

“Excited Delirium” and Deaths in Police Custody

The Deadly Impact of a Baseless Diagnosis

March 2022





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Cover: Pictures of Elijah McClain and George Floyd were placed in front of the Brooklyn Center, MN police station by protesters following the police shooting there of Daunte Wright in April 2021. Photo: Kerem Yucel/AFP via Getty Images

Executive Summary

On December 23, 2020, Bella Quinto-Collins called 911, seeking help for her 30-year-old brother, Angelo Quinto, who was agitated and exhibiting signs of a mental health crisis at their home in Antioch, California. When two police officers arrived, they pulled Quinto from his mother’s arms onto the floor. At least twice, Quinto’s mother, Cassandra Quinto-Collins, heard him say to the officers, “Please don’t kill me.” Bella and Cassandra then watched in disbelief and horror as the two officers knelt on Quinto’s back for five minutes until he stopped breathing. Three days later, Quinto died in the hospital.¹

It was not until August 2021 that the family learned the official determination of cause of death: a forensic pathologist testified during a coroner’s inquest that Quinto died from “excited delirium syndrome.”²

Angelo Quinto, a Filipino-American Navy veteran, is one of many people, disproportionately people of color, whose deaths at the hands of police have been attributed to “excited delirium” rather than to the conduct of law enforcement officers. In recent years, others have included Manuel Ellis, Zachary Bear Heels, Elijah McClain, Natasha McKenna, and Daniel Prude.³ “Excited delirium” even emerged as a defense for the officers who killed George Floyd in 2020.⁴

An *Austin-American Statesman* investigation into each non-shooting death of a person in police custody in Texas from 2005 to 2017 found that more than one in six of these deaths (of 289 total) were attributed to “excited delirium.”⁵ A January 2020 *Florida Today* report found that of 85 deaths attributed to “excited delirium” by Florida medical examiners since 2010, at least 62 percent involved the use of force by law enforcement.⁶ A Berkeley professor of law and bioethics



*Mourners at a birthday vigil for Angelo Quinto, who was killed by police in California in December 2020. His death was attributed to “excited delirium syndrome.”
Photo: Courtesy of the Quinto-Collins family*

The term “excited delirium”
cannot be disentangled from its
racist and unscientific origins.

conducted a search of these two news databases and three others from 2010 to 2020 and found that of 166 reported deaths in police custody from possible “excited delirium,” Black people made up 43.3 percent and Black and Latinx people together made up at least 56 percent.⁷

When did the term “excited delirium” evolve to describe a distinct type of “delirium?” How did the corresponding term “excited delirium syndrome” become a go-to diagnosis for medical examiners and coroners to use in explaining deaths in police custody? What is the evidence that it is indeed a valid diagnosis? This report traces the evolution of the term from when it appears to have first been coined in the 1980s to the present. Physicians for Human Rights (PHR) reconstructed the history of the term “excited delirium” through a review of the medical literature, news archives, and deposition transcripts of expert witnesses in wrongful death cases. We evaluated current views and applications of the term through interviews with 20 medical and legal experts on deaths in law enforcement custody. Additionally, we spoke to six experts on severe mental illness and substance use disorders to better understand the context in which the term most often arises. Finally, we interviewed members of two families who lost loved ones to police violence for a firsthand account of the harms of the term’s continued use.

This report concludes that the term “excited delirium” cannot be disentangled from its racist and unscientific origins. Dr. Charles Wetli, who first coined the term with Dr. David Fishbain in case reports on cocaine intoxication in 1981 and 1985,⁸ soon after extended his theory to explain how more than 12 Black women in Miami, who were presumed sex workers, died after consuming small amounts of cocaine.⁹ “For some reason the male of the species becomes psychotic and the female of the species dies in relation to sex,” he postulated.¹⁰ As to why all the women dying were Black, he further speculated, without any scientific basis, “We might find out that cocaine in combination with a certain (blood) type (more common in blacks) is lethal.”¹¹

After a 14-year-old girl was found dead in similar circumstances but without any cocaine in her system, Wetli’s supervisor, chief medical examiner Dr. Joseph Davis, reviewed the case files.¹² Davis concluded that all of the women – 19 by that point – had actually been murdered, pointing to evidence of asphyxiation in many of the cases.¹³ Investigators eventually came to hold a serial killer responsible for the murders of as many as 32 women from 1980 to 1989.¹⁴

The year after the suspected killer’s arrest, Wetli continued to assert that at least some of the women had died from a combination of sex and cocaine: “I have trouble accepting that you can kill someone without a struggle when they’re on

It seems that “excited delirium” as a diagnosis and standalone cause of death was originally brought about by one or a few people’s subjective opinions.... It is not a valid, independent medical or psychiatric diagnosis. There is no clear or consistent definition, established etiology, or known underlying pathophysiology.

cocaine ... cocaine is a stimulant. And these girls were streetwise.”¹⁵ He also continued to promote a corresponding theory of Black male death from cocaine-related delirium, without any scientific basis: “Seventy percent of people dying of coke-induced delirium are black males, even though most users are white. Why? It may be genetic.”¹⁶

Wetli’s grave mischaracterization of the murders of Black women in Miami – and the racism and misogyny that seemed to inform it – should have discredited his other equally racialized and gendered theory of sudden death from cocaine. Instead, the use of the term “excited delirium” grew.

A small cohort of authors, many working as researchers or legal defense experts for TASER International (now Axon Enterprise) – a U.S. company that produces technology products and weapons, including the “Taser” line of electroshock weapons marketed as so-called “less-lethal” “stun” weapons – increased the broader use of the term by populating the medical literature with articles about “excited delirium.” In 2007, TASER/Axon purchased many copies of a book entitled *Excited Delirium Syndrome* written by one of its defense experts, Dr. Vincent Di Maio, and his wife Theresa Di Maio, that built on Wetli’s description of “excited delirium” by describing an “excited delirium syndrome.”¹⁷ They distributed the book for free and also gave out other materials on “excited delirium” at conferences of medical examiners and police chiefs.¹⁸ Seven years later, during a deposition, Dr. Di Maio acknowledged that he and his wife had “come up with” the term “excited delirium syndrome.”¹⁹ The term has come to be used as a catch-all for deaths occurring in the context of law enforcement restraint, often coinciding with substance use or mental illness, and disproportionately used to explain the deaths of young Black men in police encounters.²⁰

PHR’s review leads to the conclusion that “excited delirium” is not a valid, independent medical or psychiatric diagnosis. There is no clear or consistent definition, established etiology, or known underlying pathophysiology. There are no diagnostic standards, and it is not included as a diagnosis in any version of the *International Classification of Diseases*, the international standard for reporting diseases and health conditions, currently in its tenth revision (*ICD-10*), or in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* criteria for psychiatric illness. Neither the American Medical Association nor the American

Psychiatric Association currently recognize the validity of the diagnosis. In general, there is a lack of scientific data, and the body of literature supporting the diagnosis is small and of poor quality, with homogenous citations rife with conflicts of interest.

The foundations underpinning the diagnosis of “excited delirium” have been misrepresented, misquoted, and distorted. The *ICD-10* and *DSM-5* acknowledge delirium and its subtypes as valid, but these do not align with purported criteria for “excited delirium” and are described as stemming from underlying causes. It seems that “excited delirium” as a diagnosis and standalone cause of death was originally brought about by one or a few people’s subjective opinions. The term has since taken on a meaning and life of its own, with a deleterious impact.

In our interviews with clinicians and scientists across disciplines, there was no consensus on the definition of “excited delirium.” A review of the medical literature further confirms that the syndrome is not well defined or understood. The term is therefore scientifically meaningless because of this lack of consensus or rigorous evidentiary basis. Many of the studies that have been used to support the diagnosis have serious methodological deficiencies and are laden with conflicts of interest with law enforcement and TASER/Axon. Moreover, the use of “excited delirium” to explain agitated behavior raises the concern that underlying causes of these behaviors, such as a mental illness or substance intoxication, are not being diagnosed or treated. Most significantly, it is disturbing that “excited delirium” as a diagnosis has been used to justify aggressive and even fatal police tactics.



Police in Aurora, CO face off with demonstrators protesting the killing of Elijah McClain. McClain was forcibly subdued by Aurora police while walking home and injected with ketamine by paramedics who diagnosed him with “excited delirium.” McClain suffered a heart attack on the way to the hospital and died four days later. Photo: Andy Cross/MediaNews Group/Denver Post via Getty Images

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It is also concerning that “excited delirium” has come to pervade law enforcement policies and training manuals, at least in part due to the continued acceptance of the term by the American College of Emergency Physicians (ACEP) and National Association of Medical Examiners (NAME). Officers in many law enforcement agencies are trained to respond to an array of medical emergencies as “excited delirium,” which in practice have included conditions that may not all warrant the same medical response, including heart attacks, drug or substance overdoses or withdrawals, acute psychosis, and oxygen deprivation. “Excited delirium” has also gained international reach, having received attention in the wake of in-custody deaths in Australia, Canada, and the United Kingdom, among other countries.²¹

The diagnosis of “excited delirium” has come to rest on racist tropes of Black men and other people of color as having “superhuman strength” and being “impervious to pain,” while pathologizing resistance to law enforcement, which may be an expected or unsurprising reaction of a scared or ill individual (or anyone who is being restrained in a position that inhibits breathing). Presently, there is no rigorous scientific research that examines prevalence of death for people with “excited delirium” who are not physically restrained.

People who present with symptoms and signs such as agitation, confusion, fear, hyperactivity, acute psychosis, sweats, noncompliance with directions, tachycardia (rapid heart rate), and tachypnea (rapid breathing), which are too often classified by medical examiners and coroners as “excited delirium,” must be recognized as having an underlying diagnosis. The specific underlying condition should be identified and treated. Too often, law enforcement officers are called as the sole first responders to medical emergencies and then use violent methods to forcibly restrain people manifesting these signs, methods – such as those that induce asphyxia from prone and other forms of restraint – that themselves may cause death. Consequently, “excited delirium,” rather than law enforcement actions, is cited as the cause of death, or as a factor contributing to death, in autopsy reports.

PHR holds that “excited delirium” is a descriptive term of myriad symptoms and signs, not a medical diagnosis, and, as such, should not be cited as a cause of death. It is essential to end the use of “excited delirium” as an officially determined cause of death, particularly in cases of deaths in police custody. This is one critical step among many to stop these preventable deaths.

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Key Recommendations

To the American College of Emergency Physicians (ACEP) and National Association of Medical Examiners (NAME):

- Issue statements clarifying that “excited delirium” is not a valid medical diagnosis and cannot be a cause of death.

To State and Local Governments:

- Improve official responses to people experiencing mental and behavioral health challenges, including by bolstering social services and investing in alternative models of crisis response led by health professionals and/or social workers.
- Establish independent oversight systems and mandate independent investigations of deaths in law enforcement custody.

To Congress:

- Exercise Congress’s oversight authority to investigate the use of “excited delirium” in various jurisdictions across the United States in the context of deaths in police custody, systemic racism, and the pursuit of justice and accountability.

Introduction

As Minneapolis police officer Derek Chauvin knelt on George Floyd’s neck in May 2020, fellow officer Thomas Lane said, “Roll him on his side?... I just worry about the excited delirium or whatever.” Officer Lane’s comment in the midst of George Floyd’s murder is indicative of the extent to which the concept of “excited delirium” has come to pervade U.S. law enforcement training and practice.

This report traces how “excited delirium” has evolved from a description in case reports of people with cocaine intoxication into a term that is used by law enforcement, forensic pathologists, emergency physicians, and in courts. Others have already described the troubled history of “excited delirium.”²² Yet since the term persists, this report reviews the origins, history, medical literature, and views of experts and affected family members in order to evaluate the underlying validity of the diagnosis.

Background

In the United States, people of color are far more likely than white people to be killed by police.²³ The American Medical Association, American Public Health Association, National Medical Association, and many other groups recognize this as a public health crisis.²⁴ In addition, a significant percentage of police killings – anywhere from 25 to 50 percent – occur while responding to mental health, behavioral health, or substance use disorder crises.²⁵

The in-custody killing of George Floyd by Minneapolis police in May 2020 ignited an unprecedented wave of national and global demonstrations in support of the Black Lives Matter movement and against police brutality and systemic racism across many areas of law enforcement. Protesters called for accountability for police killings and reforms, with many urging the reallocation of funding from law enforcement to social and community services, including mental health services. Protesters also drew attention to the ways in which certain health emergencies all too often receive a law enforcement rather than a medical response, which can result in serious harm or death.

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In Many Areas, the United States Lacks Appropriate Systems to Respond to Mental and Behavioral Health Crises

In 2020, the Substance Abuse and Mental Health Services Administration (SAMHSA), a branch of the U.S. Department of Health and Human Services, reported that more than one in every five American adults (21 percent) experienced a mental illness.²⁶ Additionally, in 2020, more than one in every 20 adults (5.6 percent) experienced a serious mental health condition, such as schizophrenia or bipolar disorder.²⁷ Both of these estimates were higher than annual estimates from 2008 through 2019.²⁸

Despite the increasing prevalence of mental health conditions in the United States, there remains a lack of appropriate emergency response systems for people in crisis. Moreover, the deinstitutionalization movement, beginning in the 1950s, left many people with severe mental illness with neither proper treatment nor resources. This has led to a number of people finding themselves homeless or in contact with the carceral system rather than appropriate treatment.²⁹ The norm when someone is experiencing a mental health crisis is to call emergency services through 911, where, in most jurisdictions, the police often respond. Using armed police as first responders in these cases can result in an escalation of the situation while criminalizing or further endangering the person in crisis. Introducing people with mental illness in crisis first to the carceral system by proxy of a police officer, instead of a trained mental health counselor or clinician, can and has led to deaths at the hands of law enforcement.³⁰ A 2015 report by the Treatment Advocacy Center found that people with untreated mental illness are 16 times more likely to be killed during a law enforcement encounter than other civilians.³¹

In a 2021 report, the Office of the United Nations High Commissioner for Human Rights (OHCHR) observed that law enforcement officers frequently violate the rights of Black people experiencing mental health crises to protection from discrimination on the basis of both race and disability. OHCHR reviewed more than 190 reports of deaths of Black people in law enforcement custody worldwide, including in the United States, finding that one of the three contexts that accounted for 85 percent of the cases that occurred was “the intervention of law enforcement officials as first responders in mental health crises.” The report stated:

“Several incidents analyzed by OHCHR occurred after calls to emergency services seeking assistance for a person experiencing a mental health crisis. According to the analysis, when acting as first responders, police interventions often aggravate the situation including due to the use of restraints, while crises de-escalation protocols may not provide for appropriate crisis support services. Further, police often fail to identify the victims as individuals in distress and in need of rights-based mental

“When you’re dealing with severe mental illness, and especially when you’re a Black family or a brown family, you pause before you call the police.”

Sabah Muhammad, attorney and legislative and policy counsel, Treatment Advocacy Center

health support. Instead, racial bias and stereotypes compounded with disability-based stereotypes appear to lead law enforcement officials to perceive the victim as “dangerous”, overriding considerations of the individual’s safety and well-being and of delivery of the appropriate care and basic life support.”³²

Standards for Death Investigations in the United States Vary by Jurisdiction

In the United States, official processes for investigating and establishing cause of death vary by state and local jurisdiction. Each state has different requirements for which kinds of deaths require investigations or autopsies.³³ Death investigation systems are highly variable, including both medical examiner systems and coroner systems. In most systems, it is a coroner or medical examiner’s responsibility to lead an investigation to determine the circumstances of a person’s death in cases of homicide or when there is suspicion of crime or foul play, including police violence.³⁴ Coroners in most states do not have to be physicians.³⁵ Medical examiners are physicians but are not always forensic pathologists. Forensic pathologists are physicians that specialize in pathology (study of injured organs, tissues, and cells) and work at the intersection of law and medicine to determine the cause of death. Twenty-three (23) states and Washington, D.C. have appointed medical examiner and/or coroner systems, 11 states have elected coroners and appointed medical examiners, four states have a combination of elected and appointed coroners, and 12 states have a combination of elected and appointed medical examiners.³⁶ Although there is a lack of national standards and of a universal definition, the consensus for defining deaths in custody is “deaths of persons who have been arrested or otherwise detained” by law enforcement officials.³⁷

In 2009, the National Academy of Sciences (NAS) recommended, “Congress should authorize and appropriate incentive funds to the National Institute of Forensic Science (NIFS) for allocation to states and jurisdictions to establish medical examiner systems, with the goal of replacing and eventually eliminating existing coroner systems.” NAS further held, “All medicolegal autopsies should be performed or supervised by a board certified forensic pathologist.”³⁸

Law Enforcement-Related Deaths Are Under-Counted

The age-adjusted mortality rate due to police violence grew by 38.4 percent from the 1980s to the 2000s, and mortality rates due to police violence were highest in non-Hispanic Black people.

There is strong evidence that deaths after or during interaction with law enforcement are not always appropriately reported, monitored, or investigated. A 2017 Harvard study found that more than half of all police killings in 2015 were incorrectly classified as not the result of police officer interactions.³⁹ Coroners and medical examiners were found to regularly report results that minimized the accountability of police officers.⁴⁰ The study compared data from *The Guardian's* "The Counted,"⁴¹ an investigative project on police killings, to data from the National Vital Statistics System (NVSS), a U.S. federal government system that gathers death certificate data, identifies law enforcement-related deaths, and assigns a corresponding diagnostic code: "legal intervention."⁴² This same study found that there were significantly more law enforcement-related deaths in *The Guardian's* data set compared to the NVSS. They further discovered that the NVSS had misclassified 55.2 percent of all police killings, and that deaths in low-income areas were disproportionately underreported.⁴³



Black Lives Matter protesters march across the Brooklyn Bridge in New York City on May 25, 2021, on the first anniversary of George Floyd's death at the hands of police. Photo: Andy Cross/Spencer Platt/Getty Images

Similarly, a 2021 *Lancet* study compared data from the NVSS to “The Counted” and two other media-based databases on police violence, “Fatal Encounters” and “Mapping Police Violence.” The results showed that the NVSS failed to report “55.5 percent of all deaths attributable to police violence,” missing about 17,100 deaths from 1980 to 2019.⁴⁴ The study also found that the age-adjusted mortality rate due to police violence grew by 38.4 percent from the 1980s to the 2000s, and mortality rates due to police violence were highest in non-Hispanic Black people, followed by Hispanic people of any race, non-Hispanic white people, and finally non-Hispanic people of other races.⁴⁵

System Flaws and the Ability to Manipulate the Reporting System Contribute to Under-Counting of Law Enforcement-Related Deaths

Several factors contribute to under-counting of law enforcement-related deaths. One oft-cited reason is the lack of independence of coroners and medical examiners. In a 2011 survey of National Association of Medical Examiners (NAME) members, 22 percent reported experiencing political pressure from elected or appointed officials to change the cause or manner of death listed on death certificates.⁴⁶ Conflicts of interest built into many systems include having medical examiners and coroners work for or be part of police departments.⁴⁷ A second contributor to under-counting is the lack of well-established standards and guidelines. There are no standards or explicit instructions to note whether there was police involvement in many death certificates’ open-ended sections to “describe how the injury occurred,” or to assure correct coding that there was law enforcement involvement, even if the certificate notes police involvement. Moreover, lack of standards to ensure sufficient knowledge and training of coroners and medical examiners further contributes to errors in classification. For example, some medical examiners face difficulty in having to determine whether a restraint case, such as a “hog-tying incident,” should be classified as “homicide,” “accident,” or “undetermined.” There is no national definition on manner of death for these police custody killings.⁴⁸ Lastly, fear of litigation

In a 2011 survey of National Association of Medical Examiners members, 22 percent reported experiencing political pressure from elected or appointed officials to change the cause or manner of death listed on death certificates. In another survey, 13.5 percent acknowledged modifying their forensic findings because of previous threats of litigation, and 32.5 percent revealed that these considerations would impact their decisions in the future.

resulting from problematic conduct also influences accurate documentation. In another NAME survey with 222 medical examiner respondents, 13.5 percent acknowledged modifying their forensic findings because of previous threats of litigation, and approximately 32.5 percent revealed that these considerations would impact their decisions in the future.⁴⁹ Thirty (30) percent expressed that “fear of litigation affected their diagnostic decision-making.”⁵⁰ In this way, a lack of standards is compounded by a lack of independence of forensic scientists to act without undue pressure from law enforcement or political officials.

