, who accepted the vials, and sealed the blood sample in a package called a blood draw kit, which included a Form 705, with chain of custody information. The blood draw kit was sent to the Toxicology Bureau of the New Mexico Department of Health, where it ultimately came into the Scientific Laboratory Division (SLD), and the custody of a person who was designated as the analyst. The analyst made certain entries onto the Form 705, and then placed some of the blood into a gas chromatograph, an instrument or machine used in analytical chemistry for separating and analyzing compounds. The instrument, through an automated process, performed the steps necessary to make an analysis of the compounds in the blood, using mechanical detectors, and produced a data reading stating whether alcohol was identified, and if so, in what amount. Once the blood was placed into the gas chromatograph, the instrument did all of the analytical work, produced the data, and then a computer which was part of the gas chromatograph assembly printed out the results. The gas chromatograph reported that petitioner's blood contained .21 grams of alcohol per 100 mLs of blood (i.e., .21%), more than two and one-half times the legal limit of .08 grams/100 mLs (.08%). The person designated as the analyst reviewed the data as provided by the instrument and entered the result onto

the Form 705. His work received two reviews before the Form 705 was returned to the police department.

At trial, the person at SLD who was designated as the analyst did not testify. Supervising analyst Gerasimos Razatos did testify. Razatos was not involved in the initial handling of the blood sample, nor in the earlier reviews of the original analyst's work. He did review both the analyst's work and the gas chromatograph analysis prior to testifying. He explained in his testimony the lab procedures, and how the records showed that they were followed in this case. The trial court admitted the Form 705 into evidence, following Razatos' testimony.

Petitioner was convicted of aggravated driving under the influence. His case was affirmed by the New Mexico Court of Appeal, and the New Mexico Supreme Court. This Court issued a writ of certiorari to consider the application of the Confrontation Clause to these facts, in light of *Melendez-Diaz v. Massachusetts*, 557 U.S. \_\_\_, 129 S.Ct. 2527 (2009).



## **SUMMARY OF ARGUMENT**

*Melendez-Diaz* addressed a situation where the prosecution presented no live witness at all to testify as to the forensic expert opinion. Neither the holding of *Melendez-Diaz*, nor its underlying rationale, provide any basis for the conclusion that a qualified expert who has reviewed the work, records and material produced by an original expert, and testifies

based thereon to expert forensic matters, offends the Confrontation Clause. Anecdotal evidence of isolated problems in individual forensic laboratories around the country do not support the conclusion that testimony of the original forensic expert at trial is necessary under the Constitution. The testimony of an expert other than the original analyst, when the second expert is qualified, familiar with the applicable science, laboratory procedures, and any equipment that may be involved, provides constitutionally meaningful and adequate confrontation, particularly in light of the realities of modern forensic science practice.



## ARGUMENT

### I. ***MELLENDEZ-DIAZ v. MASSACHUSETTS* DOES NOT PROHIBIT TESTIMONY OF AN EXPERT ANALYST THAT IS BASED ON THE WORK OF ANOTHER ANALYST**

Petitioner asserts error based on a claimed violation of the Confrontation Clause under *Crawford v. Washington*, 541 U.S. 36 (2004), and the more recent case of *Melendez-Diaz v. Massachusetts*, 557 U.S. \_\_\_, 129 S.Ct. 2527 (2009). The New Mexico Supreme Court concluded that the rule of *Melendez-Diaz* does not extend to the situation presented by this case. The New Mexico Supreme Court correctly decided this issue.

In *Melendez-Diaz*, police had found four plastic bags containing a white substance in defendant's car. After he was arrested and transported to the police station in the back seat of a police car, officers found 19 more bags with a white substance in the back seat. At trial on drug charges, following a procedure then available in Massachusetts, the prosecution presented three "certificates of analysis" attesting to the crime lab results (cocaine), without the testimony of any witness. (See 557 U.S. at \_\_\_, 129 S.Ct. at 2530-2531.) Applying the rule of *Crawford v. Washington*, this Court ruled 5-4 that such a procedure denies the defendant the right to confrontation of witnesses under the Sixth Amendment.

The situation in the case at bar is not the situation addressed in *Melendez-Diaz*. Here, the report prepared by the SLD analyst who was designated as the analyst for this case was admitted into evidence, with and through the testimony of analyst Razatos, who was himself a qualified analyst, and a supervisor at the laboratory. Razatos, a live, qualified expert witness, could authenticate and explain the report, the lab procedures, and the analytical conclusions in his testimony.