*In 2002, the National Association of Medical Examiners (NAME) published its first edition guide for **manner of death** classification; it notes that its guide is not a standard and that death certification requires judgment on a case-by-case basis.⁵¹ It elaborates that manner of death (i.e., determination of how an injury or disease leads to death, such as natural, accident, suicide, homicide, or undetermined) is “circumstance-dependent, not autopsy-dependent.”⁵² This guide outlines important general principles and definitions:*

“Natural deaths are due solely or nearly totally to disease and/or the aging process. **Accident** applies when an injury or poisoning causes death and there is little or no evidence that the injury or poisoning occurred with intent to harm or cause death. **Homicide** occurs when death results from a volitional act committed by another person to cause fear, harm, or death. Intent to cause death is a common element but is not required for classification as homicide.... **Undetermined** or “could not be determined” is a classification used when the information pointing to one manner of death is no more compelling than one or more other competing manners of death in thorough consideration of all available information. In general, when death involves a combination of natural processes and external factors such as injury or poisoning, preference is given to the non-natural manner of death.”

*The “**but-for**” logic is often used as a simple way to determine whether a death should be classified as natural or non-natural.⁵³ “But-for the injury (or hostile environment), would the person have died when [they] did?” The guide elaborates that “the manner of death is unnatural when injury hastened the death of one already vulnerable to significant or even life-threatening disease.” In this guide, the authors call for greater national consistency in death certification.*

In 2017, NAME published a position paper with recommendations for the investigation and reporting of deaths in police custody. In summary, the association calls for an investigation into the facts and circumstances of these deaths, and notes that the investigation has the potential to prevent

*similar future deaths and provide educational benefits.⁵⁴ The report elaborates on **cause of death** and **manner of death**:*

“This committee recommends that the physician consider homicide as the manner of death in cases similar to those that would otherwise meet the threshold of ‘death at the hands of another.’ While the cause and manner of death designation should be handled the same as any other, the certifying physician/professional should fully utilize the ‘How Injury Occurred’ section of the death certificate to communicate that the death occurred in custody. For example, wording such as ‘Shot by Law Enforcement’, ‘Driver of Motor Vehicle in Collision with Fixed Object during Pursuit by Law Enforcement’, ‘Shot Self in the Presence of Law Enforcement’, ‘Hanged Self while Incarcerated’, or ‘During Restraint by Law Enforcement’ should be included.”

Methodology

Physicians for Human Rights (PHR) sought to understand the complex origins, history, current usage, and validity of “excited delirium” by pursuing multiple strands of inquiry.

Documents

As part of PHR’s work to systematically document the origins, history, and evolution of the term and concept of “excited delirium,” PHR partnered with civil rights attorney Julia Sherwin, who, through nearly two decades of work, has compiled an extensive library of news archives, deposition transcripts, court documents, and articles related to the origins and history of “excited delirium.” PHR obtained additional deposition transcripts and court documents from civil rights attorneys John Burton and Ben Nisenbaum.

Medical Literature Review

To examine the extent and quality of evidence for “excited delirium” as a diagnosis and potential cause of death, physician members of the PHR team conducted a scoping review of and analyzed peer-reviewed medical literature.⁵⁵ On August 19, 2021, PHR conducted a PubMed/MEDLINE search using the key words “excited delirium” without filters. Two hundred twenty-six abstracts (226) were found between the available date range of January 1956 and August 2021. Titles and abstracts were screened for information on diagnostic criteria for “excited delirium,” origins of the term, pathophysiology, and evidence for the syndrome. If the abstract was not available or if the article was unclear after a review of the abstract alone, a full review of the article was performed.

Articles were excluded if they were not peer reviewed, not in English (due to a lack of capacity to translate), or did not provide any of the following: 1) historical information on the origins of “excited delirium;” 2) a definition or description of “excited delirium,” which may have included pathology or pathophysiology; or 3) a discussion of evidence for or against “excited delirium” as a distinct syndrome. Articles were also excluded if they focused solely on a case report or series, drugs, or treatment without significant discussion of “excited delirium” as an entity itself. Of the 226 articles, 180 did not meet the above criteria and were excluded from our analysis, leaving 46 peer-reviewed articles. A secondary search was performed on the same database using the term “excited delirium syndrome,” which yielded 95 results, all of which had already been captured in the primary search. (Of note, alternate search terms were not employed, such as “Bell’s mania,” “agitated delirium,” “positional asphyxia,” “restraint asphyxia,” “in-custody deaths,” or “police use of force.”)

Between August 19, 2021 and October 20, 2021, PHR team members read and abstracted articles that met inclusion criteria. To provide important context to the 46 peer-reviewed articles, other literature, such as letters to the editor and commentary, secondary references, consensus and position papers, and non-peer reviewed material, were also considered and incorporated in this report when germane.

To check for saturation and consistency, results were compared to a general literature review performed in July 2021 by a different PHR team during the concept design stage of this report. The references and conclusions of these two independent literature reviews were complementary and consistent.

Interviews

In light of the continued use of “excited delirium” as a cause of death among medical examiners and coroners, PHR explored the experiences and perspectives of forensic pathologists and other medical and legal experts on deaths in custody. After obtaining exemption from PHR’s Ethics Review Board, given the low risk to interviewees, PHR conducted individual semi-structured interviews with 20 experts on deaths in police custody regarding their knowledge and perspective on the use of “excited delirium” as a cause of death. The interviewees included nine forensic pathologists (across the United States, Canada, Chile, and New Zealand, one of whom also trained in Italy and Scotland), one forensic epidemiologist, two emergency physicians, one surgeon who is also a certified medico-legal death investigator, four plaintiff’s attorneys, two prosecutors, and one law enforcement trainer.⁵⁶ We used snowball sampling to connect with experts and continued reaching out to prospective interviewees until we reached thematic saturation (i.e., no new themes emerged during analysis of interview transcripts). Although the focus of our research was the use of “excited delirium” as a cause of death in the United States, we also interviewed forensic pathologists based outside the

United States considering the global reach of the medical literature on “excited delirium.”

In the interviews with physicians, we sought to identify areas of consensus and ongoing discussion regarding “excited delirium” and to learn about their introduction to the term and the evolution of their understanding. We interviewed the attorneys to inform the report background and to seek their views on the prevention of deaths in custody that are attributed to “excited delirium.” PHR also held conversations geared toward preventing such deaths with experts on mental health and substance use crisis response, including staff at the Treatment Advocacy Center, National Harm Reduction Coalition, Crisis Assistance Helping Out On The Streets (CAHOOTS), and Portland Street Response.⁵⁷

Finally, PHR received approval from PHR’s Ethics Review Board to interview members of families who had lost loved ones to deaths in police custody in the United States where “excited delirium” was designated by medical examiners as the cause of death. We connected with civil rights attorneys who represent families in wrongful death lawsuits against law enforcement officers and asked the attorneys whether any of their clients were interested in speaking with us for our report. Two families conveyed through their attorneys their interest in speaking with PHR, and their attorneys were present for the subsequent interviews.

All interviews took place via video or audio conferencing due to the SARS-CoV-2 public health emergency and wide geographical location of interviewees. All participants gave verbal consent to the interview, and for the interview to be recorded. Notes were also typed during the interviews.

Interviewees were informed of the purpose and voluntary nature of the interview. They were told that they could stop the interview at any time and that all possible measures would be taken to keep their identity confidential unless they wanted to disclose it. They were given the option of remaining anonymous and using a pseudonym in this report. Interviewees received no compensation for participating in interviews. The interviewers used an interview guide, previously agreed upon by the research team. Interview materials and transcripts were stored securely on PHR computers. Team members reviewed the written notes and transcripts to identify key themes across the interviews and pull illustrative quotes.

Limitations

PHR’s interviews with forensic pathologists, emergency physicians, lawyers, and others are not intended to be a representative sample of the field. Rather, we sought to speak to experts both in the United States and internationally to gauge areas of consensus and ongoing discussion regarding the continued use of “excited delirium.”

The medical literature review was not exhaustive and used one biomedical literature database (PubMed/MEDLINE). Only “excited delirium” and “excited delirium syndrome” were searched and may have not resulted in a comprehensive selection of relevant articles. After articles meeting inclusion criteria were identified and reviewed, a pragmatic research approach was adopted: references of included articles were explored for context and history.

Findings

Origins and History

Key Definitions

*A **syndrome** consists of a group of signs and symptoms that occur together and characterize a discrete abnormality or condition.⁵⁸ The cause, pathophysiology, and/or course of a “syndrome” is often not clearly understood. Once medical science identifies a clear causative agent or underlying pathophysiologic process, the group of signs and symptoms are then referred to as a “**disease**.” What are considered diseases change over time as a result of advances in technology, diagnostic ability, and expert consensus determinations, among other factors. In psychiatry, maladaptive mental and behavioral disturbances that impair functioning are often referred to as **disorders**. There are well-defined criteria for diagnosing psychiatric disorders, even though some have criticized these criteria as unreliable.⁵⁹*

*The American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) defines **delirium** as a neurocognitive disorder characterized by a “disturbance in attention and awareness that develops over a short period of time and is not better explained by another preexisting, evolving, or established disorder.”⁶⁰ Additional features may include hypo- or hyperactivity and emotional disturbances such as fear, agitation, or euphoria, as well as reduced awareness of the environment. The pathophysiology of delirium is poorly understood, but it is generally accepted as a sign of an underlying disease process, such as organ failure, infection, lack of oxygen, metabolic imbalance such as low blood sugar levels, drug side effects, intoxication, or withdrawal, among others. Delirium is medically treated by finding and treating the underlying cause, along with supportive behavioral modifications and medical care such as hydration, psychopharmaceuticals, and pain control.*

Restraints in the medical context are actively discouraged and avoided in the management of delirium, never include prone or neck restraints, and

are monitored by an independent medical oversight organization (the Joint Commission on Accreditation of Healthcare Organizations). Delirium is not itself considered a cause of sudden death.

Bell's Mania

In 1849, Dr. Luther Bell, a Massachusetts physician at the McLean Asylum for the Insane, described cases of primarily female psychiatric patients who experienced symptoms and signs such as overactivity, delusions, transient hallucinations, sleeplessness, and fevers, typically over days to weeks, and in some cases resulting in death.⁶¹ This constellation of signs and symptoms has been called Bell's Mania, delirious mania, acute maniacal delirium, lethal catatonia, and, later, chronic "excited delirium."⁶² The Bell's Mania description occurred long before other diagnoses like schizophrenia,⁶³ bipolar mania, or autoimmune encephalitis were described in their current formulations, and the signs and symptoms of Bell's Mania are consistent with these diagnoses, among others. The disappearance of case reports using these descriptions between the 1950s and 1980s has been attributed to the rise of relatively effective antipsychotic medications and treatment and greater psychiatric diagnostic precision.⁶⁴

Wetli and Fishbain

The introduction of the term "excited delirium" in the 1980s has been attributed to Drs. David Fishbain and Charles Wetli. In the early 1980s, at the University of Miami, Fishbain was director of psychiatric emergency services, and Wetli was a forensic pathologist. In 1981, Wetli and Fishbain co-authored a case report of cocaine intoxication in a person who swallowed packets of cocaine in order to store them within their body, termed "bodypacker."⁶⁵ Wetli and Fishbain described the resulting delirium as a medical emergency characterized by a disturbance of attention with impaired perception. They characterized this "acute excited delirium" as reversible, transient, and with an array of possible causes. They elaborated that there are "two types of delirium: stuporous ... and excited." Notably, they stated that the treatment of delirium is of the underlying illness and concluded that the delirium presentation hides the "medical nature."

In 1985, Wetli and Fishbain published a case series on cocaine-induced psychosis.⁶⁶ This series described seven cocaine users (six men and one woman) who exhibited fear, panic, violent behavior, hyperactivity, hyperthermia, and/or unexpected strength. All of them had been restrained (six by police, in some cases with the assistance of bystanders, and one by emergency room staff) and all died suddenly with respiratory arrest, with five of them reportedly dying in police custody.

Case 1	“The police subsequently restrained his ankles and attached the ankle restraints and handcuffs together.”
Case 2	“he was agitated and combative and had to be restrained.”
Case 3	“With the aid of several police officers she was finally subdued; handcuffs and ankle restraints were applied and then attached to each other.”
Case 4	“with the assistance of several bystanders, the victim was finally subdued. Handcuffs and ankle restraints were placed on the victim and were in turn tied together.”
Case 5	“He was removed from the vehicle and his ankles were restrained as well. The ankle and handcuff restraints were then attached to each other.”
Case 6	“He was finally apprehended but it took six police officers to restrain him. He was handcuffed, placed in a police vehicle, and kept under observation.”
Case 7	“Three officers finally subdued the subject after a violent struggle during which the subject was struck twice in the head with a heavy flashlight. He was handcuffed behind his back and placed prone on the ground. He continued to thrash about for a period of time.”

Excerpts from Charles V. Wetli, and David A. Fishbain, 1985, “Cocaine-Induced Psychosis and Sudden Death in Recreational Cocaine Users,” Journal of Forensic Sciences, 30, no. 3 (July): 873 – 880.

Autopsies did not reveal any “anatomic cause of death.” In this publication, Wetli and Fishbain again described “excited delirium” as a “medical emergency but with a psychiatric presentation” and noted that the “prognosis depends on the underlying cause of the delirium.”

Four of the seven people had been either hog-tied (had their hands and feet fastened together) or put into a hobble restraint (a nylon strip that ties a person’s ankles together and links them to their wrists handcuffed behind their back) in a prone position, which can impair breathing. Other than mentioning the prone restraint in passing, Wetli and Fishbain did not discuss the role restraint may have played in these victims’ deaths.

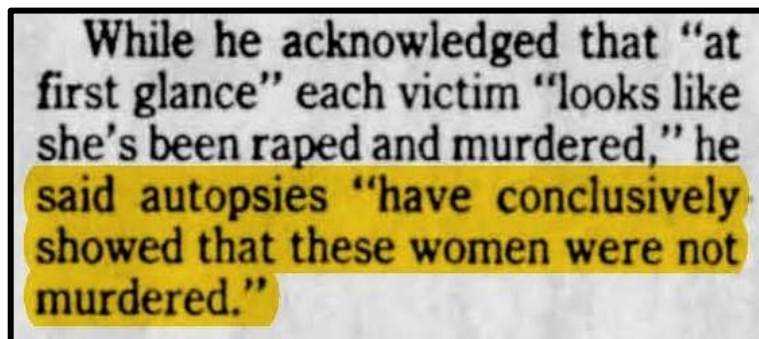
In both these 1981 and 1985 case reports, Wetli and Fishbain reference the *Comprehensive Textbook of Psychiatry*, 3rd edition, chapter 20, pages 1359–1392.⁶⁷ This section was written by Dr. Zbigniew J. Lipowski. (PHR obtained the same edition and reviewed these pages.) Wetli and Fishbain cite Lipowski when defining delirium, including the description of a hyperactive and hypoactive delirium: “There are two major types of delirium: stuporous (dull, lethargic, hypoactive, mute, somnolent, and apathetic), and excited (thrashing, shouting, hyperactive, fearful, panicky, agitated, hypervigilant, and violent).”⁶⁸ Lipowski does not use the term “excited delirium.” It is our conclusion that Wetli and Fishbain initially used “excited” as an adjective to portray the hyperactive form of delirium.

A short time later, Wetli, as will be discussed below, began using “excited delirium” as a cause of death, diagnosis, and unique disease. There is, however, no indication in his writings that he had access to new scientific evidence underpinning this change.

Serial Murders of Black Women in Miami

In the years that followed his publications on cocaine-induced “excited delirium,” Wetli began to seek new applications of his theories in his work as deputy chief medical examiner in Miami.

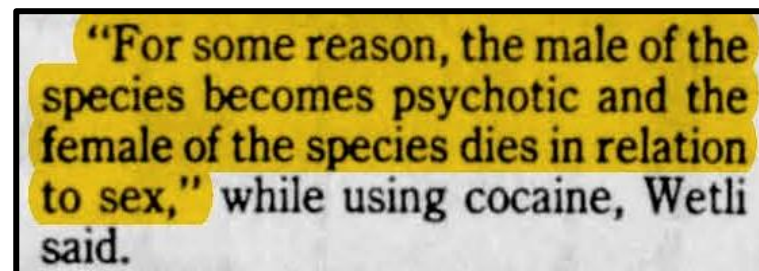
Between September 1986 and November 1988, 12 Black women who were presumed sex workers were found dead, one after the other, in the same geographic area of Miami.⁶⁹ Wetli and several of his colleagues found that almost all had low levels of cocaine in their systems and classified the majority of the deaths as accidents from cocaine intoxication.⁷⁰ On November 24, 1988, Wetli began to publicize his theory that the women had died from combining sex with cocaine use, claiming that autopsies had “conclusively” shown they had not been murdered.⁷¹



While he acknowledged that “at first glance” each victim “looks like she’s been raped and murdered,” he said autopsies “have conclusively showed that these women were not murdered.”

Excerpt from Donna Gehrke, “Missed Calls, Close Calls Mar Serial Killings Case,” Miami Herald, April 26, 1990, page 1A. Highlighting added for emphasis. (Quote first published in Adrian Walker and Heather Dewar, “Cocaine-Sex Deaths in Dade Probed,” Miami News, November 24, 1988.)

Wetli speculated that while the women were working as sex workers, they consumed small amounts of cocaine and then died from sexual excitement, which he described as the female manifestation of the “cocaine psychosis” he had previously identified in men.⁷² “For some reason, the male of the species becomes psychotic and the female of the species dies in relation to sex,” he said.⁷³



“For some reason, the male of the species becomes psychotic and the female of the species dies in relation to sex,” while using cocaine, Wetli said.

Excerpt from Donna Gehrke, “Missed Calls, Close Calls Mar Serial Killings Case,” Miami Herald, April 26, 1990, page 1A. Highlighting added for emphasis. (Quote first published in Adrian Walker and Heather Dewar, “Cocaine-Sex Deaths in Dade Probed,” Miami News, November 24, 1988.)

19 Q Did you also tell the local
20 newspaper, quote, "for some reason, the male of
21 the species becomes psychotic and the female of
22 the species dies in relation to sex," end quote,
23 while using cocaine?
24 A At that time, that was true.
25 That's what our perception was. We were just
2 beginning to find out about cocaine-induced
3 excited delirium, which was very rare in women
4 but was very common in males. And then we had
5 this cluster of females who were dying with low
6 levels of cocaine and sexual activities. So to
7 us it was a paradox at the time.

Excerpt from deposition of Charles Wetli in Harrison v. County of Alameda, January 15, 2014. Courtesy of Julia Sherwin. Highlighting added for emphasis.

As to why all the women dying were Black, he further speculated, without any scientific basis, "We might find out that cocaine in combination with a certain (blood) type (more common in blacks) is lethal."⁷⁴

The following month, he said, "We know that the deaths are related to crack, but we still don't know the mechanism."⁷⁵

On December 12, 1988 – less than a month after Wetli began to publicize this theory – 14-year-old Antoinette Burns was found dead.⁷⁶ Wetli, who performed the initial autopsy, believed that she, too, had died from a combination of sex and cocaine use.⁷⁷ For weeks, Burns' family pushed back against this theory, but it was not until the toxicology report came back negative that authorities began to take them seriously.⁷⁸

In March of 1989, police investigators confronted Wetli's supervisor, chief medical examiner Dr. Joseph Davis, with evidence they believed pointed to homicide.⁷⁹ Davis began to reexamine the case files.⁸⁰ In May, a newsweekly reported that the number of Black women found dead had reached at least 17.⁸¹ The article noted that Burns had died without cocaine in her system and cited investigators'

The article described Wetli's sex-cocaine theory for women as the counterpart of his "excited delirium" theory about men. "The women may be dying after sexual activity," Wetli said. "The men just go berserk."

beliefs that a serial killer was actually responsible for the women's deaths.⁸² Burns' mother told the paper, "I'm always wondering who killed her and how did she die. I want justice to be served."⁸³

Wetli, meanwhile, continued to promote his theory that cocaine combined with orgasm produced lethal results: "We still really don't know what's going on. My gut feeling, though, is that this is a terminal event that follows chronic use of crack cocaine affecting the nerve receptors in the brain. I think it's a type of neural exhaustion."⁸⁴ The article described Wetli's sex-cocaine theory for women as the counterpart of his "excited delirium" theory about men. "The women may be dying after sexual activity," Wetli said. "The men just go berserk."⁸⁵

Later that month, Davis announced his conclusion that the deaths of all of the women – 19 by that point – were homicides.⁸⁶ He reclassified the 14 that had initially been ruled accidents or left unclassified.⁸⁷ Only nine women's bodies had been found soon enough to identify concrete signs of strangulation and/or asphyxiation.⁸⁸ In those women's cases, Davis found evidence of neck pressure in seven and pressure to the mouth in four, as well as evidence of hemorrhaging in the eyes.⁸⁹ He noted that in some of the women's cases, the signs of asphyxiation were so pronounced that one could see them from "ten feet away, it's that clear."⁹⁰

CAUSE OF DEATH: HOMICIDE BY UNSPECIFIED MEANS --AMENDED BY J. H. DAVIS, M.D., CHIEF MEDICAL EXAMINER -6/19/89-DJM.			
MANNER: HOMICIDE	DATE AUTOPSY	OCT/02/87	BY CHARLES V. WETLI MD

Excerpt from the Metropolitan Dade County Medical Examiner Department's amended investigation report for a woman found dead in October 1987. Her death had been ruled a cocaine intoxication accident in November 1987; Davis changed it to "homicide by unspecified [sic] means" in June 1989. Courtesy of Julia Sherwin.

All but one of the women were believed to have the same killer.⁹¹ Police soon identified Charles Henry Williams, a convicted rapist, as the primary suspect.⁹² Arrested in 1989 on an unrelated rape charge, he was eventually believed to be responsible for the deaths of as many as 32 women since 1980.⁹³ Later charged with one of the murders, he died before he could stand trial.⁹⁴

One year after Davis's reclassification of the deaths as homicides, Wetli continued to assert that at least some of the women had died from a combination of sex and cocaine: "I have trouble accepting that you can kill someone without a struggle when they're on cocaine ... cocaine is a stimulant. And these girls were streetwise."⁹⁵

In his office adjacent to Davis's, Charles Wetli still holds to the thought that some of the deaths may be attributable to cocaine and orgasm. "I have trouble accepting that you can kill someone without a struggle when they're on cocaine," he says, twisting a rubber band around his fingers until it snaps. "Alcohol, maybe, or barbiturates. But cocaine is a stimulant. And these girls were streetwise."

Excerpt from Russ Rymer, "Murder Without a Trace," *In Health*, May/June 1990, p.58. Highlighting added for emphasis.

Wetli also continued to promote a corresponding theory of Black male death from cocaine-related delirium, without any scientific basis: "Seventy percent of people dying of coke-induced delirium are black males, even though most users are white. Why? It may be genetic."⁹⁶

And its fickleness. "Seventy percent of people dying of coke-induced delirium are black males, even though most users are white," says deputy chief medical examiner Charles Wetli. "Why? It may be genetic, but there's a lot we don't know about how cocaine affects different individuals." Wetli, the department's drug

Excerpt from Russ Rymer, "Murder Without a Trace," *In Health*, May/June 1990, p.55-56. Highlighting added for emphasis.

Wetli's grave mischaracterization of the murders of Black women in Miami – and the racism and misogyny that seemed to inform it – failed to discredit his other equally racialized and gendered theory of sudden death from cocaine.⁹⁷ Instead, the use of the term "excited delirium" grew.

NAME Position Paper (2004)

More than a decade later, Wetli coauthored a 2004 National Association of Medical Examiners (NAME) position paper that continued to link cocaine use to "excited delirium."⁹⁸ That position paper, in a single reference, noted briefly "a catecholamine-mediated excited delirium, similar to cocaine" that was "becoming increasingly recognized and has been detected in patients with mental disorders taking antidepressant medications, and in psychotic patients who have stopped taking their medications." It provided as a citation for this claim the abstract of a presentation by Wetli.⁹⁹ Yet, in discussing "sudden death related to police actions," the paper only discussed assessing the involvement of cocaine as a cause of death and asserted that "other obvious causes of death must be carefully ruled

out through a careful scene investigation, meticulous forensic autopsy, and a review of the medical information.” The paper also delineated criteria for a diagnosis of “cocaine-induced excited delirium,” requiring a “clinical history of chronic cocaine use, typically bizarre and violent psychotic behavior, and the presence of cocaine or its metabolites in body fluids or tissues.” It did not discuss at all criteria for diagnosing “excited delirium” from causes other than cocaine use.¹⁰⁰

In its 2017 position paper on recommendations for the investigation and reporting of deaths in police custody, NAME referenced “excited delirium” in passing, noting, “the more difficult cases are those where the individual is observed to be acting erratically due to a severe mental illness and/or acute drug intoxication. These cases have been defined in the literature as excited delirium and often result in a law enforcement response and restraint of the decedent.”¹⁰¹

Publication of *Excited Delirium Syndrome*

In 2005, Theresa Di Maio, a psychiatric nurse, and her husband, Dr. Vincent Di Maio, a forensic pathologist who was serving as the chief medical examiner of Bexar County, Texas and editor of the *American Journal of Medicine and Pathology*, published a book on “excited delirium syndrome.”¹⁰² They defined the term as “the sudden death of an individual during or following an episode of excited delirium, in which an autopsy fails to ... explain the death.”¹⁰³ They defined “excited delirium” as “delirium involving combative or violent behavior” caused by “normal physiologic reactions of the body to stress gone awry.”¹⁰⁴ The Di Maios discussed the history and origins of “excited delirium” via summarized case reports from primarily the 1930s and 1940s, in most cases describing women in psychiatric institutions. In a 2014 deposition in a restraint death case, Dr. Di Maio noted that he and his wife had coined the term “excited delirium syndrome.”¹⁰⁵

Prone Restraint Studies

At the same time that the Di Maios were promoting the concept of “excited delirium syndrome,” others were conducting research on the safety of prone restraint tactics. Among the studies most widely used to exonerate law enforcement officials in cases of deaths in custody are those conducted by emergency physicians Theodore Chan and Gary Vilke. Drs. Chan and Vilke are part of what the *New York Times* in a December 26, 2021 investigative report described as a “small but influential cadre of scientists, lawyers, physicians and other police experts whose research and testimony is almost always used to absolve officers of blame for deaths.”¹⁰⁶ Forming a “cottage industry of exoneration,” many of the dozen or so individuals in this group, including Chan and Vilke, have ties with TASER/Axon and/or work as defense experts in death-in-custody litigation.¹⁰⁷

In 1997, Chan and Vilke sought to determine whether the “hobble” or “hog-tie” restraint position results in clinically relevant respiratory dysfunction. Fifteen healthy volunteers – a small sample size with a questionable ability to generate valid or reliable results – were hogtied. Measurements of lung function decreased by up to 23 percent, which were statistically significant, but the authors deemed them not clinically significant.¹⁰⁸

In the early 2000s, Chan and Vilke conducted a study in which they placed 25 pounds and 50 pounds on the backs of 10 participants – again a very small sample size – while they were in a prone position.¹⁰⁹ They obtained Institutional Review Board (“IRB”) approval from the University of California’s Human Research Protection Program for this study.¹¹⁰

In 2001, Vilke served as a plaintiff’s expert in a restraint asphyxia case when a man with schizophrenia in psychiatric crisis was restrained in a prone position while officers put their weight on his back. At that time, in his deposition, Vilke opined that the weighted restraint killed the decedent. In referring to his studies involving the placement of 25 and 50 pounds on people’s backs, he stated that these were preliminary studies only and seemed to suggest that experimenting with greater weights would be unethical due to the possible danger. He noted, “We don’t want to put 200 pounds on people and kill them.”¹¹¹

After appearing in that case, Vilke took on work as a defense expert in several wrongful death cases against TASER/Axon and law enforcement. Vilke acknowledged in a 2018 deposition that he had worked as a defense expert on behalf of TASER International in “certainly a number of cases” and said he believed that whenever he had testified in cases involving the use of a Taser, he had always testified on behalf of the defense.¹¹² Further evincing his defense sympathies, Vilke even told a journalist in 2021 that it was “doubtful” that Minneapolis police officer Derek Chauvin had killed George Floyd by pressing his knee on his neck.¹¹³ The *New York Times* reported that in a deposition in summer 2021, “Dr. Vilke said it had been 20 years since he had last testified that an officer was likely to have contributed to a death.”¹¹⁴

Likewise, in a 2014 deposition, Chan acknowledged that he had been retained by the defense in cases involving the use of a Taser “probably four or five times.”¹¹⁵

In 2007, Vilke and colleagues published an article titled “Ventilatory and Metabolic Demands During Aggressive Physical Restraint in Healthy Adults,” in which they put up to 225 pounds (102.3 kg) on the backs of 30 healthy adults who were restrained in a “hogtie restraint” prone position, with 27 participants told to “struggle vigorously” for 60 seconds.¹¹⁶ The authors found no clinically significant impairments in breathing (ventilatory function) among participants who were either prone or struggling. The authors reported that they received IRB approval from San Diego State and the University of California San Diego (UCSD) Human Research Protection Program for the study. However, repeated efforts by Julia Sherwin to subpoena IRB materials related to this study produced no evidence of

a completed IRB review or approval. This raises concerns about whether this study that has since been used as evidence for the safety of prone restraint law enforcement tactics ever passed the ethical and safety hurdles needed to obtain IRB approval.¹¹⁷

In two recent restraint death cases handled by Julia Sherwin, the defendant police officers hired Vilke to testify on their behalf.¹¹⁸ In both cases, Vilke testified that the officers beating and restraining the decedents in a prone position, putting weight on the victims' backs, and even choking one decedent did not cause or contribute to their deaths.¹¹⁹

Role of TASER

TASER/Axon is a U.S. company that develops technology products and weapons for the military, law enforcement, and civilians, including "Taser," a line of so-called "less-lethal" electroshock "stun" weapons. In 2007, TASER purchased 1,000 to 1,500 copies¹²⁰ of Di Maio's book on "excited delirium syndrome" and distributed free copies.¹²¹ They also gave out other materials on "excited delirium" at conferences of medical examiners and police chiefs.¹²² Since there are only about 500 full-time forensic pathologists in the United States,¹²³ TASER purchased enough copies of Di Maio's book in 2007 alone to easily cover the entire forensic pathology community, ensuring widespread familiarity with his theory on "excited delirium syndrome."¹²⁴

Di Maio has acknowledged testifying as a paid expert for TASER/Axon multiple times and stated in 2014 that in the cases in which he was deposed, he always gave the opinion that the Taser did not cause or contribute to the person's death.¹²⁵

Since there are only about 500 full-time forensic pathologists in the United States, TASER purchased enough copies of Di Maio's book in 2007 alone to easily cover the entire forensic pathology community, ensuring widespread familiarity with his theory on "excited delirium syndrome."

American College of Emergency Physicians (ACEP) White Paper

In 2005, TASER's national litigation counsel,¹²⁶ Michael Brave, co-founded a corporation entitled the Institute for the Prevention of In-Custody Deaths (IPICD) with another TASER defense expert and consultant,¹²⁷ John Peters.¹²⁸ In October 2008, IPICD held its "3rd Annual Sudden Death, Excited Delirium & In-Custody Death Conference." IPICD advertised the conference as "the first consensus conference that focuses upon excited delirium," and promised that

“attendees will help make law enforcement, medical, and legal history ... focused on arriving at a ‘consensus’ about excited delirium.” IPICD stated that the “findings from this seminal event will then be published in leading medical, legal, and law enforcement journals.”¹²⁹

The conference speakers included TASER and/or restraint death defense experts and consultants such as Chan, Di Maio, Vilke, and Wetli, as well as Dr. Steven Karch¹³⁰ and Dr. Deborah Mash.¹³¹ The results of the 2008 IPICD conference were published as the “White Paper Report on Excited Delirium Syndrome” by the American College of Emergency Physicians on September 10, 2009.¹³² The co-authors of the white paper included Chan, Mash, and Vilke, as well as TASER’s medical director, Dr. Jeffrey Ho.¹³³ Despite the close links between the paper’s co-authors and TASER, PHR has been unable to find conflict-of-interest statements or disclosures in connection with the conference or the resulting white paper.

The White Paper Report acknowledges that the pathophysiology of “excited delirium syndrome” is not understood, that there are no tests or standard diagnostic criteria, and that the medical treatment for the “syndrome” is unknown. Regarding the term “excited delirium,” the authors assert that the “issue of semantics does not indicate that excited delirium does not exist” and provide similar *ICD-9 (International Classification of Diseases, Ninth Revision)* codes such as manic excitement, delirium of mixed origin, agitation, delirium, and abnormal excitement which “describe the same entity as excited delirium syndrome.” They fail to consider that if manic excitement, delirium of mixed origin, agitation, and abnormal excitement (among other *ICD-9* codes listed) are the same entity as “excited delirium,” then “excited delirium” cannot be a unique entity. Their Report also does not consider that the forms of delirium or manic excitement in the *ICD-9* are not considered lethal. The *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, the main diagnostic tool used by clinicians for psychiatric diagnosis, in fact, recognizes “delirium” as a clinical entity, with “hyperactive,” “hypoactive,” and “mixed” delirium subtypes, but these do not align with “excited delirium.” The Task Force elaborates: “In most cases, the underlying disease will be untreated at the time of [excited delirium] presentation,” which suggests that “excited delirium” is a presentation or manifestation of another cause.¹³⁴

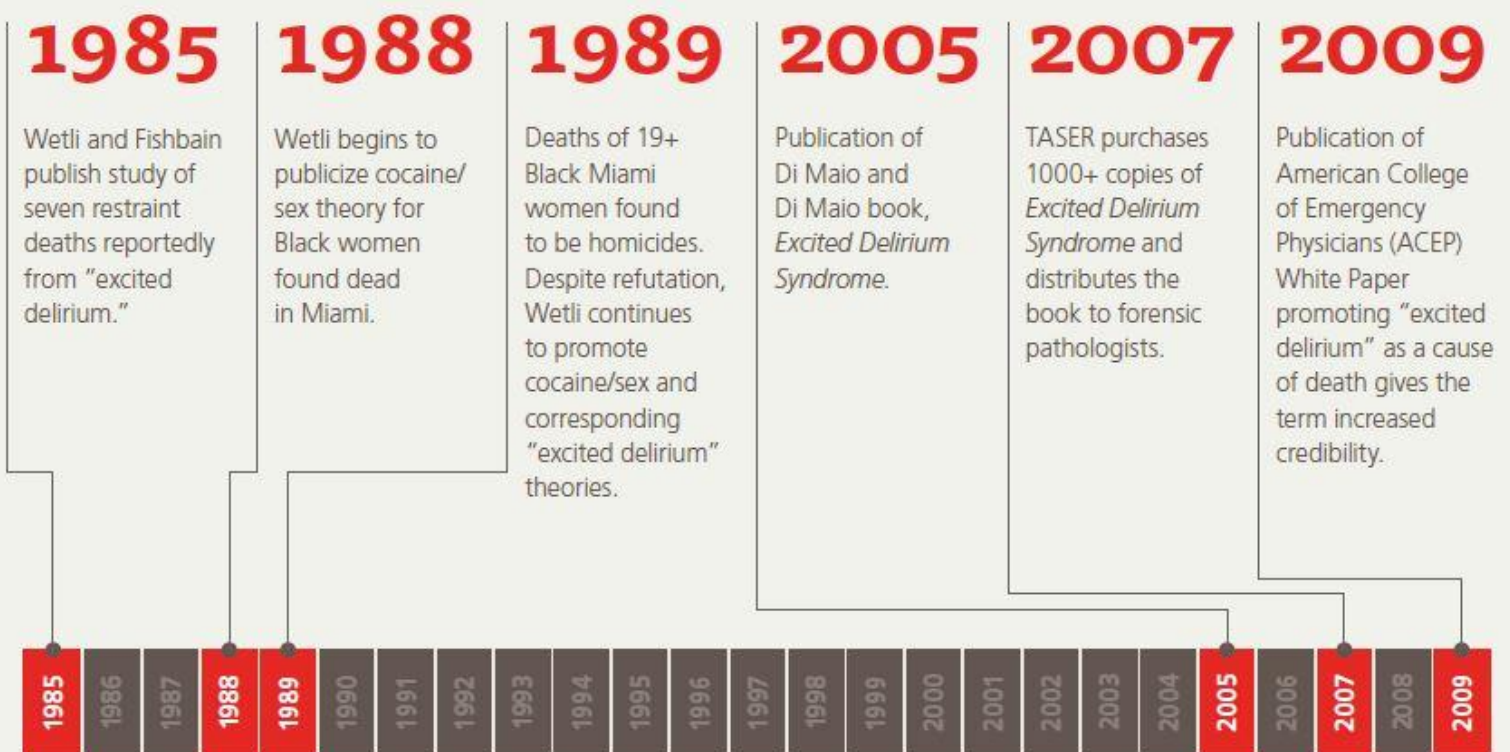
The White Paper Report offers 10 specific features suggesting the presence of “excited delirium” (pain tolerance, agitation, not responding to police presence, superhuman strength, rapid breathing, not tiring despite heavy physical exertion, naked/inappropriately clothed, sweating profusely, hot to the touch, and attraction to/destruction of glass/reflective surfaces). However, it provides no direct citations to the medical literature as to the origins or accuracy of these 10 features in predicting or diagnosing “excited delirium,” nor does it comment on the validity of these features as a screening tool. The descriptions of certain symptoms and signs also play into racist tropes that people of color possess “superhuman strength” and are “impervious to pain.”¹³⁵ This is doubly concerning given that Wetli had asserted without evidence 18 years prior that 70

percent of people who died of cocaine-induced delirium were Black men and that “it may be genetic.”¹³⁶

In 2011, the same group of authors published a reiteration of the White Paper Report in the academic, peer-reviewed literature, titled, “Excited delirium syndrome: defining based on a review of the literature.”¹³⁷ Based on a review of 18 articles, 10 written by the paper’s authors, the authors again identified 10 features of “excited delirium.”¹³⁸ At no point did the authors discuss the lack of and consequent need to develop and test screening tools for “excited delirium” that are valid (able to accurately identify diseased and non-diseased individuals) or reliable (repeat measurements yield the same result). They also provided no statements of conflicts of interest or disclosures.

*A 2008 National Institute of Justice (NIJ) report defined “**excited delirium**” as a “State of extreme mental and physiological excitement, characterized by extreme agitation, hyperthermia, euphoria, hostility, exceptional strength and endurance without fatigue.” Of note, the report was written by the then director of the NIJ but included the disclaimer that “Findings and conclusions of the research reported here are those of the authors and do not reflect the official position and policies of their respective organizations or the U. S. Department of Justice.”¹³⁹*

Origins of “Excited Delirium”



The Death of Martin Harrison



*Martin Harrison
Photo: Courtesy of the
Harrison family.*

On August 13, 2010, Martin Harrison was arrested for jaywalking in Oakland, California.¹⁴⁰ A warrant check revealed an outstanding warrant for failing to appear in court on a “driving-under-the-influence” charge, and the police arrested Harrison and took him to the Alameda County Santa Rita Jail.¹⁴¹ During the intake medical screening process, which occurred at approximately 3:00 p.m., Harrison was visibly intoxicated and smelled of alcohol.¹⁴² He told the licensed vocational nurse (LVN) who conducted the intake medical assessment that he drank every day, that his last drink was that day, and that he had a history of experiencing alcohol withdrawal.¹⁴³ The LVN determined Harrison needed no medical care and sent Harrison to the jail’s general population without instituting any alcohol withdrawal treatment protocols.¹⁴⁴ Three days later, Harrison experienced severe alcohol withdrawal, or delirium tremens, hallucinating that he was in his apartment and holding his mattress over his head because he perceived people were trying to shoot him. Ten deputies arrived at Harrison’s jail cell, Tased him, severely beat him, put a spit hood on him, and forced him into a prone position with officers on top of him, until he died.