The *Melendez-Diaz* majority at no point held that an expert opinion could not be introduced through live testimony of an expert who based his/her opinion on non-admissible matter, including hearsay, so long as it is reasonably relied on by experts in the particular field. This, of course, is the modern rule for the underlying basis for expert testimony in the vast



majority of jurisdictions in this country. It is the rule in the Federal Rules of Evidence (FRE). Federal Rule of Evidence 703. New Mexico has adopted the federal rules, as have 41 other states, Puerto Rico, Guam and the military. *Weinstein's Federal Evidence*, 2d ed., vol. 6, pp. T-1 through T-9.<sup>2</sup> Jurisdictions which have not adopted the federal rules generally have a counterpart to Rule 703 which reaches the same result. See, e.g., *People v. Angelo*, 88 N.Y.2d 217, 222, 644 N.Y.S.2d 460 (1966), and *People v. Radesi*, 11 A.D.3d 1007, 1008, 782 N.Y.S.2d 341 (2005); California Evidence Code section 801(b).

*Melendez-Diaz* at no point suggested its holding was in any way intended to undercut this longstanding and widespread rule. As the Fifth Circuit explained in *United States v. Williams*, 447 F.2d 1285, 1290 (5th Cir. 1971), “. . . when the expert witness has consulted numerous sources, and uses that information, together with his own professional knowledge and experience, to arrive at his opinion, that opinion is regarded as evidence in its own right and not as hearsay in disguise.” To the extent petitioner would have this Court exclude the testimony of lab supervisor Razatos, it would abrogate this longstanding rule when neither the text of nor the

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<sup>2</sup> Eight states have not adopted the federal rules: California, Georgia, Illinois, Kansas, Massachusetts, Missouri, New York and Virginia. *Weinstein's Federal Evidence*, supra, vol. 6, pp. T-1 through T-9.

reasoning behind *Melendez-Diaz* provide any reason to do so.

There is good reason why the ruling in *Melendez-Diaz* does not serve as a basis for rejecting the admissibility of expert testimony that is based on reliable hearsay of the type normally considered by experts in the field. *Melendez-Diaz* is based on the rule of *Crawford* as to the meaning of the Sixth Amendment right of confrontation. But *Crawford* only applies to hearsay admitted for the truth of the matter. It does not apply to statements that are not admitted for the truth of the matter. *Crawford*, supra, 541 U.S. at 59, fn. 9. Hearsay material relied on by an expert, when it is admitted at all during the testimony of the expert, is *not* admitted for the truth of the matter. See New Mexico Rule of Evidence<sup>3</sup> 11-703, and comment to 2006 revision; Federal Rule of Evidence 703, and comment to 2000 revision.

Supporting this argument is the fact that the evidentiary rules concerning hearsay used as the basis for expert opinion are not codified as hearsay exceptions, nor are they structurally in the part of the evidence rules dealing with hearsay. Rules 702, 703 and 705, dealing with the basis of expert testimony, are in Article VII of both the New Mexico and federal rules, entitled “Opinions and Expert Testimony.” The evidence rules defining hearsay and hearsay exceptions are in Article VIII. Jurisdictions not using the

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<sup>3</sup> Hereafter NMRE.

federal rules approach the issue in a similar way. California, for instance, deals with material that is the basis for expert opinion in California Evidence Code sections 801 and 802, which are in Division 7 of the California Evidence Code (entitled "Opinion Testimony and Scientific Evidence"), not in Division 10 of that code, dealing with hearsay.

One should also note that an expert who has relied on hearsay matter will not always, or even usually, be allowed testify over objection on direct examination as to the details of the underlying hearsay. NMRE 11-703, and comment to 2006 revision; FRE 703, comment to 2000 revision.

When reference to the underlying details of the hearsay material is for some reason necessary for the jury to fully understand the opinion of the testifying expert, a limiting instruction may be appropriate. *Id.*; NMRE 11-105, FRE 105. Enforcement of these rules can protect the rights of a criminal defendant while still permitting the admission of the expert opinion.

Nor should it be of great import for analysis of the issue here that the Form 705 itself was admitted into evidence. Had the original analyst been present and testified in court, there would be little objection to the admission of the Form 705. Supervisor Razatos served the same foundational purpose in the trial court that the original analyst would have served. To the extent one might question whether or not Razatos' testimony amounted to a statement of his own opinion based on his knowledge of the laboratory

procedures and the material he reviewed, only one more question on direct examination would make that point.<sup>4</sup> There is little reason to doubt what the answer would be, and even less reason to base a constitutional rule on the fact that one question, the answer to which can be readily inferred, was not expressly asked here. If this Court concludes the failure to expressly ask that one question is indeed a constitutional failure here, saying so directly will clarify for future cases that the prosecution should ask that question, and make that point. For, as *United States v. Williams*, supra, and the Rules of Evidence make clear, the expert's opinion is evidence in its own right, even when based on hearsay.