Alcohol withdrawal and delirium tremens are considered treatable by medical professionals, yet no medical management was offered at any point during Harrison’s stay in jail, including in response to deterioration of his medical condition.

The defendants hired both Di Maio and Wetli as their expert witnesses.

In 2014, Di Maio and Wetli gave sworn deposition testimony in the Harrison case. There was no dispute between the parties that Harrison was experiencing delirium tremens – which, unlike “excited delirium,” has

an International Classification of Diseases code – at the time he was severely beaten, Tased, and restrained. Yet Wetli testified in his deposition that Harrison died of “excited delirium” and “is a classic example of death due to excited delirium or the resuscitation that has taken place.”¹⁴⁵ Di Maio testified that Harrison’s “presentation is of somebody in excited delirium” and “you could argue” that Harrison’s death was “a pure excited delirium case.”¹⁴⁶

Despite their assertions regarding “excited delirium,” Di Maio and Wetli’s depositions confirmed these facts:

- *“Excited delirium” has no International Classification of Diseases (ICD-9 or ICD-10) code, which means it cannot be assigned as a diagnosis or as a cause of death for statistical purposes;¹⁴⁷*
- *“Excited delirium” has never appeared in any version of the Diagnostic and Statistical Manual of Mental Disorders (DSM), the main diagnostic tool for mental health problems used by physicians and mental health workers in the United States, which is now in its fifth edition;¹⁴⁸*
- *“Excited delirium” is not recognized by the American Medical Association, American Psychiatric Association, or American Psychological Association.¹⁴⁹*

The Harrison case settled in 2015 after the first week of an eight-week trial, for \$8.3 million, along with changes to policies and training in the fifth largest jail in the United States.¹⁵⁰

“Excited delirium” has no International Classification of Diseases (ICD-9 or ICD-10) code, which means it cannot be assigned as a diagnosis or as a cause of death for statistical purposes.

Medical Literature Review

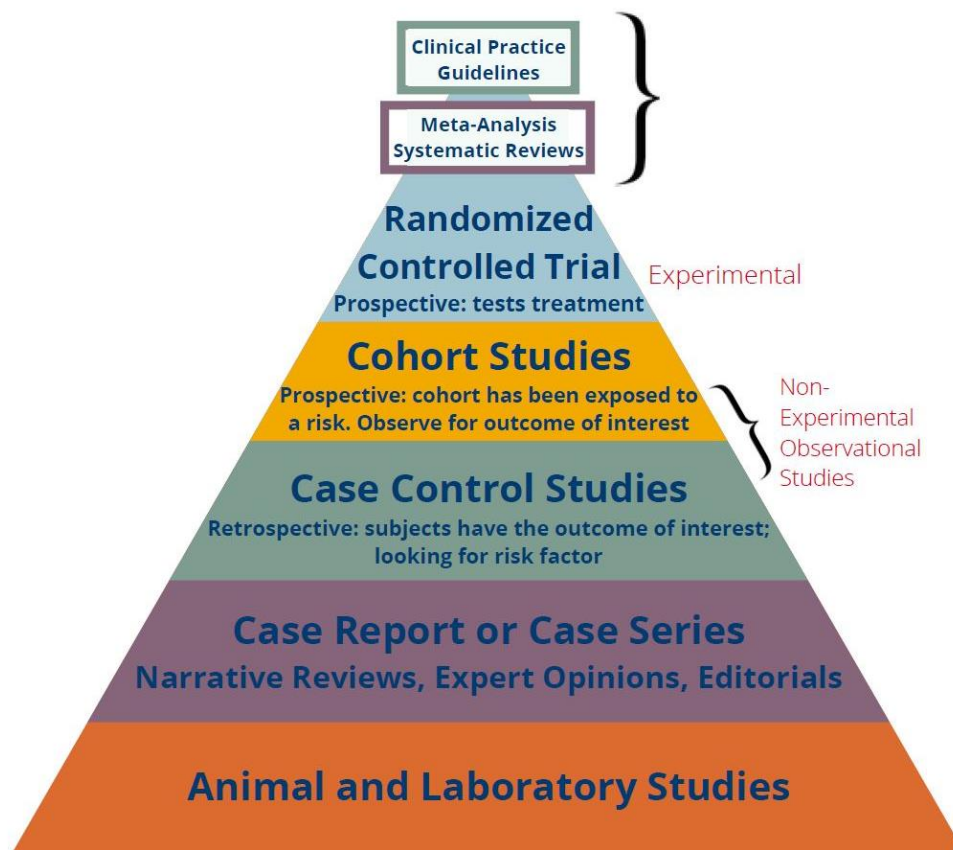
The PHR team explored two main areas of controversy in the peer-reviewed medical literature on “excited delirium”: 1) the underlying pathophysiology of “excited delirium;” and 2) “excited delirium” as a cause of death.

Consensus in the Literature that the Pathophysiology of “Excited Delirium” Is Unknown

There is consensus across reviewed articles that the pathophysiology of “excited delirium” is unknown, and that there are no telltale or characteristic autopsy

findings.¹⁵¹ Many possible causes of the symptoms associated with “excited delirium” are hypothesized. These include a fight-or-flight response (catecholamine surge) resulting in cardiac arrhythmia, disturbances of dopamine and/or dopaminergic pathways, and restraint-related asphyxia or other use of force.¹⁵² Several systematic reviews of the literature on “excited delirium” conclude that the levels of evidence for any postulated etiology are low to very low, and that the overall quality of the studies is poor.¹⁵³ For example, a 2018 systematic review found that 65 percent (n = 43) of the articles were retrospective case reports, case series, or case-control studies, all weaker forms of medical evidence.¹⁵⁴

Levels of Evidence



Hypothesized Roles of Cocaine Intoxication and Neurotransmitters in Symptoms and Signs of “Excited Delirium”

The consensus among the articles included in the review was that Wetli and Fishbain in 1985 introduced into the literature and medical community the concept of “excited delirium” in the context of cocaine use. The authors reported that “excited delirium” was secondary to cocaine intoxication. Therefore, “excited delirium” is a presentation with an underlying cause.¹⁵⁵ Wetli et al. cite the *Comprehensive Textbook of Psychiatry*, chapter 20, written by Dr. Zbigniew J. Lipowski, when defining delirium: “There are two major types of delirium: stuporous ... and excited....” Lipowski does not use the term “excited delirium.” In fact, cocaine is only referenced in the context of “substance-induced organic mental disorders.”¹⁵⁶ It seems that Wetli et al. initially used “excited” as an adjective to portray the hyperactive form of delirium in their case report.

Later, in 1996, Wetli et al. again discussed cocaine-associated delirium and concluded that, “When cocaine users with agitated delirium die, cocaine should be considered the cause of death, unless there is clear physical evidence that death is due to some mechanism other than cocaine toxicity, such as positional or mechanical asphyxia.”¹⁵⁷

The reviewed literature accepts that cocaine interacts with different receptors in the body, including the dopamine system in the brain, by increasing dopamine levels through various mechanisms.¹⁵⁸ Increased release or transport of dopamine is hypothesized in some articles to lead to “excited delirium.”¹⁵⁹ However, controversy remains about whether there is any evidence from autopsies that the dopamine system in the brain is associated with “excited delirium.”¹⁶⁰

Other articles have hypothesized that “excited delirium” may be part of a spectrum of other known medical conditions with other neurotransmitters and pathways involved.¹⁶¹ No reviewed studies provide conclusive evidence for one hypothesized mechanism over another. Similarly, while death from “excited delirium” in reviewed case series were often attributed to acute myocardial dysfunction leading to cardiopulmonary arrest, exact mechanisms leading to this cause of death are not elucidated.

Debate in the Literature on Whether Prone Restraint Positions rather than “Excited Delirium” Are a Cause of Death in Police Custody

Bell and Wetli et al. defined positional asphyxia as the decedent being found in a position that does not allow adequate breathing and having been unable to free themselves.¹⁶²

In 2020, Strommer et al. conducted an extensive review of the literature and converted all relevant “excited delirium” or “agitated delirium” case reports and characteristics in the literature into a numerical dataset for quantitative analysis.¹⁶³ They found that some form of restraint was described in 90 percent of all deaths in “excited delirium.” Restraint increased the odds of an “excited delirium” diagnosis by between 7 and 29 times.¹⁶⁴

A central debate has thus been whether restraint positions such as prone restraint can physiologically cause positional asphyxia and death. Some case reports have shown that prone restraint was used during sudden and unexpected in-custody deaths.¹⁶⁵ Studies have attempted reenactment of prone and prone restraint positions, including with compression, with no clear pattern of results.

One of the earliest studies evaluated blood oxygenation and heart rate after recovery from exercise while in a restrained and hogtied position.¹⁶⁶ The study found that it took participants longer to recover in the hogtied position and questioned if this could be worsened during a violent struggle. Later, a different study monitored similar parameters for different types of restraint positions over a longer period of time after exercise, but in obese adults.¹⁶⁷ This study concluded that there were no clinically significant effects. However, its data showed that carbon dioxide elimination was reduced in all restrained positions. None of the studies captured scenarios reflective of police encounters, i.e., involving people who may be struggling and agitated, as opposed to lying at rest, as were the participants in these studies.

Some studies have shown statistically significant decreases in lung function measures during prone restraint positioning, though whether these results were clinically meaningful is not clear.¹⁶⁸ Researchers have found large decreases in lung function and/or other physiologic parameters, such as heart rate and blood pressure, and concluded that some prone restraint positioning should be considered a risk factor for sudden death.¹⁶⁹ Other studies have shown that after applying weight to the torso of prone people, there were reductions in cardiac output, blood flow, and/or the diameter of the inferior vena cava (the large vessel which returns blood to the heart that is then pumped to the lungs to be oxygenated).¹⁷⁰ One study measured the effects of prone positioning and restraint for 10 minutes on adults with chronic obstructive pulmonary disease; almost half were unable to complete the study due to uncontrolled respiratory symptoms.¹⁷¹

A 2020 study found that some form of restraint was described in 90 percent of all deaths in “excited” or agitated delirium. Restraint increased the odds of an “excited delirium” diagnosis by between 7 and 29 times.

A 2021 study noted that four prominent factors – physical exertion, prone positioning, restraint, and body compression – had been tested in other studies.¹⁷² The researchers used electrical impedance tomography (EIT) to measure the combined impacts of these parameters on ventilation in 17 healthy human participants. They found that under the combined effects of all these conditions, participants had significant and prolonged declines in lung reserve volumes over time, indicating increased work of breathing compared to the control posture of arms at the side.¹⁷³

The researchers noted that these declines took place with an applied weight of 35 percent participant bodyweight, which the study described as “likely less” than the weight an officer would typically apply in an arrest-related encounter. They hypothesized that in true conditions of weighted restraint, the increasing effort needed to breathe while in a restraint posture would become more relevant to the survival of the participant the longer the weight is applied.¹⁷⁴

The above studies demonstrated measurable hemodynamic and/or respiratory changes detectable in volunteers who were placed in a prone or prone restraint position in a controlled and mild setting. All of these studies had tiny sample sizes composed of primarily healthy volunteers in well-controlled environments. None of the study participants were intoxicated, fearful, or agitated, within or outside the context of mental illness, and none were being forcibly restrained. Therefore, none of the studies replicated an accurate police encounter with someone supposedly in “excited delirium” who may be struggling and agitated due to restraints, as opposed to laying in rest.

It is not known whether the use of prone restraint in conditions such as the forcible restraint of an agitated person could cause significantly worse hemodynamic or respiratory harms than what was found in these studies.

Regarding all forms of neck restraint, however, a 2009 study found that “A force of only 6kg is needed to compress the carotid arteries, which is about the average weight of a household cat or one-fourteenth the average weight of an adult male.”¹⁷⁵ For this reason, among others, the American Academy of Neurology (AAN) has held that neck restraints should be classified, “at a minimum, as a form of deadly force.”¹⁷⁶

Whether Delirium Alone Can Be a Cause of Death

The *DSM-5* recognizes delirium as characterized by “disturbance of consciousness” (i.e., reduced clarity of awareness of the environment), with reduced ability to focus, sustain, or shift attention. The three delirium subtypes are hyperactive, hypoactive, and mixed. Yet, some literature discussed that delirium alone cannot be a cause of death because, by definition, delirium requires an identifiable underlying organic cause that can be ascertained from the clinical presentation, diagnostic studies, or, in the case of death, by autopsy.¹⁷⁷

Delirium alone cannot be a cause of death because, by definition, delirium requires an identifiable underlying organic cause that can be ascertained from the clinical presentation, diagnostic studies, or, in the case of death, by autopsy.

In their 2020 quantitative analysis on “excited delirium,” Strommer et al. discussed the overlap between restraint asphyxia and “excited delirium,” in that the characteristics used to describe “excited delirium” are likely to trigger the use of force and restraint, and that risk factors for “excited delirium” overlap with the risk factors for restraint-related asphyxia.¹⁷⁸ This recent review further reinforces that “excited delirium” does not cause death in unrestrained people.

Key Concerns Raised by Review of the Scientific Literature on “Excited Delirium”

The foundations for the diagnosis of “excited delirium” have been misrepresented, misquoted, and distorted. The authors credited with the creation of the term initially used “excited delirium” as a descriptive term for delirium and noted underlying causes. Our examination of the peer-reviewed medical literature on “excited delirium” found that those articles supporting this diagnosis were authored by a small group of people, many of them with ties to TASER/Axon and/or other conflicts of interest. Most of the studies cross-reference each other and highlight non-peer-reviewed sources, such as the Di Maio and Di Maio book *Excited Delirium Syndrome*, which is not a scientific or medical textbook, is not peer reviewed, and draws unsubstantiated conclusions.¹⁷⁹ For example, Di Maio and Di Maio discuss the 1997 study by Chan et al. multiple times. They describe this study as a “death blow” to the positional asphyxia theory and that believing positional asphyxia is possible “involves suspension of common sense and logical thinking.” Elsewhere, they state that Chan et al.’s study “disproved” the restraint asphyxia hypothesis. Di Maio and Di Maio are not reporting evidence-based conclusions. Chan’s *single* study with a small, non-representative sample size that does not replicate real-life conditions cannot deliver a “death blow.”

Most of the reviewed literature suggests a relationship between “excited delirium,” death, and restraint. However, these studies have small sample sizes alongside other limitations. The extensive review conducted by Strommer et al. included studies up to April 2020 and summarized all “excited delirium” characteristics. It found that restraint was described in 90 percent of all deaths in the “excited” or agitated delirium medical literature.¹⁸⁰ Notably, they report that asphyxia often lacks pathognomonic signs (clear signs that a particular disease is present) on autopsy.

We found no rigorous scientific research that examines the prevalence of death for people with “excited delirium” who are not physically restrained.

Our review does not allow for conclusive determinations about whether or not restraint or positional asphyxia is the most likely true cause of death for people said to have died from “excited delirium” while agitated and forcibly restrained. All the studies discussed here, however, including those by authors who claim their studies refute restraint asphyxia and those that did not show clinically significant changes in cardiac or respiratory parameters, indeed did demonstrate measurable changes in cardiac and respiratory parameters. It is unknown if they would be clinically significant in a specific real-world situation, but it is notable that there were cardiopulmonary changes even among participants in calm and controlled settings. It is, therefore, reasonable to hypothesize that these cardiopulmonary changes could worsen and become clinically significant in real-world settings. We found no rigorous scientific research that examines the prevalence of death for people with “excited delirium” who are not physically restrained.

Of note, in a December 26, 2021 investigation in the *New York Times*, the authors analyzed more than 230 scientific papers on restraints, body position, and “excited delirium” in the National Library of Medicine database published since the 1980s. They found that nearly three-quarters of the studies that included at least one author who was in the network of TASER/defense experts “regularly supported the idea that restraint techniques were safe or that the deaths of people who had been restrained were caused by health problems.” Meanwhile, “only about a quarter of the studies that did not involve anyone from the network backed that conclusion. More commonly, the other studies said some restraint techniques increased the risk of death, if only by a small amount.”¹⁸¹

Continued Use of “Excited Delirium” to Explain Deaths in Custody and as a Legal Defense to Exonerate Law Enforcement Officials

Despite the problems with its diagnostic underpinnings, “excited delirium” continues to be used to explain deaths in custody. An *Austin-American Statesman* investigation into each non-shooting death of a person in police custody in Texas from 2005 to 2017 found that more than one in six deaths (of 289 total) were attributed to “excited delirium.”¹⁸² A January 2020 *Florida Today* report found that of 85 deaths attributed to “excited delirium” by Florida medical examiners since 2010, at least 62 percent involved the use of force by law enforcement.¹⁸³ A Berkeley professor of law and bioethics conducted a search of these two news databases and three others from 2010 to 2020 and found that of 166 reported deaths in police custody from possible “excited delirium,” Black people made up 43.3 percent and Black and Latinx people together made up at

“Excited delirium” is frequently asserted as a defense by police officers who kill people during the course of restraint.

least 56 percent.¹⁸⁴ Taser use was connected to 47 percent of cases.¹⁸⁵ Similarly, a 2018 study found that the term “excited delirium” has been disproportionately used as a cause of death in cases concerning young Black men.¹⁸⁶

“Excited delirium” is also frequently asserted as a defense by police officers who kill people during the course of restraint.¹⁸⁷ With notable exceptions, such as the murder prosecutions of the Minneapolis police officers who killed George Floyd, law enforcement officers are usually not criminally prosecuted for restraint-related deaths,¹⁸⁸ and they frequently deploy the “excited delirium” causation defense in civil lawsuits brought against them by decedents’ families.¹⁸⁹

Growing U.S. Medical and Psychiatric Association Opposition to “Excited Delirium” as a Diagnosis

The American Medical Association (AMA) and the American Psychiatric Association (APA) do not recognize “excited delirium” as a valid diagnosis. In 2021 and 2020, respectively, they released statements denouncing a concerning pattern where “excited delirium” is used as a justification for excessive police use of force, particularly when Black men die in law enforcement custody.¹⁹⁰ The AMA elaborated that the term “excited delirium” has been used to justify inappropriate and discriminatory actions. The APA advocated for the U.S. Department of Health and Human Services to conduct a nationwide investigation of all cases labeled “excited delirium.” Both associations advocate for cessation of the use of the term “excited delirium” unless a clear set of diagnostic criteria can be established, rigorous studies undertaken, and data made available.