Based on the foregoing, there is no reason to conclude that *Melendez-Diaz* prohibits the admissibility of the testimony of a qualified expert such as Razatos, when that testimony is based on the reliable work of an underlying expert.

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<sup>4</sup> The question: "Based on the material you have reviewed, what is your opinion as to Mr. Bullcoming's blood alcohol level at the time the blood sample was drawn?"

## II. THE RATIONALE OF *MELLENDEZ-DIAZ*, THAT FORMALIZED TESTIMONIAL MATERIAL REQUIRES CONFRONTATION, DOES NOT COMPEL EXCLUSION OF THE TESTIMONY OF ANALYST RAZATOS

Analysis of the principles underpinning the confrontation basis for *Melendez-Diaz*, as it applies to this case, reveals that the underlying principles do not compel the exclusion of the testimony of analyst Razatos here.

In the majority opinion in *Melendez-Diaz*, at footnote 1, Justice Scalia discussed the issue of just who must testify in support of a laboratory analysis, and whether any particular person must testify:

Contrary to the dissent's suggestion, *post*, 557 U.S. \_\_\_, 129 S.Ct. at 2544-2545 (opinion of KENNEDY, J.), *we do not hold, and it is not the case, that anyone whose testimony may be relevant in establishing the chain of custody, authenticity of the sample, or accuracy of the testing device, must appear in person as part of the prosecution's case.* While the dissent is correct that "[i]t is the obligation of the prosecution to establish the chain of custody," . . . this does not mean that everyone who laid hands on the evidence must be called. As stated in the dissent's own quotation, *ibid.*, from *United States v. Lott*, 854 F. 2d 244, 250 (CA7 1988), "gaps in the chain [of custody] normally go to the weight of the evidence rather than its admissibility." It is up to the prosecution to decide what steps in

the chain of custody are so crucial as to require evidence; *but what testimony is introduced must (if the defendant objects) be introduced live*. Additionally, documents prepared in the regular course of equipment maintenance may well qualify as non-testimonial records.

557 U.S. at \_\_\_, 129 S.Ct. at 2532 (emphasis added).

As the record in this case makes clear, the analysis in the modern forensic laboratory, and the analysis done here, involves work by a number of individuals, but the actual chemical analysis is done by a gas chromatograph instrument. The gas chromatograph, through an automated, mechanical process, takes a sample of the blood, and submits it to testing processes, measures the result, and then generates a computer printout so the data can be read. The “analyst” simply loaded the petitioner’s blood into the gas chromatograph. Viewed in this light, it is clear the “analyst” was just one person in the chain of custody, who did not in fact perform the analysis at all. The analysis was performed by the gas chromatograph. A qualified witness such as Razatos, familiar with the chemistry and science behind the process and the gas chromatograph instrument, and the procedures of the lab, could review the analysis, explain the results and how they were produced as well as the original person who was designated as the analyst by virtue of the laboratory protocol (even though the gas chromatograph, and not the “analyst,” actually did the analysis). The live

testimony of the nurse who drew the blood sample, the officer who received the blood sample and sealed it in the blood draw kit, and supervisor Razatos, who could explain both how the instrument made the analysis and the results, satisfied the confrontation requirement as it was described in Justice Scalia's majority opinion in *Melendez-Diaz*.

In addition, any consideration of the underlying basis for *Melendez-Diaz* must focus on the concept of whether the materials at issue are "formalized testimonial materials" within the reach of the Sixth Amendment. See *Melendez-Diaz*, concurring opinion of Justice Thomas, 557 U.S. at \_\_\_, 129 S.Ct. at 2423. In *Davis v. Washington*, 547 U.S. 813 (2006), Justice Thomas explained that the Confrontation Clause was intended by the framers to prevent the practice employed by the Marian statutes, when witnesses were examined outside the presence of the court, the examinations were transcribed, and the transcripts were then submitted later to the court. 547 U.S. at 835-836. Based on this analysis of the Confrontation Clause, Justice Thomas concluded that the clause was directed only at formalized testimonial materials, such as affidavits, depositions, prior testimony, and confessions. *Id.*, at 836.