The American College of Emergency Physicians (ACEP), meanwhile, has yet to revise its position that “excited delirium” is a distinct type of delirium. In June 2021, ACEP released a new task force report on “Hyperactive Delirium with Severe Agitation in Emergency Settings” without rescinding the 2009 white paper.¹⁹¹ The new report emphasized the necessity to “differentiate and treat life-threatening causes of hyperactive delirium,” outlined multiple potential underlying causes, and called for additional research to “more fully understand inciting pathways and distinct pathophysiology of individual causes of hyperactive delirium with severe agitation.” The report noted concerns about “potential bias” in the 2009 ACEP white paper on “excited delirium syndrome” and stated that since that report’s publication, “ACEP enacted a robust global conflict of interest policy, though notably not in direct response to critics of the 2009 white paper nor with specific concerns regarding the content of that paper or others generated before such a policy was in force.” Unlike in the 2009 position paper, ACEP this time appended conflict-of-interest disclosures for the members of the task force that produced this new report. However, the 2021

The American Medical Association and the American Psychiatric Association do not recognize “excited delirium” as a valid diagnosis and both advocate for cessation of the use of the term unless a clear set of diagnostic criteria can be established, rigorous studies undertaken, and data made available.

report specified that while its authors were “informed by” the 2009 report, the new report was “de novo and not to be construed as an update *or refutation* [emphasis added] of the 2009 paper.”¹⁹²

In February 2022, PHR reached out to ACEP’s leadership to clarify their current position in light of their 2009 and 2021 publications.¹⁹³ PHR received the following response from Sandy Schneider, ACEP associate executive director, clinical affairs: “We stand by the research presented in our ‘ACEP Task Force Report on Hyperactive Delirium with Severe Agitation in Emergency Settings,’ published on June 23, 2021.”¹⁹⁴

Equally of concern, the National Association of Medical Examiners (NAME) has not publicly released a statement refuting the validity of “excited delirium” as a diagnosis and cause of death. In February 2022, PHR reached out to NAME’s leadership to clarify its current position in light of its 2004 and 2017 position papers¹⁹⁵ referencing the term.¹⁹⁶ PHR received a response from Dr. Kathryn Pinneri, the 2022 NAME president, who attached the 2021 ACEP task force report and said:

“‘Excited delirium’ is not recognized as a diagnosis in the World Health Organization International Classification of Diseases (WHO ICD-10). It is a descriptive term used for what is known medically as an acute hyperactive delirium. Acute delirium is a well-recognized diagnosis that is part of both ICD coding and the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) of the American Psychiatric Association.

“A variety of diseases, intoxications, and injuries may result in an acute hyperactive delirium. ... Deaths associated with an excited delirium component have also occurred in the absence of police involvement. Forensic pathologists recognize that although a person may be experiencing a hyperactive or excited delirium, that does not mean they died from it. In fact, should a person die after experiencing acute delirium, the cause of death would be the underlying disease, injury or intoxication that caused the delirium.

“Though I suspect it is accepted among many NAME members, we have never issued any type of consensus statement on excited delirium, and as an organization have not formally ‘recognized the condition as a

diagnosis.’ The NAME Position paper on the Certification of Cocaine-Related Deaths is no longer current and therefore does not reflect our position at this time. We do still support the position paper on in custody deaths.”¹⁹⁷

International Reach of “Excited Delirium”

“Excited delirium” has also received attention in the wake of in-custody deaths in Australia,¹⁹⁸ Canada,¹⁹⁹ the United Kingdom,²⁰⁰ and elsewhere. The international spread of the term is concerning, but it has far from widespread acceptance.

Australia

According to *The Guardian*, “No Australian medical association recognises ‘excited delirium.’”²⁰¹ The term has, however, been used by Australian forensic pathologists in specific cases of deaths in custody. Additionally, *The Guardian* identified at least one case in the last five years in which TASER/Axon sent an email to law enforcement the same day as a death that involved Taser use. Law enforcement shared the email with the forensic pathologist on the case, who disregarded it. The email read, “TIMELY AND URGENT AND REQUIRES ACTION WITHIN 24 HOURS OR LESS,” offering assistance with the investigation and inviting the police to send brain tissue samples to the University of Miami Brain Endowment Bank to “determine drug abuse and look for excited delirium markers.”²⁰²

Canada

In December 2007, the Commission for Public Complaints Against the Royal Canadian Mounted Police (RCMP) issued recommendations for the use of conducted energy weapons (Tasers), accepting the existence of “excited delirium” as a unique condition and warning that Tasers should not be used against people “experiencing the condition” unless “the behaviour is combative or poses a risk of death or grievous bodily harm to the officer, the individual or the general public.”²⁰³

In June 2008, an independent review of Taser use by the RCMP concluded that “excited delirium” “can be considered to be ‘folk knowledge’ when used by the police and should not be included in the RCMP’s operational manual unless subsequently formally approved by the RCMP after consultation with a mental-health-policy advisory body.”²⁰⁴

United Kingdom

In May 2016, the Royal College of Emergency Medicine in the United Kingdom issued guidelines for the management of “excited delirium,” which they also referred to as “acute behavioural disturbance” (ABD).²⁰⁵ The term ABD was later

added to the *Maudsley Prescribing Guidelines in Psychiatry*, a handbook for psychiatric medications, prompting the similarly named South London and Maudsley NHS Foundation Trust – the largest public provider of mental health and substance use services in the United Kingdom – to issue a statement noting that the Trust did not recognize either “excited delirium” or ABD as medical terms.²⁰⁶ The term “excited delirium” is also not recognized by the European Society of Emergency Medicine, an association of emergency physicians from 30 countries.²⁰⁷

In 2020, the Royal College of Pathologists in the United Kingdom issued Forensic Science Regulator Guidance about “excited delirium,” noting concerns about its use and misuse as a cause of death. The regulator found that “‘Excited Delirium’ should never be used as a term that, by itself, can be identified as the cause of death. The use of Excited Delirium as a term in guidance to police officers should also be avoided.” The regulatory guidance applies in England, Wales, and Northern Ireland.²⁰⁸

The Death of Elijah McClain

On August 24, 2019, 23-year-old Elijah McClain was walking home from a convenience store in Aurora, Colorado when he was unlawfully arrested, beaten, and placed in a chokehold. When paramedics arrived, they diagnosed him with “excited delirium” and injected him with ketamine, an anesthetic that can be fatal, in an amount indicated for someone almost twice his weight. McClain went into cardiac arrest in the ambulance on the way to the hospital and died four days later.²⁰⁹ A forensic pathologist ruled that his death was undetermined but may have been the result of “excited delirium.”²¹⁰

“Justice for Elijah McClain” became a rallying cry in the Black Lives Matter movement: a young Black man killed when he was simply walking home had been blamed for his own death at the hands of law enforcement and first responders.²¹¹ McClain’s killing also drew nationwide attention to the inappropriate prehospital use of ketamine in response to supposed signs of “excited delirium.” A July 2020 investigation by KUNC, a Colorado public radio station, found that medics in Colorado administered ketamine to 902 people for “excited delirium” over two and a half years, and about 17 percent of those people experienced complications.²¹² Since then, there have been whistleblower complaints by paramedics reporting that police officers pressured them to administer ketamine against their medical judgment.²¹³

In June 2020, the American Society of Anesthesiologists issued a statement opposing the use of ketamine for a law enforcement purpose.²¹⁴ In July 2021, Colorado Governor Jared Polis signed a bill

prohibiting the use of ketamine by non-medical professionals and banning its use in response to “excited delirium.” In September 2021, a grand jury indicted three police officers and two paramedics for McClain’s death, charging them with manslaughter and criminally negligent homicide.²¹⁵ In November, the city of Aurora agreed to pay a settlement of \$15 million to Elijah McClain’s family.²¹⁶ The following month, the Colorado Department of Public Health and Environment published a report from its independent ketamine review committee, which stated, “The panel rejected the condition or diagnosis of ‘excited delirium’ because it lends itself to discriminatory practices that result in systemic bias against communities of color, and because it lacks a uniform definition and specific, validated medical criteria.”²¹⁷

“The panel rejected the condition or diagnosis of ‘excited delirium’ because it lends itself to discriminatory practices that result in systemic bias against communities of color, and because it lacks a uniform definition and specific, validated medical criteria.”

Colorado Department of Public Health and Environment,
independent ketamine review committee



The Death of Daniel Prude²¹⁸

Daniel Prude arrived at his brother Joe's home in Rochester, New York on March 22, 2020, after his sister reported he had been behaving erratically. When Daniel jumped headfirst down the basement stairs, Joe called 911. Daniel was hospitalized but released later that day.²¹⁹ In the middle of the night, Daniel left Joe's home under the influence of phencyclidine (PCP).²²⁰ Joe jumped in his car to try to find Daniel, calling 911 for the second time. Police arrived and told Joe to go home or risk being jailed for violating the coronavirus lockdown.²²¹

Soon after, a Rochester police officer arrived at Joe's home. Joe heard on the officer's radio that they had found a man nearby, unclothed. Over the radio, Joe heard an officer at the scene asking the man if he was Daniel Prude, and Daniel responding "Yes." This was the last word Joe heard his brother utter. The officer told Joe that everything was under control. Joe recalled telling him, "My brother doesn't have any weapons on him. And if he's naked, he's no threat to anybody but himself. Don't kill my brother."²²²

When the officers found Daniel, they ordered him onto the ground. He lay face down, putting his hands behind his back, and officers handcuffed him. Police body cameras recorded officers laughing while Daniel was on the ground. When he sat up, officers put a spit hood over his head and face. Soon after, they pinned him face down; he can be heard saying that the officers were "trying to kill me." One officer assumed a three-point "pushup" position with both of his hands on Daniel's head, stretching his legs out and focusing his weight onto Daniel's head.²²³ He held that position for more than two minutes, while a second officer put his weight on Daniel's back, and a third officer held Daniel's legs down.²²⁴ Daniel vomited and became unresponsive.²²⁵ After about 18 minutes of resuscitation attempts, Daniel's circulation returned, but he remained unconscious and unable to breathe on his own.²²⁶ He was transported to the hospital, where he was pronounced dead one week later.²²⁷

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Daniel Prude (right), with his brother Joe Prude. Photo: Courtesy of Joe Prude

The night of the police encounter, an officer falsely told Joe that his brother had died at the scene. “It took seven days for me to find out that my brother was on life support,” Joe said.²²⁸

On May 5, 2020, the Monroe County medical examiner issued an autopsy report describing Daniel Prude’s manner of death as homicide but the cause of death as “complications of asphyxia in the setting of physical restraint due to Excited Delirium due to Acute phencyclidine [PCP] intoxication.²²⁹

For months, the Rochester police chief and other city officials sought to delay the release of video footage from that night, knowing it would ignite public outrage.²³⁰ A Prude family attorney submitted a Freedom of Information Law request for the video footage in April 2020, but the city did not send him and his team copies of the video until August.²³¹

Grand Jury Proceedings and “Excited Delirium”

In September 2020, after the video became public, New York Attorney General (A.G.) Letitia James announced that she would empanel a grand

“This is something I’ve got to live with the rest of my life – seeing that video tape playing over in my head.”

Joe Prude, brother of Daniel Prude

jury to consider charges against the officers who restrained Daniel.²³² The A.G.’s office retained as one of its prosecution witnesses the defense expert Dr. Gary Vilke to testify about “excited delirium,”²³³ unaware that Vilke had previously given multiple interviews in which he expressed doubt about the police officers’ responsibility for Daniel’s death.²³⁴ Vilke testified at the grand jury that Daniel died from “PCP induced excited delirium, leading to cardiac arrest.” He told the grand jury he “wouldn’t do anything differently” than what the officers had done. “My opinion is that none of the officers, their impact, individually or collectively, would have caused or contributed to that cardiac arrest.”²³⁵

On February 23, 2021, it was announced that the grand jury had decided not to indict the officers who had restrained Daniel, which James described as “very, very disappointing.”²³⁶ Almost two years after his brother’s death, Joe reflected on the pain of losing him in this way: “This is something I’ve got to live with the rest of my life – seeing that video tape playing over in my head.”²³⁷

Training Recommendations and “Excited Delirium”

The same day that the grand jury decision was announced, the A.G.’s office released a report on its investigation into Daniel’s death, which included among its recommendations, “Law enforcement officers, emergency communications providers (dispatchers), and emergency medical service personnel must be trained to recognize the symptoms of excited delirium syndrome and to respond to it as a serious medical emergency.”²³⁸ The report acknowledged that “excited delirium” “can be controversial and for good reason,” noting that the purported symptoms “overlap with racist stereotypes of Black men,” which “continue to put Black people in danger.” Yet the report gave credence to the medical literature on “excited delirium” and the 2009 ACEP white paper, stating “we are unaware of any scientific studies in peer reviewed literature endorsing the notion that ExDS [Excited Delirium Syndrome] is a concocted, false finding that was generated to shield police misconduct.”²³⁹

One month later, in the wake of media scrutiny related to the office’s decision to retain Vilke and its acceptance of “excited delirium” as a valid diagnosis,²⁴⁰ the A.G.’s office modified its training recommendations in a report of an investigation into the 2019 in-custody death of Troy Hodge.

The office removed the term “excited delirium,” instead recommending that “law enforcement officers, dispatchers, and EMS personnel must be trained to recognize that when people display a unique constellation of symptoms, it can signal potential, imminent medical distress; response protocols and training must be structured accordingly.”²⁴¹

The A.G.’s office described this constellation of physical signs in the following manner:

“The most common type of presentment this office has observed involves individuals under the effect of a stimulant drug – most commonly cocaine. The individuals have generally been observed to be in a condition indicating some sort of detachment from reality and police have been summoned because of bizarre and/or violent and erratic behavior. Further, the individuals involved in our cases have often been highly sweaty or attired in clothing inappropriate for the existing weather conditions and/or surroundings. After police restrain these individuals, they have resisted the restraint and fought, seeming not to tire until, quite suddenly, they have become silent. The death is nearly always attributed to cardiac arrest or acute drug intoxication.”

Although this description appeared to be a re-packaging of some of the purported physical signs of “excited delirium,” the report appropriately noted the need for a “coordinated response” to medical emergencies.²⁴²

However, the report also included the caveat:

“In addressing this issue, we are not suggesting that restraint does not contribute to the death of individuals experiencing this condition. To the contrary, our experience with cases over which we have had jurisdiction has informed us that individuals exhibiting these symptoms are particularly vulnerable to the stress and rigor of restraint, particularly when they struggle against it, are largely impervious to pain, and do not fatigue normally.”²⁴³

While the report importantly noted the possible contribution of restraint to the observed deaths, PHR is concerned that the explanation above continues to pathologize a potentially normal and instantaneous human response (“struggle” against restraint) and uses language that reinforces racist tropes (“impervious[ness] to pain”).

The Death of Angelo Quinto²⁴⁴

On December 23, 2020, Bella Quinto-Collins called 911 seeking help for her 30-year-old brother Angelo Quinto, who was exhibiting agitation and other signs of a mental health crisis at their home in Antioch, California.²⁴⁵ When two police officers arrived, they pulled Quinto from his mother's arms onto the floor. At least twice, Quinto's mother, Cassandra Quinto-Collins, heard him say to the officers, "Please don't kill me." Bella and Cassandra then watched in disbelief and horror as the two officers knelt on Quinto's back for five minutes until he stopped breathing. Three days later, Quinto died in the hospital.²⁴⁶

Cassandra recalled that shortly before paramedics arrived, the officers turned Quinto on his side, saw blood coming from his mouth, and asked if Quinto had taken any drugs.²⁴⁷ PHR reviewed Cassandra's video recording of the officers' actions and observed that Quinto did not immediately get cardiopulmonary resuscitation (CPR), despite being unresponsive.²⁴⁸

Cassandra said that the paramedics' report stated that law enforcement officers reported that Quinto was on methamphetamine and combative, that they had to restrain him, and that the paramedics had been told not to communicate with the family.²⁴⁹ Later, however, a toxicology report found no methamphetamine in his system, and his mother said he did not use it.²⁵⁰ "Angelo was not violent. He was not a threat to anyone. He was following all directions," Angelo's stepfather, Robert Collins, said.²⁵¹ The video recording confirms that Quinto was not combative.²⁵²



Angelo Quinto, who died after police restrained him in his home in Antioch, California. Photo: Courtesy of the Quinto-Collins family

Cassandra and Bella recalled how law enforcement officers deflected responsibility for Quinto's condition, sought to place blame on him or his family, and blocked the family from receiving health status updates from Quinto's medical team.

The police department obtained a felony search warrant and searched the Quinto-Collins residence. During the time the search was being conducted, the family was not allowed to reenter their home for eight hours.²⁵³

At the police station that night, Bella and Cassandra were each questioned separately. One of the officers asked if Cassandra had hit Quinto because he had a bloody nose. She said she had not. Cassandra recounted how the detective questioning her became visibly disturbed when he discovered she had recorded the police encounter in her home. The officer left the room, and Cassandra heard him cursing outside, insisting that police should not let her leave the station until they got a copy of the video, which Cassandra had already offered to share.²⁵⁴

At one point that night, Cassandra got a call from Quinto's doctor at the hospital. She took the call on speaker phone, and an officer rushed over and instructed her to ask for a call-back number and then get off the phone. The officer wrote down the number but never gave it to Cassandra. The family later learned that a detective at the Antioch Police Department had told the hospital not to communicate with the family.²⁵⁵

Cassandra and Bella recalled how law enforcement officers deflected responsibility for Quinto's condition, sought to place blame on him or his family, and blocked the family from receiving health status updates from Quinto's medical team.²⁵⁶



*Angelo Quinto (far right) with his family.
Photo: Courtesy of the Quinto-Collins family*

It was not until August 2021, eight months after Quinto's death, that the family learned what was asserted to be the official cause of Quinto's death: a forensic pathologist had testified during a coroner's inquest that Quinto died from "excited delirium syndrome."²⁵⁷

Robert Collins, Angelo's stepfather, recalled a previous meeting with the family's attorney: "He told us about 'excited delirium'... when you have nothing else, you go with 'excited delirium.'"²⁵⁸

"'Excited delirium' has to be debunked," Cassandra said. She spoke about how painful it was not only to lose Angelo but to see law enforcement repeatedly deny the circumstances of his death. "We're already suffering," she said. To see law enforcement "lying about what happened" was "actually more hurtful."²⁵⁹

After Quinto's death, the Quinto-Collins family began working with the Justice for Angelo Quinto! Justice for All! Coalition, advocating for both accountability and legislative changes, focusing on positional asphyxia and mental health crisis response. "Justice for Angelo means it won't happen to the next person," Robert Collins said.²⁶⁰ In September 2021, California governor Gavin Newsom signed the Angelo Quinto Act, which bans all forms of law enforcement restraints that can cause positional asphyxia, including the "knee to neck" restraint that killed George Floyd and Angelo Quinto.²⁶¹

"Justice for Angelo means it won't happen to the next person."

Robert Collins, Angelo Quinto's stepfather



*A birthday vigil for Angelo Quinto on March 3, 2021.
Photo: Courtesy of the Quinto-Collins family*

Key Themes from Interviews with Forensic Pathologists and Other Experts

Several key themes emerged from PHR interviews with nine forensic pathologists and four other physicians: 1) the debunking of the initial attribution of “excited delirium” as a cause of death in Miami in the 1980s; 2) the role of TASER/Axon in efforts to legitimize and increase use of “excited delirium” as a cause of death; 3) concern about the validity of prone restraint studies; 4) lack of meaning of the term “excited delirium;” 5) optimism about decreasing use of the term “excited delirium;” 6) use of the term “excited delirium” as a proxy for restraint asphyxia; and 7) use of the term “excited delirium” to exonerate law enforcement for deaths in custody. Additionally, interviews with many of these physicians, as well as legal, mental health, and substance use disorder experts, touched on recommendations for alternative responses to people in crisis.