While the "certificates of analysis" that were admitted in *Melendez-Diaz* without any live testimony were "quite plainly affidavits," and thus "formalized testimonial materials," (Thomas, J., concurring, 557 U.S. at \_\_\_, 129 S.Ct. at 2543), the same cannot be said for the materials at issue here. The underlying laboratory work by one analyst, as part of a chain of

custody putting a blood sample into a gas chromatograph, and then recording the result, which in turn is relied on by a supervising analyst, who then testifies in court, simply is not the type of “formalized testimonial materials” covered by the Sixth Amendment so as to exclude the testimony of the supervising analyst.

In short, neither the analytical foundation of the *Melendez-Diaz* majority opinion, nor that of the concurring opinion of Justice Thomas, supports petitioner’s position that the testimony of a supervising analyst does not satisfy the Confrontation Clause.

### **III. ANECDOTAL EVIDENCE OF ERRORS IN INDIVIDUAL LABORATORIES DO NOT PROVIDE JUSTIFICATION FOR EXTENDING *MELENDEZ-DIAZ* BEYOND ITS HOLDING**

The anecdotal horror stories about inaccurate laboratory results cited in this case by amici curiae National Association of Criminal Defense Lawyers (NACDL), et al., in their brief in support of petitioner (pp. 32-34 of that brief) are red herrings with respect to the issue before the Court. A review of the very articles cited in their amicus brief reveals that the inaccurate test results at a local crime lab in Colorado were exposed not through cross-examination at a criminal trial, but rather through regular proficiency testing undertaken by the lab itself, then confirmed and traced to its source through follow-up testing by that lab. The police



agency which administered the lab then voluntarily and publicly disclosed the problem. This incident does not provide support for the notion that defense cross-examination will expose and solve the issue of human mistakes in the lab. Rather, it endorses the approach taken by your amici American Society of Crime Lab Directors and the California Association of Crime Laboratory Directors, which endorse and participate in both the proficiency testing programs and the high ethical standards that, in the Colorado lab, led to the discovery of the problem and its public disclosure.

Similarly, the case cited from the State of Washington, involving failure of a state lab official to properly test control solutions for blood alcohol testing, came to light after an anonymous tip led to a police investigation, the results of which were then publicly disclosed.

One should also note that, again based on the very media reports cited by NACDL, the number of cases affected in those matters is relatively small compared to the overall crime lab toxicology<sup>5</sup> caseload nationwide. The “Census of Publicly Funded Crime Laboratories, 2005,” a bulletin published in 2008 by the U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, reported (at p. 10 of the bulletin) that nationwide, the number

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<sup>5</sup> Blood alcohol analysis is simply a subset of the larger field of toxicology. See the referenced Bureau of Justice Statistics bulletin, at p. 10.

of toxicology analysis requests for 2005 (the year covered by the survey) was over 250,000. The number of cases potentially affected by the Colorado crime lab problem was estimated in the article to be 206 cases in two years, an average of 103 cases per year, or .04% of the national caseload.

Your amici do not defend negligent, sloppy or deficient lab practices which lead to inaccurate results. ASCLD and CACLD are dedicated to the highest standards of forensic science and ethics, as are NDAA, CDAA, the International Association of Coroners and Medical Examiners, the National Association of Medical Examiners and the California State Coroners Association. But the “real world examples” put forth by amici National Association of Criminal Defense Lawyers in this case are not real world examples of how extended cross-examination of the actual analyst who performed just one step in the process – putting the blood sample in the gas chromatograph – will lead to uncovering the kind of problems that arose in Colorado and Washington. Indeed, in those situations, it appears that the problems in each of those labs easily passed through the “rigors of cross-examination” many times, in many cases, without exposure. It was the work of laboratory and law enforcement officials outside the courtroom which uncovered the problems, and made public disclosure of them. These examples provide no cause to extend *Melendez-Diaz* in the manner proposed by petitioner here.

**IV. TESTIMONY OF A SUPERVISING ANALYST PROVIDES A CRIMINAL DEFENDANT CONSTITUTIONALLY MEANINGFUL AND SUFFICIENT OPPORTUNITY TO CONFRONT WITNESSES AND TEST THE RELIABILITY OF MODERN TOXICOLOGY OPINION EVIDENCE**

There is another point which reflects on the propriety of admission of the expert testimony of lab supervisor Razatos, or any similarly situated expert. The point has to do with the scope of the express language of *Melendez-Diaz*, and the reality of analytical work as it exists in the modern forensic laboratory and as it is described in the record of this case.

As noted above with reference to the majority opinion of Justice Scalia in *Melendez-Diaz*, at footnote 1, the Confrontation Clause does not necessarily require that any particular person testify in order for laboratory analysis evidence to be admissible. This passage is particularly significant when viewed in light of the record in this case, and what can be seen and understood about the practice in modern toxicology laboratories.