Debunking of “Excited Delirium” after Misclassified Homicides in Miami in the 1980s

A number of forensic pathologists whom PHR interviewed were first introduced to the term “excited delirium” through Wetli’s work from the 1980s. Dr. Michael Pollanen, chief forensic pathologist for Ontario, Canada and professor of laboratory medicine and pathobiology at the University of Toronto, noted that Wetli’s original discussion of “excited delirium” “occurred in a context where there was a sharp rise of cocaine use in the U.S.”²⁶² He described its evolution from a “very classical clinical pathological description” of cocaine-related psychosis to a cause of death. “The root concept is highly useful and valid and helpful except it was extended too much beyond the original description,” he said. “Wetli described in a beautiful series of cases the concept of cocaine-related psychosis with a syndrome which included hyperthermia [high temperatures] and rhabdomyolysis [muscle breakdown].... It was a very robust concept.” Pollanen observed, however, that “it has become overgeneralized to ‘excited delirium’ as a cause of death.”²⁶³

Dr. Joye Carter, forensic pathologist for San Luis Obispo County, California and the first Black American to be appointed chief medical examiner, described hearing the term during her forensic fellowship from 1987 to 1989 in Miami, where Wetli was deputy chief medical examiner. She recalled Wetli speaking about “excited delirium” quite often, although the chief medical examiner, Dr. Joseph Davis, did not use the term.²⁶⁴ Carter, whose fellowship coincided with the office’s investigation of the series of deaths of Black women in Miami, said that she had performed the autopsy for one of the women.²⁶⁵

“During the time period in my training, there was a string of serial murders, which initially were classified as drug overdoses. While I was there, I remember attending a meeting. Dr. Davis had had a monthly

homicide meeting with all the homicide detectives and all the police agencies.... During that meeting, they were discussing cases that had similarities. Through that discussion they realized they had a serial killer on hand.”²⁶⁶

Wetli had described the cases using terms that were “very racialized” and “polarizing,” she said, referencing his comment, “For some reason the male of the species becomes psychotic and the female of the species dies in relation to sex.” In other words, Carter said, “This happened to Black men. Black women were dying because they were having sex with Black men.” Shortly after she left the medical examiner’s office, she recalled, Davis reclassified those cases. “I believe this was debunked in Miami because of the ways these cases were handled,” she said.

Carter questioned whether other forensic pathologists who view “excited delirium” as a cause of death “even know the origin of it.” “I was there,” she said. Those who promote the validity of “excited delirium” as a cause of death “don’t even acknowledge the fact that we had a string of homicides of Black women that were initially attributed to, ‘Oh now we have it in Black women.’”²⁶⁷

“I honestly think that we need to get to the historical reference of ‘excited delirium,’ where it came from, why it was debunked, and why it’s so harmful to just throw these categories on individuals,” she said.

The Role of TASER/Axon in Efforts to Legitimize and Increase Use of “Excited Delirium” as a Cause of Death

Interviewees described multiple efforts by TASER/Axon to promote the diagnosis of “excited delirium.” Dr. Roger Mitchell, chair of the department of pathology at Howard University and a forensic pathologist, recalled first seeing the term in Di Maio’s book and then hearing it at an IPICD conference in Las Vegas as a young forensic pathologist.²⁶⁸ Several other interviewed forensic pathologists noted that Di Maio was well known in the field.²⁶⁹ Mitchell described him as a “mainstay in forensics. At the time, he was one of the most visible forensic pathologists and productive forensic pathologists.”²⁷⁰ Dr. Michael Baden, a forensic pathologist and former chief medical examiner of New York City, recalled attending an American Academy of Forensic Sciences annual meeting where TASER had a booth and was distributing free copies of Di Maio’s book.²⁷¹

Multiple forensic pathologists referenced the chilling effects of TASER's lawsuits against medical examiners who had attributed in-custody deaths in part to Taser use. *"You literally get this letter threatening you if you say Taser was the cause of death."*

Dr. Joye Carter, forensic pathologist, San Luis Obispo County, CA

Dr. Martin Chenevert, an emergency medicine physician at UCLA Santa Monica Medical Center, only recently encountered the ACEP white paper. "It just seemed like kind of junk science.... There's clearly a lot more work that needs to be done. However, it's clear that it's not a real syndrome, more just a collection of symptoms.... [The white paper] clearly had an agenda." He said the paper described findings of lethal toxicity without any kind of clear biological mechanism. He also noted that many of the white paper authors' TASER affiliations were a "huge red flag."²⁷²

Multiple forensic pathologists referenced the chilling effects of TASER/Axon's lawsuits over the years against medical examiners who had attributed in-custody deaths in part to Taser use.²⁷³ Carter said, "You literally get this letter threatening you if you say Taser was the cause of death. They're literally threatening the medical examiner with lawsuits."²⁷⁴ Dr. Judy Melinek, CEO of PathologyExpert Inc. and contract forensic pathologist for Communio Inc. in Wellington, New Zealand, also noted the "silencing effect" the lawsuits had on medical examiners: "Nobody wants to get sued."²⁷⁵

Concern about the Validity of Prone Restraint Studies

Several forensic pathologists and other physicians expressed concerns about the validity of the studies on which Vilke and colleagues based their arguments that restraint was not dangerous. Dr. Michael Freeman, a forensic epidemiologist and associate professor of forensic medicine at Maastricht University in the Netherlands, described the studies as "blatantly unscientific research that proposes that it's essentially impossible to kill somebody with restraint."²⁷⁶ He added, "That particular brand of science was developed for litigation support, in order to protect officers who may have been involved in the wrongful death of someone they were restraining."²⁷⁷

Others emphasized the studies' artificial conditions with healthy, non-stressed participants. As Dr. Kris Cunningham, the deputy chief forensic pathologist for Ontario, Canada and a cardiovascular pathologist, noted:

"There are lots of problems with a number of the studies that have been done in the past, where they take a bunch of medical students and put

them in prone positioning and restrain them. And, lo and behold!, they don't become hypoxic. Well, that's great, but you're also not in pain and upset because a police officer is on your back. It's a very artificial situation."²⁷⁸

Pollanen also emphasized how dissimilar conditions in these studies were from real-life conditions:

"Part of the problem with the restraint asphyxia critique is that a lot of the experiments – all of the experiments – are done with healthy ambulatory people in prone restraint.... How is that medically or physiologically comparable to prone position restraint of someone who is under maximal adrenergic stimulation, whose oxygen demand is high?"²⁷⁹

Lack of Meaning of the Term "Excited Delirium"

While the physicians we interviewed did not agree about whether the term "excited delirium" should ever be used to describe signs and symptoms, those interviewed all agreed that there continues to be no consensus on its meaning. Some, such as Freeman, concluded, "'Excited delirium' is a contrived term. It doesn't mean anything as a cause of death."²⁸⁰ Others described "excited delirium" as "a widely overused term that we don't really have a meaning for" (Dr. Jared Strote, an emergency physician and professor of emergency medicine at the University of Washington), a "very nebulous concept" (Cunningham), and "an unfortunate mishmash of concepts when you view it from a critical point of view" (Pollanen).²⁸¹

Pollanen did posit that there is a series of behavioral features that can be abbreviated in short form as "excited delirium," but he concluded that this summary description should not be used for any causal conclusions:

"We do that all the time in medicine. We find denoting terms that describe something, and we use that. When we do that in medicine, we usually don't attach causal relevance to it. It's just a short form. The problem with 'excited delirium,' if you then apply a causal relevance, i.e., it can be a cause of death, the problem is there's no way of differentiating someone with 'excited delirium' from someone who is just really agitated."²⁸²

Pollanen, therefore, described the use of "excited delirium" as "almost a nomenclatural error": "It goes without saying that the whole thing has just become progressively modified in an inappropriate manner. The concept has evolved in a way that the evidence does not support in fact."²⁸³ Others described the term as a "generic term that applies to a confluence of symptoms" (Melinek) and "a controversial theory that describes the final common path triggered by

different substrates resulting in an increased level of catecholamines” (Dr. Enrico Risso, deputy chief medical examiner in Edmonton, Alberta, Canada).²⁸⁴

Regardless of their views on whether or not “excited delirium” should ever be used to describe any particular constellation of symptoms and signs, the majority of the experts interviewed held that “excited delirium” should not be considered a cause of death. As Chenevert said, “As a primary cause of death, I just can’t see it.”²⁸⁵

Optimism about Decreasing Use of the Term “Excited Delirium”

Some forensic pathologists and other physicians were optimistic that the term “excited delirium” was falling increasingly out of favor in recent years.²⁸⁶

Cunningham characterized it as “a concept that had much more appeal in the past than for a lot of pathologists today.”²⁸⁷

Pollanen said, “‘Excited delirium’ as a cause of death is not fit for purpose in the 21st century, based on all the things we know now.”²⁸⁸

Several respondents speculated about possible reasons that the term may be less frequently used. Mitchell cited better research: “As we get more information, the medical community, particularly the forensic pathology community, needs to be able to adjust to the information in front of them versus being dogmatic in our diagnosis.”²⁸⁹ Some attributed the increasing skepticism about the term to the rise of cellphone videos that capture the reality of police encounters, as Freeman has noted.²⁹⁰

Mitchell elaborated on this possible explanation:

“It’s a diagnosis that was used when you didn’t have cameras. We didn’t have direct objective evidence of the altercation with police or its severity. It is as if we are saying someone self-combusted. They started shaking, and they blew up, and now they’re dead. Now we’re seeing the actual footage of what is happening, law enforcement is standing on people’s backs. Imagine five grown men physically subduing an individual. Yes, he may have been intoxicated, but he would have gone home intoxicated, had he not been in that altercation.... It’s 2021. We have cellphone video ... eyewitnesses. People are not scared to say what they’re seeing. It’s a different world.”²⁹¹

Even forensic pathologists we interviewed who did not object to others using the term “excited delirium,” such as Risso and Dr. Soledad Martinez, a forensic pathologist with Chile’s Medical Legal Service, noted they would not use it themselves.²⁹² Risso said, “In the majority of cases, it is not provable at autopsy, and I prefer to describe the underlying pathologic findings.”²⁹³ Martinez said, “I

“Excited delirium’ as a cause of death is not fit for purpose in the 21st century, based on all the things we know now.”

Dr. Michael Pollanen, chief forensic pathologist for Ontario, Canada

try to use not a single diagnosis: death in a man with cocaine, agitation, and physical restraint. [I’m] trying to show the complete spectrum of the death.”²⁹⁴

Other forensic pathologists also expressed a preference for a descriptive narrative and referring to the underlying disease or circumstances. Cunningham said that when he determines a cause of death, “It’s circumstance-dependent.”²⁹⁵ Mitchell said, “I’ve been more descriptive of what my findings are. An example may be, blunt force trauma with acute cocaine toxicity during police restraint. Homicide ... I would rather describe the pathology than put it into a syndrome like excited delirium.”²⁹⁶ Carter explained, “When you tell the story of death, you have an opportunity to put down the primary cause of death. Then you have underlying conditions.”²⁹⁷

Use of the Term “Excited Delirium” as a Proxy for Restraint Asphyxia

Several forensic pathologists and other physicians criticized the use of “excited delirium” as a proxy for restraint asphyxia during law enforcement encounters. As Freeman said, “The evidence indicates that it’s used improperly or unknowingly as a proxy for restraint-related asphyxia.” He proposed that one should consider so-called “excited delirium” deaths through the lens of counterfactual causation, a concept borrowed from epidemiology. “Take away the restraint, what are the chances the conditions present in the restrained individual kill him at that discrete point in time?”²⁹⁸ He added:

“There is this unproven hypothesis that ‘excited delirium’ is this unique pathophysiologic process that causes sudden death, and it’s the decedent’s fault because they took drugs, leveraged by the absurd theory that restraint can’t kill you if it is applied by law enforcement.”²⁹⁹

Many of the interviewed forensic pathologists linked use of the term “excited delirium” with maneuvers that could cause asphyxia. Cunningham said “excited delirium” “may be associated with certain things like chest compression, neck compression, prone positioning, restraint.”³⁰⁰

Carter said that if cocaine is present, but the person would not have died without the restraint, “I’d say call it what it is. It’s still a result of restraint asphyxia.”³⁰¹

“A cause of death that can only happen at the hands of cops is not a pathophysiologic process, but rather a semantic ploy designed to immunize police against scrutiny of deaths occurring during restraint.”

Dr. Michael Freeman, forensic epidemiologist and associate professor of forensic medicine, Maastricht University

The interviewed forensic pathologists noted that it is still unknown but likely that a person exhibiting physical signs attributed to “excited delirium syndrome” would also have a heightened risk of death by restraint. Freeman described both the uncertainty and the possibility as follows: “The unknown variable is what that person’s oxygen needs are at that specific point in time.” A “person most likely to be adversely affected by restraint” is the “person with highest oxygen needs, person who is agitated, has been running around screaming.”³⁰² Strote also noted the possibility of increased risk of death for a restrained person who is agitated and under stress: “Is it more likely that an ‘excited delirium’ patient would die than one of the three of us [referring to himself and his PHR interviewers]?” Yes, he said, “But because they are already in a hyper-adrenergic state. Adrenaline going. Already a stress on their heart.”³⁰³

Mitchell provided an illustrative example to reinforce that predisposing conditions cannot be used to mitigate the responsibility of the perpetrator for a death: “We use an example in forensic pathology.... If an 87-year-old woman is walking down the street, and an assailant puts a gun in her face ... and she dies [of fright], what’s the manner of death? Homicide.”³⁰⁴

Use of “Excited Delirium” to Exonerate Law Enforcement for Deaths in Custody

Several physicians noted the prevalence of “excited delirium” as an exculpatory term for police killings. Freeman said:

“It is a term that allows us to ignore police use of force, no matter how extreme, because we have taken the possibility that the police caused the death out of the picture.... A cause of death that can only happen at the hands of cops is not a pathophysiologic process, but rather a semantic ploy designed to immunize police against scrutiny of deaths occurring during restraint.”³⁰⁵

Strote also expressed this view: “At some point, ‘excited delirium’ began to be used by police officers and pathologists to explain deaths in restraint, which can spare the officers a potential homicide diagnosis and pathologists the need to describe a clear cause of death.”³⁰⁶

Other forensic pathologists highlighted the implications of “excited delirium” mainly being used as a cause of death for deaths in police custody. As Baden noted, “If you have a condition or disease, it cannot be due to a boutique, unique condition that almost always causes a death only during a struggle between police officers and a civilian.”³⁰⁷

No National Standards for Death Investigations

“Right now, there's no federal oversight to medicolegal death investigation in [this] country. It is a county-by-county, city-by-city, state-by-state construct, and it's a milieu of sheriff-run organizations to politician-run organizations to forensic pathologist-run organizations. We need one system. Uniformity of practice should be our goal ... [ensuring] accreditation and oversight of forensic pathology ... and medicolegal death investigation.

“There has been no report [or data] from the Death in Custody Reporting Act passed in 2013 ... and that's mandated as law. My solution is ... a checkbox on the U.S. standard death certificate ... to allow physicians, whose job it is to sign a death certificate, to ... identify deaths in custody. It's so critically important for there to be an objective measure of deaths in custody, and that needs to happen at the level of the physician, in addition to circumstantial data from the law enforcement agency.

“Then there needs to be death-in-custody fatality reviews. We know as a public health construct how to research a problem and then set standards in place.... It's time for the public health infrastructure ... to define deaths in custody as a public health issue.”

Dr. Roger Mitchell, chair of the department of pathology at Howard University

Recommendations for Alternative Responses to People in Crisis

Many interviewees – physicians, lawyers, mental health experts, and others – emphasized the need for a different kind of emergency response for individuals in crisis.

Changes in Police Procedures and Emergency Response Protocols

Some focused on the particulars of police training, such as the need to place individuals in a recovery position or to avoid prone restraint. According to Strote, the goal of the emergency response should be “to maximize the best balance of protection for others and minimizing harm to that person.”³⁰⁸

“It's time for the public health infrastructure ... to define deaths in custody as a public health issue.”

**Dr. Roger Mitchell, chair, department of pathology,
Howard University**

Melinek also advocated for changes to police procedures: “In many cases, police officers aren’t taught or aren’t trained that if they do a carotid hold, they can kill somebody.... During the lectures I was giving, I made a point of saying if the medical examiner is saying that something you have done has killed the patient/subject, that is another opportunity to ask: is there something in our procedures that needs to change?”³⁰⁹

Other interviewees discussed the need for better training and protocols for dispatchers and other first responders to mobilize appropriate resources beyond or instead of police to respond to an emergency call. Jack Ryan, a retired captain from the Providence, Rhode Island police department who now conducts trainings for law enforcement and policy and procedure audits for law enforcement agencies, recommended that Emergency Medical Services (EMS) dispatchers be trained to recognize signs that an individual is experiencing a health crisis and coordinate a multi-disciplinary response, where the objective is for the person to receive medical help as soon as possible.³¹⁰

“Remember you can restrain somebody on the stretcher to the gurney rather than prone on their stomach and holding them down. And many times, these EMTs have soft restraints as opposed to some of our hard mechanical restraints.”³¹¹

He said that for these types of crises, “the plan should be similar. Can we slow this thing down?... Let’s get sufficient resources there. Let’s try to diminish the prolonged struggle. Let’s try to turn them [over] to medical... We don’t stabilize by putting a knee on someone’s neck or on someone’s back or crushing their heads into the ground.” He added, “I do think we should train officers on symptomology of crisis... But remember that symptomology seems to run across the board between mental health crisis, sometimes medical crisis, sometimes drug-induced crisis.”³¹²

Ryan further noted that officers should be trained to avoid putting weight on an arrestee’s back while they are prone, and once the arrestee is handcuffed, officers should turn them on their side or sit them upright, to facilitate breathing. Ryan also stated:

“I think some of the issues go beyond law enforcement. We know with de-institutionalization ... law enforcement has become the catchall at the end of the day. They say LA County Jail is the largest mental health institution in the U.S. I do some audits of jails. It is so disheartening to see the jail

stuck with people because there's no other place for them to go.... I think we should have a better system so that all of these folks don't fall at the hands of law enforcement."³¹³

Medical and Behavioral Health Response Teams and Support Systems

Civil rights attorney Dale Galipo agreed with the need for medical responses to many requests for help that currently go to law enforcement: "One could argue when the police encounter someone that they claim is in this 'excited delirium' state, that's a medical emergency, so that person needs medical treatment. That person doesn't need force used against them. They don't need to be held down. That is the worst thing you can do for someone in a medical emergency."³¹⁴

Others emphasized the limits of seeking to improve police training to respond to mental and behavioral health crises. Civil rights attorney Jim Davy observed, "The majority of violence and law enforcement-created injuries and civil rights violations I have seen primarily fall into two categories: someone was trained and did the thing they were explicitly trained not to do, or they did the thing they were trained to do, and they were trained to do things that violated people's civil rights." Police officers are not the best positioned to respond to a mental health crisis, he said. "I think we have responsibility as a society to be doing something better, different, more responsive."³¹⁵

A federal law passed in March 2021 allocated \$25 million to states to support non-law enforcement mobile crisis teams.³¹⁶ To better understand what such other models could look like, PHR consulted experts at the National Harm Reduction Coalition, Treatment Advocacy Center, Crisis Assistance Helping Out On The Streets (CAHOOTS), and Portland Street Response.