The blood sample drawn from the defendant was handled by several other persons: at a minimum, the nurse who drew the blood; the officer who received it and packaged it in the blood draw kit, then placed it in a box for delivery; whatever person or persons transported it to SLD; and then whatever personnel received it at SLD and delivered it into the hands of the person who came to be designated as the analyst,

who in turn put the blood sample into the gas chromatograph instrument, and then recorded the results which the computer printed out.

This type of situation was properly analyzed by *United States v. Washington*, 498 F.3d 225 (4th Cir. 2007). In that case, as in this one, technicians put the defendant's blood sample into a gas chromatograph. They presented the resulting printouts to the lab's chief toxicologist, Dr. Levine, who issued a report, and testified in court over the defendant's *Crawford* objection that the defendant's blood contained PCP and alcohol. In holding there was no *Crawford* violation, the Court stated:

. . . the "statements" in question are alleged to be the assertions that Washington's blood sample contained PCP and alcohol. But those statements were never made by the technicians who tested the blood. The most the technicians could have said was that the *printed data* from their chromatograph machines showed that the blood contained PCP and alcohol. The machine printout is the only source of the statement, and no *person* viewed a blood sample and concluded that it contained PCP and alcohol. . . . the very same data that would have permitted the lab technicians to say that the blood contained PCP and alcohol were also seen and interpreted by Dr. Levine. . . . The technicians could neither have affirmed or denied *independently* that the blood contained PCP and alcohol because all the technicians could do was to refer to the raw data printed out by

the machine. . . . Whether the machines properly reported PCP or alcohol is determined by the raw data that the machines generated, and its truth is dependent solely on the machine. 498 F.3d at 229-230.

The court went on to state that the printouts from the chromatograph are not out-of-court statements covered by the Confrontation Clause, and that such an instrument could not make a statement under the definitions in FRE 801, because a statement could only be made by a person. The New Mexico rules of evidence, based on the federal rules, have the same definitions. NMRE 11-801.

This point is all the more salient when placed in the context of the volume and mass production process that is the reality of modern forensic toxicology and blood alcohol analysis. A review of some statistics from national sources and various regional crime labs illustrates the point. In addition to being printed documents, each of these sources is available online. The "Census of Publicly Funded Crime Laboratories, 2005," *supra*, reported (at p. 10 of the bulletin) that nationwide, the number of toxicology analysis requests was a mean number of 780 requests per examiner per year. The Cuyahoga County Coroner, in Ohio, was reported to have performed 35,000 toxicology tests in an eight year period, with a staff of two Ph.D.s and seven other forensic science professionals, an average of 486 cases per analyst per year. See Alexy, "Computer Assisted Systems for Forensic Toxicology," *The International Journal of Forensic*

*Computer Science* (2009) 1, 42-48. The 2009 Annual Report of the Travis County, Texas Office of the Medical Examiner showed a total of 7,859 toxicology tests performed, by five toxicologists, an average annual caseload of 1,572 tests per toxicologist in that year. The 2009 report of the California Crime Laboratory Review Task Force showed that statewide, for California crime labs, in 2007 the number of requests for blood alcohol analysis (breath analysis and blood toxicology analysis combined in a single figure) was 186,132, which were performed by only 37 analysts statewide, an average of 3,220 cases per analyst for that year. See *An Examination of Forensic Science in California*, by California Crime Laboratory Review Task Force, p. 64. Even if only one-half of these cases were blood alcohol toxicology analysis (as opposed to breath analysis), and all 37 criminalists worked on all of the toxicology cases, rather than having some work just on breath analysis, and some just on blood analysis (the combined assumptions being overly conservative), each criminalist would still average well over 1,000 toxicology blood alcohol cases per year.

The modern lab conducts the analysis of this high volume of samples in a batch process, using instruments like that described by Mr. Razatos in this case (the gas chromatograph), often equipped with an autosampler (a tray holding numerous samples, feeding them into the machine in an automated robotic operation). See *Principles of Forensic Toxicology*, Barry Levine, ed., American Association of Clinical

Chemistry Press, 2003, pp. 37, 69; *Modern Practice of Gas Chromatography*, 4th ed., Robert Grob and Eugene Berry, ed., John Wiley & Sons, Inc. 2004, p. 530. As a RAND study on crime fighting technology described, with an autosampler dozens of samples can be loaded at the end of the day into the gas chromatograph, which will analyze them overnight, and the data can then be reviewed by staff the next morning, making the most efficient use of the equipment and personnel. Schwab, Davis and Jackson, *Challenges and Choices for Crime Fighting Technology – Federal Support of State and Local Law Enforcement*, RAND Publications, 2001, p. 76, fn. 29.

Many crime labs now have internet websites with photos which illustrate these computerized, automated machines involved in modern toxicology analysis. Just a few of the many examples readily found are: University of Albany, Department of Chemistry, Forensic Chemistry Laboratory website: [http://www.albany.edu/chemistry/forensics\\_instrumentation.shtml](http://www.albany.edu/chemistry/forensics_instrumentation.shtml); U.S. Navy Drug Screening Laboratory, Great Lakes Illinois, Virtual Tour, p. 27 of 29: [www-nehc.med.navy.mil/downloads/field\\_activities/NDSLGL\\_Virtual\\_Tour\\_May10.pps](http://www-nehc.med.navy.mil/downloads/field_activities/NDSLGL_Virtual_Tour_May10.pps);<sup>6</sup> Sacramento District Attorney's Office website, Laboratory of Forensic Services, Toxicology webpage: <http://www.sacda.org/crimelab/toxicology.htm>.

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<sup>6</sup> The Navy Drug Screening Laboratory virtual tour webpage downloads as a PowerPoint presentation for viewing; the referenced photos are at slide 27 of the PowerPoint.

One of these photos illustrates the type of automated instrument commonly used and is reproduced in the appendix.

Using such equipment, an individual analyst may handle a hundred or more samples in a month, feeding them in batches into the instruments, then returning to the machine when it is done to review the data printouts. When the case comes to trial months later and that analyst testifies, it is implausible that he/she will recall the specifics of loading any particular sample into the machine months before. Instead, the analyst will quite properly rely on his/her custom and practice, past recollection recorded, equipment maintenance and usage records, and the conclusions that he/she can draw from the computer recorded printout. In this setting, as a practical matter, the testimony of the person designated in the lab report as the analyst for that particular case, and a lab supervisor like Razatos, are no different.

A rule that would prohibit the testimony of a supervising lab expert like Razatos would not only impact blood alcohol and other forensic toxicology cases. An important branch of forensic science that would also be significantly affected is forensic pathology. Indeed, the field of forensic pathology presents many of the same issues as forensic toxicology blood alcohol analysis, but in some ways magnified.

An autopsy will involve the examination and dissection of the body, with the pathologist's observations recorded at or near the time they are made, the



taking of photographs, x-rays, body fluid samples for toxicology examination and tissue slide samples for microscopic examination. See *Knight's Forensic Pathology*, Pekka Saukko and Bernard Knight, Edward Arnold (Publisher), 2004, pp. 29-32, 35; *The Pathology of Homicide*, Lester Adeslon, Charles C. Thomas (Publisher), 1974, pp. 63-65, 68, 70-101. These materials serve not only in the immediate examination, study and conclusions at the time the autopsy is pending, but also for future reference in the event of later investigation, or in cases of homicide, a future criminal trial. Any trial will take place months later, perhaps a year or more later. Indeed, with modern investigative techniques, it has been possible to re-examine unsolved cases that are many years old, and conclusively identify the perpetrator years after the crime. See, e.g., *People v. Nelson*, 43 Cal.4th 1242 (2008), in which the 1976 rape-murder of a 19-year-old college student was solved 26 years later in 2002 through DNA analysis.

It does not take a geriatric specialist, or a mortality rate actuary, to recognize that in many of these cases, the original pathologist will no longer be available when the crime is solved and the case brought to trial. But availability or unavailability has no constitutional significance if the Confrontation Clause applies to the evidence at issue, and the defendant has not had a prior chance to cross-examine the witness. *Crawford* and *Melendez-Diaz* point out that, "absent a showing that [the witnesses covered by the confrontation clause] were unavailable to testify at

trial *and* that petitioner had a prior opportunity to cross-examine them, petitioner was entitled to ‘be confronted with’ the [witnesses] at trial.” *Crawford*, supra, 541 U.S. at 54; *Melendez-Diaz*, supra, 557 U.S. at \_\_\_, 129 S.Ct. at 2532 (emphasis in the original).

Should the Court in the blood alcohol case at bar set out a rule so broad that it would bar the testimony of a substitute pathologist who had reached his/her own opinion after reviewing the autopsy report, records, notes, photos, and x-rays of the original pathologist, the result would be that in many murder prosecutions, the prosecution would be left without the means of proving the manner and cause of death, or authenticating post-mortem samples important for forensic analysis. Given that there is no statute of limitations for murder, and that modern DNA technology now permits conclusive identification of many homicide perpetrators years, even decades after the crime, this is a shocking result.