Dr. Kimberly Sue, medical director of the National Harm Reduction Coalition, offered examples of alternative spaces to support people in substance use crises, including the new San Francisco Drug Sobering Center and the People's Harm Reduction Alliance in Seattle, which provide drop-in spaces for people experiencing the effects of methamphetamine and other substances.³¹⁷

Elizabeth Sinclair Hancq, director of research at the Treatment Advocacy Center, said that the organization's stance is: "It shouldn't be the situation where people are reaching a crisis point, and law enforcement has to intervene." The goal should be "building up an adequate support system and mental health treatment system."³¹⁸ As Sabah Muhammad, attorney and legislative and policy counsel at the Treatment Advocacy Center, noted, in supporting the need for systems to be in place to prevent crises: "Families with a loved one with untreated mental illness live with crisis every day.... What is being overlooked is our daily condition of crisis."³¹⁹ A September 2020 Treatment Advocacy Center report found that in seven states, a person has to pose an "imminent threat" before they can be involuntarily hospitalized.³²⁰ Muhammad spoke about the way that such state

involuntary commitment statutes force families to call the police to get help for loved ones with severe mental illness. Changing such laws, she said, would help empower families to get treatment for their loved ones before their only remaining option was a potentially life-threatening police encounter.³²¹

Hancq identified three types of crisis response models: Crisis Intervention Teams (CIT, law-enforcement-based response), co-responder teams (law-enforcement-based mental health response), and mental health crisis teams (mental-health-based response).³²² Muhammad said of the various models, “All of them are in an infancy. And they are very state-based. If certain models work in one area of the country, they don’t necessarily work in another.” She expressed hope that the more frequently clinicians and social workers are integrated into these models, the more families can access wraparound services or relationships of trust, and “something can be established that looks more like long-term treatment... because when you just sit around and wait for crisis, you are just expecting entire communities to suffer until they are going to be maimed or die.”³²³

Muhammad emphasized, “If it does turn into an emergency, police just should not be first. They can be part of the team if there is a weapon. Someone else with medical training, crisis training – clinician, doctor, social worker – needs to be informing police of their next step.”³²⁴

She explained, “We’re missing so many opportunities to be reasonable. To tap into our humanity. To take the time it takes to realize someone is in the middle of a delusion or hallucination. This is something that should not be done quickly. It is something that should be done to preserve the life of the person.”³²⁵

Tim Black, director of consulting at the White Bird Clinic, which runs the mobile crisis intervention program CAHOOTS in Eugene, Oregon, emphasized, “Any sort of mobile crisis system needs to be first informed by community and then providers.” In the context of limited resources, it is more important for the community to strengthen the social safety net than to “bring in mobile crisis teams” because crises are “directly tied to some unmet need.” He added, “It’s really easy and really popular to talk about mobile crisis [programs] but not about the resources that are needed ... rapid access and connection to those resources.” Such resources, he said, could include shelter, hygiene, food access, 24-hour mental health resources access, violence interruption, homeless outreach, street medicine, and harm reduction.³²⁶

Black further noted that the White Bird Clinic does not require its crisis workers to be licensed mental health or health care workers prior to their hiring, which would create impediments to staffing the positions, especially in smaller communities. Instead, the clinic is open to recruiting and then training and credentialing crisis response team members who have a variety of life experiences and educational backgrounds.³²⁷

Robyn Burek, program manager at Portland Street Response, said she has spoken to “probably 100 different cities” about their models for mobile crisis response. “Everybody has a slight variation in how they’re running this. I think that’s amazing.” She said that the “common thread” that flows through all these models is the need for funding streams at both the federal and state level to allow flexibility to have different models.³²⁸ Black agreed. “There’s no one prescribed funding mechanism that works for each community.”³²⁹

Legal Framework

U.S. Law

Allowance of “Excited Delirium” as a Diagnosis in U.S. Courts – Despite No Consensus on its Meaning

A review of legal cases discussing “excited delirium” indicates that the term appears to be limited to cases involving interactions of individuals with law enforcement. Despite significant challenges to “excited delirium’s” validity within the medical community – and the limited context in which it arises – the term has been admitted in U.S. courts as a legitimate diagnosis, including as a direct cause of death.³³⁰

Given the lack of an underlying description of “excited delirium” in diagnostic manuals, legal cases have found a clear definition of the term to be elusive. Consequently, “excited delirium” in a police setting has been considered a reasonable medical diagnosis for an extremely broad array of signs and symptoms. It might be described as a state of agitation, excitability, or paranoia.³³¹ It might include bizarre behavior, confusion, delusions, hyperactivity, incoherence, or yelling.³³² It is often, although not necessarily, associated with drug use.³³³ And, ultimately, it is so broadly defined that it might include the observable manifestation of almost every psychiatric or drug-induced behavior. Beyond even this, “excited delirium” has been described by courts to include superhuman strength and imperviousness to pain.³³⁴ While this is generally asserted to be brought on by an underlying history of drug use or mental illness, it has also been described as being initiated by “physical stress.”³³⁵ One court even found excessive “sweating” to be indicative of “excited delirium.”³³⁶

Admission of Expert Testimony on “Excited Delirium”

All courts perform some kind of “gatekeeper” function regarding the admissibility of expert testimony. At the federal level and in many states, in performing this “gatekeeper” function, courts make a preliminary assessment of whether the

expert testimony's underlying methodology is scientifically valid and can properly be applied to the facts at issue.³³⁷ Important factors that have been considered in the context of "excited delirium" include whether the theory "has been subjected to peer review and publication" and whether it has attracted "widespread acceptance" within a "relevant scientific community."³³⁸

After assessing those factors, courts often admit expert testimony on "excited delirium" as evidence at trial, finding that arguments against the theory should go to its persuasiveness as evidence, rather than to its admissibility. In cases in which plaintiffs have sought to exclude testimony on "excited delirium," courts have pointed to three communities that "generally accept" it as a diagnosis: the American College of Emergency Physicians,³³⁹ forensic pathologists and medical examiners,³⁴⁰ and many police departments, which train their officers to interpret people's behavior through a lens that assumes many medical or mental health conditions are "excited delirium."³⁴¹ Admission of "excited delirium" has also been allowed because "the theory or technique has been published and subjected to peer review."³⁴² Finally, courts cite the ACEP white paper.³⁴³ One court even described the paper as resulting from ACEP "consensus" that "excited delirium syndrome" "is a unique syndrome which may be identified by the presence of a distinctive group of clinical and behavioral characteristics."³⁴⁴

Notably, courts have admitted expert testimony on "excited delirium" even while acknowledging that "excited delirium" is not a validated diagnostic entity in either the *International Classification of Diseases* or the *Diagnostic and Statistical Manual of Mental Disorders*³⁴⁵ and is not recognized as a medical diagnosis by the American Medical Association, the American Psychiatric Association, or the World Health Organization.³⁴⁶

The acceptance of "excited delirium" by U.S. courts underscores the harmful impact of ACEP's 2009 white paper, which it has yet to refute. It also demonstrates the troubling reach of the academic literature on "excited delirium," which persists despite its poor quality, homogenous citations, and embedded conflicts of interest.

Use of "Excited Delirium" as a Defense for Officer Conduct

Given courts' admission of "excited delirium" theory into evidence, law enforcement defendants have also used it as a defense in civil rights cases claiming police brutality or wrongful death. Some courts have used the ever-broadening defense of qualified immunity to shield law enforcement officers from accountability for killing people in the course of restraint, based on claims that the decedent died of "excited delirium." While in other circumstances an officer might be viewed as having used excessive force, the force employed may instead be deemed reasonable when dealing with an individual diagnosed with "excited delirium," with its associations of being "impervious to pain" or having "superhuman" strength.³⁴⁷ Similarly, deaths which might otherwise be attributed

to asphyxiation as a result of excessive force may instead be explained away as natural or accidental due to the victim's "excited delirium."³⁴⁸

Impact of the Pervasiveness of "Excited Delirium" in Police Trainings

The pervasiveness of "excited delirium" within law enforcement policies and training manuals has resulted in a number of lawsuits against police officers for violating their training and mishandling a person claimed to be in "excited delirium." In fact, a number of suits have been brought for not attending to the unique medical needs posed by "excited delirium."³⁴⁹ Plaintiffs have even gone so far as to state that defendant officers should have recognized that the plaintiff/decendent was experiencing "excited delirium," including its purported "imperviousness to pain, great strength, bizarre behavior, aggression, and hallucinations."³⁵⁰ By introducing evidence that officers failed to follow trainings in this manner, plaintiff's attorneys validate law enforcement protocols on "excited delirium," perpetuating the term's acceptance in courts at the expense of future victims of police violence.³⁵¹

There are a number of underlying risks presented by the pervasiveness of "excited delirium" within law enforcement policies and training manuals. Myocardial infarctions (heart attacks), drug or substance overdose and withdrawal, oxygen deprivation, and acute psychosis have all been bundled by some law enforcement agencies or trainers under the diagnosis of "excited delirium." Yet, these might require quite different medical interventions in an emergency situation, in contrast to the trained responses to "excited delirium." In the case of *Petro v. Town of West Warwick*, for instance, the dispute as to whether the officers failed to render timely assistance hinged upon whether Mr. Jackson died from "excited delirium syndrome" or sudden cardiac arrest due to primary cardiac disease that had been left untreated.³⁵² In *Estate of Hezekiah Harvey v. Roanoke City Sheriff's Office*, the defendants' expert, the assistant chief medical officer of West Virginia, concluded that Mr. Harvey "died from natural causes – excited delirium due to chronic schizophrenia with a contributing cause of congestive cardiomyopathy."³⁵³ As such, the defense asserted that it did not matter whether emergency medical personnel had administered antipsychotic medication to Mr. Harvey, who had schizophrenia.³⁵⁴

When law enforcement officers are not held accountable for their actions based on a successful defense of "excited delirium," the justice system is doubly hurt. Such a defense not only prevents accountability, it does so on the basis of a diagnosis that has no real medical underpinning. As Physicians for Human Rights explained in a brief to the United States Supreme Court:

"A civil action under 42 U.S.C. § 1983 is often the only way for a victim of official misconduct to vindicate ... federally guaranteed rights. But qualified immunity often bars even those plaintiffs who can prove their case from remedying a wrong: harm, but no foul. Qualified immunity thus

enables public officials who violate federal law to sidestep their legal obligations to the victims of their misconduct.”³⁵⁵

Indeed, the widespread belief in the existence of “excited delirium” among both law enforcement and the courts has resulted in a perverse paradox: a lack of accountability for police misconduct based on a medically nonexistent explanation for that conduct.

Finally, law enforcement agencies that train their officers on “excited delirium” are doing a disservice to their officers. The agencies are implicitly requiring the officers to diagnose a person’s condition, which is not their role. Officers who have concerns about the health status of a person they encounter should instead call for medical back-up.

International Human Rights Law

The United States is also bound by international human rights law, as are the countries to which the term “excited delirium” has spread – Australia, Canada, and the United Kingdom, among others. International law includes important standards related to the multiple contexts in which the term is used, addressing protection from excessive and potentially lethal force; protection from discrimination based on race or disability in encounters with law enforcement; protection from discrimination in accessing treatment for mental health or substance use disorder crises; the necessity of thorough, prompt, and impartial investigations of deaths in law enforcement custody; and the right to an effective remedy.

Right to Life and Protection from Excessive Force by Law Enforcement

The right to life is guaranteed by Article 3 of the Universal Declaration of Human Rights (UDHR)³⁵⁶ and Article 6 of the International Covenant on Civil and Political Rights (ICCPR), which the United States has ratified and is bound to uphold.³⁵⁷ All are entitled to equal protection of this right without discrimination, according to Article 7 of the UDHR and Article 26 of the ICCPR.³⁵⁸

People of color and people with disabilities, including mental illness or substance use disorders, have the right to protection from discrimination in encounters with law enforcement. Article 5 of the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD), to which the United States is also a party, guarantees “without distinction as to race, colour, or national or ethnic origin ... The right to security of person and protection by the State against violence or bodily harm, whether inflicted by government officials or by any individual group or institution.”³⁵⁹ Article 10 of the Convention on the Rights of Persons with Disabilities (CRPD) states, “States Parties reaffirm that every human being has the inherent right to life and shall take all necessary

measures to ensure its effective enjoyment by persons with disabilities on an equal basis with others.”³⁶⁰

General Comment No. 36 of the Human Rights Committee, the treaty body that oversees implementation of the ICCPR, states, “The use of potentially lethal force for law enforcement purposes is an extreme measure that should be resorted to only when strictly necessary in order to protect life or prevent serious injury from an imminent threat.”³⁶¹

The United Nations Basic Principles on the Use of Force and Firearms by Law Enforcement Officials (1990)³⁶² stipulate that law enforcement agencies should adopt rules and regulations for the use of force within the following parameters:

- The use of force must be minimized, targeted, proportional, and directed at de-escalating violence.
- The use of “less-lethal” incapacitating weapons must be carefully controlled.
- Restraint must be shown in all use of force by law enforcement agents, with a view to minimizing injury and loss of life.

The Basic Principles further state that when the lawful use of force is unavoidable, law enforcement officials should ensure that assistance and medical aid are rendered to any injured or affected persons at the earliest possible moment.³⁶³ Additionally, “Governments shall ensure that arbitrary or abusive use of force and firearms by law enforcement officials is punished as a criminal offence under their law.”³⁶⁴

Right to Health

Article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) guarantees “the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”³⁶⁵ The UN Principles for the Protection of Persons with Mental Illness and the Improvement of Mental Health Care further state, “All persons with a mental illness, or who are being treated as such persons, shall be treated with humanity and respect for the inherent dignity of the human person.”³⁶⁶

Article 5 of ICERD prohibits racial discrimination regarding the right to medical care.³⁶⁷ Article 25 of the CRPD states that people with disabilities “have the right to the enjoyment of the highest attainable standard of health without discrimination on the basis of disability.”³⁶⁸

International Standards for Death Investigations and the Right to a Remedy

According to the UN Principles on the Effective Prevention and Investigation of Extra-legal, Arbitrary and Summary Executions:

“Governments shall prohibit by law all extra-legal, arbitrary and summary executions.... Such executions shall not be carried out under any circumstances including ... situations in which deaths occur in custody.... There shall be thorough, prompt and impartial investigation of all suspected cases of extra-legal, arbitrary and summary executions, including cases where complaints by relatives or other reliable reports suggest unnatural death in the above circumstances.”³⁶⁹

The UN Manual on the Effective Prevention and Investigation of Extra-Legal, Arbitrary and Summary Executions, commonly known as the Minnesota Protocol and most recently revised in 2016,³⁷⁰ sets international standards for the investigation of potentially unlawful deaths, including deaths in custody. It states:

“To discharge these responsibilities properly, forensic doctors, including forensic pathologists, must act independently and impartially. Whether or not they are employed by the police or the State, forensic doctors must understand clearly their obligations to justice (not to the police or the State) and to the relatives of the deceased, so that a true account is provided of the cause of death and the circumstances surrounding the death.”³⁷¹

The right to an effective remedy for a violation of the right to life, including the right to judicial remedies, is guaranteed by the UDHR (Article 8), ICCPR (Article 2), ICERD (Article 6), and other international treaties and declarations.³⁷²

How the Use of “Excited Delirium” in Law Enforcement Protocols, Death Investigations, and Courts Violates International Law

As described above, the term “excited delirium” informs law enforcement responses to people experiencing an array of mental health and substance use disorder crises, as well as other medical emergencies. It is also used by forensic pathologists to explain deaths in law enforcement custody, disproportionately those of Black men, and has absolved officers from liability in both criminal and civil cases.

Some of the purported signs of “excited delirium” that law enforcement officers are trained to recognize (“superhuman strength” and “imperviousness to pain”) increase the risk that an officer will employ excessive or lethal force, violating human rights standards on the use of force or, indeed, the right to life itself. These same terms also put Black people and other people of color – in the United States and around the world – at greater risk of harm, given that they exploit racist tropes and perpetuate discrimination against people of color in law

The allowance of “excited delirium” in courts as a defense for officers’ use of lethal force or as an explanation for deaths in custody may foreclose – and has foreclosed – avenues for criminal prosecution or civil liability, violating a core principle of international law: the right to an effective remedy.

enforcement settings. Continued reliance on “excited delirium” thus violates international legal protections from racial discrimination.

People with mental illnesses or substance use disorders also face disproportionate risk of harm – in violation of protections from discrimination based on disability – given that their behavior may overlap with purported signs of “excited delirium.” For someone experiencing a medical emergency, an officer’s belief that the person is experiencing “excited delirium” could also mean denial of access to appropriate medical care – a potential violation of the right to health – and likely a violation of the right to non-discrimination on the basis of race or disability.

The term “excited delirium” is also used by forensic pathologists, medical examiners, and coroners to explain deaths in law enforcement custody, again disproportionately those of Black men. Continued use and acceptance of the term as a cause of death too often impedes a thorough, prompt, and impartial investigation of the death, given that the investigation may end prematurely when “excited delirium” is held to be the cause.

Finally, the allowance of “excited delirium” in courts as a defense for officers’ use of lethal force or as an explanation for deaths in custody may foreclose – and has foreclosed – avenues for criminal prosecution or civil liability, violating a core principle of international law: the right to an effective remedy. Black men are also more likely to have this core right infringed.

Conclusion

“Excited delirium” is not a valid, independent medical diagnosis. There is no clear or consistent definition, established etiology, or agreed upon underlying pathophysiology. As a result, there are no diagnostic standards for “excited delirium.” In general, there is a lack of scientific data, and even the body of literature that mentions “excited delirium” is small and largely written by individuals with rarely disclosed conflicts of interest. Because “excited delirium” is not a valid diagnosis, it should not be used as a cause of death.

The term “excited delirium” cannot be disentangled from its racist and unscientific origins. In the 1980s, “excited delirium” was defined as hyperactive delirium, with aggressive behaviors, and associated with cocaine intoxication. A

Interviewed forensic experts described an alarming pattern of pressure from TASER/Axon when forensic pathologists and/or medical examiners describe law enforcement tactics as contributing to the cause of death.

few years later, Dr. Charles Wetli extended his theory of sudden death from cocaine intoxication to explain the deaths of more than 12 Black women in Miami who, along with at least seven others who were found dead during the same period, were later found to have been murdered by a serial killer. Wetli's grave professional error – and the racism and misogyny that seemed to inform it – should have soundly discredited “excited delirium” as a cause of death at the time, but instead its use grew.

Moreover, the diagnosis of “excited delirium” has been primarily applied to deaths occurring during encounters with law enforcement. If any other medical condition were only or even mostly occurring in a particular environment or context, a scientific approach would require interrogation of that environment as a contributing or causative factor – in this case, police custody.

PHR's review of the literature and interviews with forensic medical and legal experts found that when the diagnosis of “excited delirium” *has* been advanced, it has almost always been by law enforcement and law-enforcement-affiliated organizations, such as TASER International (Axon Enterprise). To the extent that the diagnosis has been raised in the literature by physicians and scientists, they have often been paid by TASER/Axon or law enforcement agencies defending lawsuits arising out of a death, without disclosing these relationships. Interviewed forensic experts also described an alarming pattern of pressure from TASER/Axon when forensic pathologists and/or medical examiners describe law enforcement tactics as contributing to the cause of death.

A diagnosis of “excited delirium” also yields no actionable steps toward what treatment an individual might need. For a diagnostic system to establish itself as scientifically useful, the system itself must be created from reliable and valid definitions and criteria. In the case of “excited delirium,” this label certainly does not aid in treatment and has not invited or welcomed research that may better define it or aid in diagnosis, research, or treatment. That a person experiencing agitation, mental illness, or intoxication would need to be restrained, beaten, or choked rather than first treated medically is contrary to medical standards.

People presenting with agitation, confusion, rapid breathing, elevated heart rate, or sweats have an underlying diagnosis. Their signs and symptoms should be named as they are, and the underlying condition should be found and treated medically. Law enforcement should acknowledge that restraint asphyxia is highly possible, if not the most probable cause of death, and, consequently, law

enforcement officials should make every effort not to put a person in a prone restraint or neck restraint.

PHR is concerned that the unscientific diagnosis of “excited delirium” has been used repeatedly over decades to mask deaths caused by inappropriate and often violent law enforcement responses to medical or mental health crises, and to exonerate perpetrators or cover up homicides.

“Excited delirium” is a descriptive term, not a medical diagnosis, and should not be used as a cause of death. PHR has concluded that it is essential to end the use of “excited delirium” as an officially determined cause of death in cases of deaths in police custody or in any other case. This is one critical step among many to stop these preventable deaths, which have to be acknowledged for what they are before a remedy can be found.

PHR is concerned that the unscientific diagnosis of “excited delirium” has been used repeatedly over decades to mask deaths caused by inappropriate and often violent law enforcement responses to medical or mental health crises, and to exonerate perpetrators or cover up homicides.

Recommendations

To the American College of Emergency Physicians (ACEP):

- Revise position on “excited delirium” based on the evidence, recognizing that it is not a valid medical diagnosis and cannot be a cause of death;
 - Note the racist origins and usage of “excited delirium” and the need for further study of racial disparities in its application;
- Rescind all previous white papers that support “excited delirium” as a distinct entity separate from other forms of delirium; and
 - Be transparent about conflicts of interest in previous position statements; implement clear policies on minimizing or eliminating conflicts of interest in future statements.

To the National Association of Medical Examiners (NAME):

- Issue a statement on “excited delirium” based on the evidence, recognizing that it is not a valid medical diagnosis and cannot be a cause of death;

- Note the racist origins and usage of “excited delirium” and the need for further study of racial disparities in its application; and
- Conduct an investigation into structural, political, and other factors affecting the independence of medical examiners when investigating deaths in law enforcement custody, and report the findings publicly.