Just as with blood alcohol toxicology, the import of such a rule should be considered in light of the reality of forensic pathology practice. A murder trial will commonly take place at least one year, and in some instances a decade or more, after the autopsy. The National Association of Medical Examiners (NAME) sets a caseload of up to 250 autopsies per examiner per year, as a normal caseload. A caseload in excess of that figure is considered a “Phase I” deficiency for NAME accreditation purposes, with 325 autopsies per year or more marking a more serious “Phase II” deficiency. See *Forensic Pathology*, Vincent

DiMaio, et al., 2d Ed., CRC Press, 2001, p. 19; NAME Accreditation Checklist, pub. 11/3/09, p. 25; *Strengthening Forensic Science in the United States: A Path Forward*, National Academies Press, 2009, pp. 9-13.

Examples from major forensic pathology agencies add further insight into case load levels. The office of the Chief Medical Examiner for New York City, according to its website, employs approximately 32 medical examiners, who perform approximately 5,500 autopsies per year, or approximately 172 autopsies per year for each examiner. See [www.nyc.gov/html/ocme](http://www.nyc.gov/html/ocme), menu pages for "About OCME, Authority and Responsibilities." The King County, Washington Medical Examiner's Report for 2008 shows seven members of the Pathology Department (excluding the forensic anthropologist) responsible for 1,232 autopsies, or 176 autopsies per examiner per year. See "King County Medical Examiner's Office 2008 Annual Report," pp. 7 and 119. The Arkansas State Medical Examiner's Office employs four medical examiners who conduct 1000 autopsies per year, approximately 250 per examiner. See Arkansas State Crime Laboratory website, State Medical Examiner webpage: <http://www.crimelab.arkansas.gov/sectionInfo/Pages/StateMedicalExaminer.asp>.

Based on these figures, if a trial takes place just a year after the autopsy, the pathologist can be expected to have performed 150 to 250 autopsies since the one at issue in the trial; and of course, hundreds, perhaps thousands before that, depending on the

length of the pathologist's career. If the trial occurred ten years after the crime, the pathologist would have performed more than one thousand, and perhaps more than two thousand autopsies. To suggest that the original pathologist would remember individual case details beyond those which were documented and recorded for the autopsy report, or were preserved for later review in the autopsy photos, x-rays, tissue slides, and other autopsy records, is simply not realistic.

The autopsy situation will thus play out much like the situation involving a supervising toxicology examiner like Razatos. When the original pathologist testifies in a homicide case months or years after the autopsy, he/she will quite properly rely on custom and practice, past recollection recorded, the business records of the autopsy description, records, and photos that he/she used to contemporaneously record and document the autopsy examination conducted months or years before the testimony at trial. A qualified substitute pathologist would review exactly the same material in reaching a conclusion and testifying to it at trial (just as Razatos did with respect to the blood alcohol evidence in the case at bar). In such a circumstance, whether the testimony comes from the pathologist who actually performed the autopsy, or one who later reviewed the autopsy report, records, x-rays, slides and photographs and reached his/her own opinion, the resulting testimony, both on direct and cross-examination, will be much the same.

There is one major striking difference between the toxicology situation and the pathology situation. In the toxicology situation, although the chain of custody was disturbed by the original analyst, and the mere opening of the blood tube for the first test may have reduced the alcohol amount somewhat through evaporation, it would usually still be possible to retest what remained of the blood sample (assuming the sample had been saved). In the pathology situation, it would commonly and usually be impossible years after the event to repeat the autopsy examination with a new pathologist. The adoption of petitioner's proposed rule would serve as an effective bar to many murder prosecutions, notwithstanding the fact that qualified pathologists can and do rely on past autopsy materials and records produced by other practitioners to reach a professionally reliable opinion as to cause of death (just as physicians in other branches of medicine rely on the work of other practitioners in reaching opinions and making patient treatment decisions).

In terms of meaningful confrontation, the defense certainly has the ability to establish that the source of the facts behind the opinion of the supervising toxicology analyst, (or the later pathologist, as the case may be) is the work of an earlier analyst or examiner. Should the defense wish to impugn the work history or practices of the original examiner or pathologist by bringing out that person's past history, such could readily be done through cross-examination

of the testifying expert, or by other means, just as would be the case if the original expert had testified.

But even if the original pathologist was available to testify, his or her testimony about an autopsy conducted years ago, after a career involving hundreds, or thousands of autopsies, would not be any more constitutionally meaningful than the testimony of another qualified pathologist who reviewed the same material the original pathologist would now review in preparation for testimony about one particular autopsy out of hundreds, or thousands of autopsies. The same is true of a qualified blood alcohol toxicologist who was not the original analyst, but is familiar with the chemical science, the testing instrument, the records keeping system, and the practices and procedures of the particular laboratory.<sup>7</sup>

Viewed in this light, one can readily see that the opportunity for constitutionally meaningful confrontation can be had just as readily through the testimony of a current qualified analyst or pathologist who has reviewed the same records and material, as it could be through the testimony of the original forensic analyst or pathologist. Put another way, insistence on the presence at trial of the original analyst or

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<sup>7</sup> Forensic toxicology and pathology are only two examples of this practical issue – DNA analysis of crime scene or post-mortem biological material that was entirely consumed by the original testing, lifting of latent fingerprints from a crime scene, collection of sexual assault physical evidence, and many other forensic disciplines carry potential for the same problem.

pathologist does not bestow on the defendant any significant advantage in the actual confrontation that does not exist with the testimony of a supervising analyst or other qualified pathologist. For these reasons, the testimony of Mr. Razatos in the case at bar provided petitioner with constitutionally meaningful and adequate confrontation.

With this understanding, one can re-read with true appreciation the wisdom embodied in *Melendez-Diaz*, footnote 1: “. . . it is not the case, that anyone whose testimony may be relevant in establishing the chain of custody, authenticity of the sample, or accuracy of the testing device, must appear in person as part of the prosecution’s case. . . . but what testimony is introduced must (if the defendant objects) be introduced live.” Live testimony is what happened here. The original lab analyst was just one person in the chain of custody, but the physical chemical steps were done by a laboratory instrument, which produced data printouts. The original analyst could certainly review, understand, and interpret the data produced by the gas chromatograph, and explain the process that produced it, but so could the supervisor Razatos. The testimony of Razatos protected the defendant’s right to confrontation, to challenge through cross-examination the analysis and testing process, as meaningfully as the testimony of the original analyst would have.



## CONCLUSION

*Melendez-Diaz* did not alter the fundamental rule in the field of expert evidence that an expert may base an opinion on the work of another expert. In the real world of modern forensic toxicology analysis, a criminal defendant's right to confront, cross-examine and test a forensic opinion on such a matter as blood alcohol toxicology opinion is meaningfully protected through the testimony of a supervising analyst such as Razatos. The adoption of petitioner's proposed rule would, in the rigid pursuit of formalism without regard to real world practice or consequences, significantly impact forensic science and crime laboratory operations. Insistence on the presence of the person designated through lab procedure as "the analyst" will not secure for a criminal defendant any added benefit in actual confrontation beyond that which the defendant has when a supervisor such as Razatos testifies. Yet in the quest for perfect confrontation, petitioner's proposed rule would bar reliable evidence, and in many instances entire prosecutions, without giving a criminal defendant any true advantage in the quality of the confrontation that actually takes place in the trial court.



For the foregoing reasons, amici curiae respectfully request that the ruling of the New Mexico Supreme Court be affirmed.

Date: January 17, 2011

Respectfully submitted,

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*Amici Curiae*

App. 1

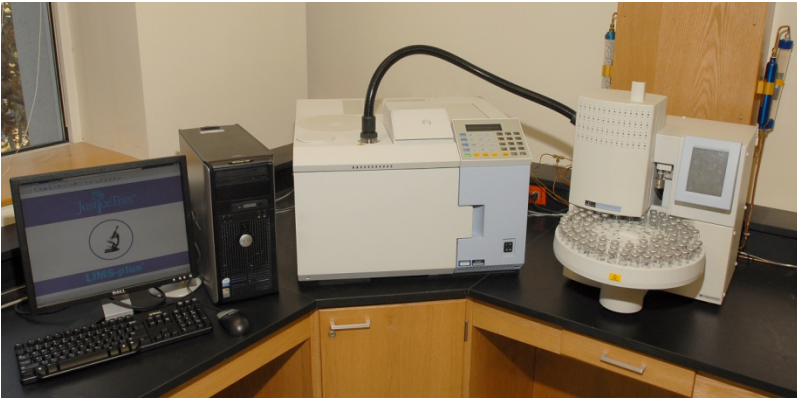


Photo from Sacramento County District Attorney's  
Office Laboratory of Forensic Services website:  
<http://www.sacda.org/crimelab/toxicology.htm>

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