To Individual Medical Examiners, Forensic Pathologists, and Coroners:

- Ensure that “excited delirium” is not used as either a sole or a contributing cause in death certification.

To Other Medical and Health Professional Associations:

- Study how the involvement of law enforcement in the health context impacts the relationship between patient and health care provider; seek stakeholder input; and
- Establish best practices for communicating with families regarding injuries or deaths of loved ones in law enforcement custody.

To State and Local Governments:

- Address current use of the term “excited delirium:”
 - Instruct state attorneys general to review the use of the term “excited delirium” in all instances by police and correctional services to understand how and when it is applied;
 - Call on police associations and first responders to stop disseminating “excited delirium” protocols and collect data on how the term has been applied, including racial disparities in its use;
- Improve official responses to people experiencing mental and behavioral health challenges:
 - Bolster resources and social services to address community needs, including mental health and harm reduction;
 - Take steps to ensure that medically trained professionals are the primary responders and decision-makers in the management of acute medical emergencies, including mental health and substance use disorder crises;
 - Invest in alternative models of mental and behavioral health crisis response, led by health professionals and/or social workers, rather than law enforcement;
- Enact changes that strengthen oversight and independence of death investigations:
 - Strengthen qualifications and training for medical examiners, forensic pathologists, and coroners;
 - Strengthen institutional protections to ensure the independence of medical examiners, forensic pathologists, and coroners from law enforcement;

- Establish independent oversight systems and mandate independent investigations of deaths in law enforcement custody;
- If a death is indicated on the death certificate as a death in custody, institute rigorous death-in-custody fatality reviews with explicit guidelines;
- Ban the use of neck restraint and weighted or prolonged prone restraint by law enforcement; and
- Fund studies on how the involvement of law enforcement in the health context impacts the relationship between patient and health care provider.

To the Biden Administration:

- Enforce the Death in Custody Reporting Act of 2013 (Pub. L. No. 113-242) that requires law enforcement agencies to report to the Attorney General annually on all deaths in custody within their jurisdiction;
- Enforce the 21st Century Cures Act by requiring the Department of Justice (DOJ) and others to regularly collect and report data related to law enforcement encounters and mental illness;¹
- Establish national standards across all federal law enforcement agencies for clear procedures in death investigations in federal custody;
- Work with Congress, and state and local governments, to unify national standards for investigations of deaths in custody, including well-supported independent accreditation, investigatory, and oversight mechanisms; and
- Establish a unit within the DOJ to investigate all deaths in custody.

To Congress:

- Exercise Congress’s oversight authority in the following ways:
 - Investigate the history and use of “excited delirium” in various jurisdictions across the United States in the context of deaths in police custody, systemic racism, and the pursuit of justice and accountability;
 - Call on the DOJ to enforce the Death in Custody Reporting Act of 2013, which requires law enforcement agencies to report to the Attorney General annually on all deaths in custody within their jurisdiction;
 - Call on the DOJ to enforce the 21st Century Cures Act, which requires the DOJ and others to regularly collect and report data related to law enforcement encounters and mental illness;²
 - Develop mechanisms for oversight and tracking of any aggressive tactics used to subjugate or control people in police custody;
- Pass legislation that seeks to direct national standards toward:

¹ We thank the Treatment Advocacy Center for its leadership on this.

² Ibid.

- Quality assurance, and clear required procedures for death investigations and for documenting police violence on death certificates; and
- Banning the use of neck restraint and weighted or prolonged prone restraint by law enforcement;
- Allocate funding for:
 - A mandated national database tracking law enforcement use of force, including data on mental illness, race, and ethnicity;³
 - New or expanded non-law-enforcement emergency mental health services and social services response programs on the state and local levels; and
 - Studies on how the involvement of law enforcement in the health context impacts the relationship between patient and health care provider.

To the U.S. Centers for Disease Control and Prevention:

- Add a required checkbox on the U.S. standard death certificate to enable physicians to report deaths in custody;⁴ and
- Undertake a review of deaths in custody as a matter of racial and other disparities in health, including deaths in which the term “excited delirium” was applied to describe the circumstances of death. In this review, analyze the demographics of the people to whom this term is applied, as well as the common situations in which it is invoked.

To UN Human Rights Mechanisms, including the Independent Expert Mechanism on Systemic Racism in Law Enforcement:

- As a function of state reporting and international oversight, study and report on the use of “excited delirium” worldwide to trace the geographic scope of the term’s use as an explanation for deaths in custody and its implications for human rights.

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- ¹¹³ A.J. Lagoe, Steve Eckert, and Chris Vanderveen, "KARE 11 Investigates: Dueling experts about the danger of holding George Floyd down," *KARE 11*, Apr. 10, 2021, <https://www.kare11.com/article/news/local/george-floyd/dueling-experts-about-the-danger-of-holding-george-floyd-down/89-b4cecf93-0ec5-4b91-9a27-5271d1e77db6>.
- ¹¹⁴ Jennifer Valentino-DeVries, Mike McIntire, Rebecca R. Ruiz, Julie Tate, and Michael H. Keller, "How Paid Experts Help Exonerate Police After Deaths in Custody," *New York Times*, Dec. 26, 2021.
- ¹¹⁵ Deposition of Theodore C. Chan, M.D. at 22:25-23:1-9, *Hesterberg v. USA.*, No. C13-1265 JSC (JCS) (N.D. Cal. Apr. 18, 2014).
- ¹¹⁶ B.A. Michalewic, T.C. Chan, G.M. Vilke, S.S. Levy, T.S. Neuman, and F.W. Kolkhorst. "Ventilatory and metabolic demands during aggressive physical restraint in healthy adults," *Journal of Forensic Science* vol. 52(1) (2007): 171-175, <https://doi.org/10.1111/j.1556-4029.2006.00296.x>.
- ¹¹⁷ In the *Neuroth* case, Julia Sherwin subpoenaed the IRB materials only from UCSD and San Diego State. In *Martinez v. City of Pittsburg, et al.*, she also subpoenaed IRB materials from Vilke and his co-authors; no one produced anything. San Diego State

informed Sherwin they may have destroyed the information pursuant to their document retention policy. UCSD's policy is to retain such documents "indefinitely wherever possible." In accordance with FDA regulations, an IRB has the authority to approve, require modifications, or disapprove research. See U.S. Food & Drug Administration, "Institutional Review Boards (IRBs) and Protection of Human Subjects in Clinical Trials," Sept. 11, 2019, <https://www.fda.gov/about-fda/center-drug-evaluation-and-research-cder/institutional-review-boards-irbs-and-protection-human-subjects-clinical-trials>. Julia Sherwin subpoenaed all IRB materials related to all of Vilke et al. prone restraint studies from UCSD. The University produced IRB information for the earlier studies involving 25 pounds and 50 pounds but not for the study with 225 pounds. UCSD had no IRB documents or approval for the more recent study titled "Ventilatory and Metabolic Demands During Aggressive Physical Restraint in Healthy Adults," nor did UCSD have IRB Committee meeting minutes from when the study was considered. Sherwin then subpoenaed all evidence or documents concerning IRB applications or approvals, even including correspondence and emails, for the 225-pound study from all authors of the study; these subpoenas produced nothing.

¹¹⁸ Depositions of Gary M. Vilke, M.D., *Neuroth v. Mendocino County, et al.*, 3:15-CV-03226-RS, (N. D. Cal. 2018); *Martinez v. City of Pittsburg, et al.*, 3:17-CV-04246-RS, (N.D. Cal. 2019).

¹¹⁹ *Ibid.*

¹²⁰ Deposition of Vincent J.M. Di Maio, M.D. at 159:19-21, *Harrison v. County of Alameda*, No. C11-2868 JST (N.D. Cal. Jan. 24, 2014). Di Maio stated in this legal deposition in 2014:

Q. By 2007, TASER International had purchased 1,000 or 1,500 copies of your book to hand out free to medical examiners, right?

A. Yes. That's great.

¹²¹ Gus Garcia-Roberts, "Is excited delirium killing coked-up, stun-gunned Miamians?" *Miami New Times*, Jul. 15, 2010; interview with Michael Baden, Oct. 7, 2021. As of December 1, 2021, a new hardcover copy was available for \$123.47 and a digital copy for \$229.95. <https://www.amazon.com/Excited-Delirium-Syndrome-Cause-Prevention/dp/0849316111>.

¹²² Bernice Yeung, "Taser's Delirium Defense," *Mother Jones*, Mar./Apr. 2009; Gus Garcia-Roberts, "Is excited delirium killing coked-up, stun-gunned Miamians?" *Miami New Times*, Jul. 15, 2010.

¹²³ Scientific Working Group on Medicolegal Death Investigation (SWGMDI), "Increasing the Supply of Forensic Pathologists in the United States," December 5, 2012, https://www.nist.gov/system/files/documents/2018/04/24/swgmdi_increasing_the_supply_of_forensic_pathologists_in_the_us.pdf.

¹²⁴ In 2017, TASER International changed its name to Axon Enterprise. See Laurel Wamsley, "Taser Changes Its Name To Axon And Offers Free Body Cameras For Police," *NPR*, April 7, 2017, <https://www.npr.org/sections/thetwo-way/2017/04/07/522878573/we-re-more-than-stun-guns-says-taser-as-it-changes-company-name>.

¹²⁵ Deposition of Vincent J.M. Di Maio, M.D. at 159:19-21, *Harrison v. County of Alameda*, No. C11-2868 JST (N.D. Cal. Jan. 24, 2014).

¹²⁶ Tim Reid, Peter Eisler, Jason Szep and M. B. Pell, "As Taser warns of more and more risks, cities bear a burden in court," *Reuters*, Aug. 23, 2017, <https://www.reuters.com/investigates/special-report/usa-taser-legal/>; Omar El Akkad and Jessica Leeder, "How Taser International wins in the courtroom," *Globe and Mail*, Nov. 28, 2007, <https://www.theglobeandmail.com/news/national/how-taser-international-wins-in-the-courtroom/article20406364/>; Shahien Nasiripour, "Zapping Taser," *Reveal News*, Dec. 1, 2008, <https://revealnews.org/article/zapping-taser/>; Jennifer Valentino-DeVries, Mike McIntire, Rebecca R. Ruiz, Julie Tate, and Michael H. Keller, "How Paid Experts Help Exonerate Police After Deaths in Custody," *New York Times*, Dec. 26, 2021.

¹²⁷ In a 2018 deposition, Peters said, "On the consulting side I got paid from time to time retained by independent counsel on Taser associated death cases. And I probably did 15

or 20 of those over the course of six years. So using a flat rate approach of \$7,500, that would be an approximate ballpark. Now whether those checks came directly from TASER or it came from counsel like you that TASER might have retained, that varied.”
Deposition of John G. Peters, Jr. at 37:17-25, *Neuroth v. Mendocino County et al.*, No. 3:15-cv-03226-RS (N.D. Cal. Feb. 15, 2018).

¹²⁸ Institute for the Prevention of In-Custody Death, Inc., “Initial List of Officers, Directors and Resident Agent,” Apr. 28, 2005. Courtesy of Julia Sherwin.

¹²⁹ Institute for the Prevention of In-Custody Deaths, Inc., “IPICD 3rd Annual Sudden Death, Excited Delirium & In-Custody Death Conference—LAS VEGAS,” Aug. 15, 2008, <https://www.police1.com/police-products/training-products/press-releases/ipicd-3rd-annual-sudden-death-excited-delirium-in-custody-death-conferencelas-vegas-TedoBlnrSeSTvzd3>.

¹³⁰ Declaration of Steven B. Karch, MO, FFELM, *Rosa v. TASER International, Inc.*, No. C-05-03577 JF/HRL (N.D. Cal. Jun. 1, 2009).

¹³¹ *Reuters* reported in 2017, “Taser paid Mash around \$24,000 for expert testimony in eight lawsuits filed from 2005 to 2009, court records show.” Jason Szep, Tim Reid, and Peter Eisler, “How Taser inserts itself into investigations involving its own weapons,” *Reuters*, Aug. 24, 2017, <https://www.reuters.com/investigates/special-report/usa-taser-experts/>.

¹³² American College of Emergency Physicians (ACEP) Excited Delirium Task Force, “White Paper Report on Excited Delirium Syndrome,” American College of Emergency Physicians, Sept. 2009, <https://www.ojp.gov/ncjrs/virtual-library/abstracts/white-paper-report-excited-delirium-syndrome>.

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¹³⁴ *Ibid.*

¹³⁵ Arjun S. Byju, “Excited Delirium: How Cops Invented a Disease,” *Current Affairs*, Apr. 13, 2021, <https://www.currentaffairs.org/2021/04/excited-delirium-how-cops-invented-a-disease>.

¹³⁶ Russ Rymer, “Murder Without a Trace,” *In Health*, May/June 1990.

¹³⁷ Gary Vilke et al, “Excited delirium syndrome: defining based on a review of the literature,” 2012, 43-45.

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¹³⁹ John H. Laub, “Study of Deaths Following Electro Muscular Disruption,” National Institute of Justice, May 2011, <https://www.ojp.gov/pdffiles1/nij/233432.pdf>. Other NIJ-funded but not endorsed reports on “excited delirium” include: “Special Panel Review of Excited Delirium,” Less-Lethal Devices Technology Working Group, Dec. 2011, <https://nij.ojp.gov/library/publications/special-panel-review-excited-delirium>; Cynthia Bir, “Physiological Model of Excited Delirium,” National Institute of Justice, Dec. 2011, <https://nij.ojp.gov/library/publications/physiological-model-excited-delirium>.

¹⁴⁰ Opposition to County Motion for Summary Judgment at 1:2-3:9, *Harrison v. County of Alameda*, No. 3:11-cv-2868-JST (N.D. Cal. Dec. 20, 2013), ECF No. 147; Opposition to Sancho Motion for Summary Judgment at 2:2-5:26, *Harrison v. County of Alameda*, No. 3:11-cv-2868-JST (N.D. Cal. Dec. 20, 2013), ECF No. 146.

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¹⁴⁵ Deposition of Charles Wetli, M.D. at 106:17-19, 60:23-25, *Harrison v. County of Alameda*, No. C11-2868 JST (N.D. Cal. Jan. 15, 2014).

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cases included this type of discussion [concerning whether or not law enforcement acted reasonably under the Fourth Amendment in restraining someone with this condition], where excited delirium was discussed in a manner that favored the police in twenty-three (almost half) of these cases. ... there are twenty-two rulings in the sample where the court said that the presence of excited delirium requires an arresting officer to use more care or less force. ... Thirty-seven cases in the sample that we reviewed involved claims regarding the deliberate indifference to medical need, in which thirty-three (89.1%) resulted in one or more defendants being found not liable.” He said his study, “highlights the malleable nature in which excited delirium is wielded by federal courts. In short, law enforcement is allowed to have their cake and eat it too. Excited delirium: (1) can be treated as a real entity that justifies the use of force that might be deadly; (2) can be questioned as a real disorder and therefore relieve officers of any duty to treat; and (3) can be used to shield officers from being held accountable for their actions, due to claims of officers’ inability to fully observe excited delirium’s full manifestations (yet nonetheless participate in questionable uses of force).”

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³³⁷ Federal Rule of Evidence 702, which has been adopted by many states, governs the admissibility of expert testimony in federal courts. This rule followed a decision by the U.S. Supreme Court holding that trial courts are to perform a “gatekeeper” function regarding the admissibility of expert testimony. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 589 (1993).

³³⁸ *Daubert*. 509 U.S. at 593-594. For applications of the *Daubert* test to the admission of medical expert testimony on “excited delirium,” see, e.g., *Galack v. PTS of Am., LLC*, 2015 WL 5692327, *18 (N.D. Ga. 2015); *Estate of Barnwell v. Roane City*, 2016 WL 1457928, at *3-4 (E.D. Tenn. Apr. 12, 2016).

³³⁹ *Estate of Barnwell v. Roane City*, 2016 WL 1457928, at *3.

³⁴⁰ *Mann v. Taser Int'l., Inc.*, 588 F.3d at 976; *Estate of Barnwell v. Roane City*, 2016 WL 1457928, at *3.

³⁴¹ See, e.g., *Davidson v. City of Statesville*, 2012 WL 1441406, at *10, *14 discussing the North Carolina Basic Law Enforcement Training Program training which includes “the recognition of the symptoms of excited delirium syndrome”; *Carrier v. Mcknight*, 2017 WL 2533529, at *8 (W.D. Tex. 2017), discussing Williamson County's "Excited Delirium protocol"; *Woodward v. City of Gallatin*, 2013 WL 6092224, at *6-*7 (M.D. Tenn. Nov. 19, 2013) referring to “excited delirium” as part of TASER certification and recertification training.

³⁴² *Silva v. Chung*, 2019 WL 2195201, at *3; *Estate of Barnwell v. Roane City*, 2016 WL 1457928, at *3.

³⁴³ *Silva v. Chung*, 2019 WL 2195201, at *3; *Todero v. Blackwell*, supra, 2021 U.S. Dist. LEXIS 188141, *5.

³⁴⁴ *Todero v. Blackwell*, 2021 WL 4472550, at *2.

³⁴⁵ *Mann v. Taser Int'l., Inc.*, 588 F.3d 1291.

³⁴⁶ *Silva v. Chung*, 2019 WL 2195201, at *2 (D. Haw. Feb. 5, 2020); *Todero v. Blackwell*, 2021 WL 4472550, at *2 (S.D. Ind. Oct. 7, 2021).

³⁴⁷ See, e.g., *Callwood vs. Jones et. al.*, 727 F. App'x at 556.

³⁴⁸ *Peppers v. Washington County, Tenn.*, 686 Fed. App'x. 328 (6th Cir. 2017); *V. W. v. Nichelini*, 2017 WL 34246 (E.D. CA Feb. 2, 2017); *Pirolozzi v. Stanbro*, F. Supp. 2d, 2009 U.S. Dist. LEXIS 42575, 2009 WL 1441070 (N.D. Ohio Mar. 13, 2009). See also *Marquez v. City of Phoenix*, 693 F.3d 1167 (9th Cir. 2012); *Gregory v. County of Maui*, 414 F. Supp. 2d 965 (D. Haw. 2006).

³⁴⁹ See *Mann v. Taser*, 588 F.3d 1291; *Davidson v. City of Statesville*, 2012 WL 1441406; *Cook v. Bastin*, 590 F. App'x 523 (6th Cir. 2014); *Mingo v. City of Mobile*, 592 F. App'x 793 (11th Cir. 2014).

³⁵⁰ *Hoyt v. Cooks*, et al., 672 F.3d at 976.

³⁵¹ A recent example is *Estate of Aguirre v. City of San Antonio*, 995 F.3d 395 (5th Cir. 2021). In *Aguirre*, the decedent was handcuffed and not resisting as officers forced him into a prone position with his legs crossed and pressed against his buttocks, similar to a hog-tie. Officers then put their weight on Mr. Aguirre's back, buttocks, and neck for five and a half minutes until they noticed he had stopped breathing. One officer even noted that Mr. Aguirre's lips turned blue, raising concern for hypoxia, and she decided it was because of drugs he was suspected of having consumed. 995 F.3d at 403-404. The autopsy found that Mr. Aguirre died of asphyxiation "[d]ue to the restraint by police," and his death was classified as a homicide. 995 F.3d AT 404. The plaintiffs in *Aguirre* then introduced "excited delirium" into the case, criticizing the defendant officers for not following their training and properly managing the decedent's claimed "excited delirium." 995 F.3d AT 404. The district court granted qualified immunity to the officers on the plaintiff's claims against them and also dismissed the claim against the city for constitutionally inadequate training. *Ibid.* The Fifth Circuit Court of Appeals reversed the grant of qualified immunity, but extensively relied on the "excited delirium" evidence submitted by the plaintiff, adding credence to this unscientific theory. *Ibid.* At 405, 413 n 10.

³⁵² *Petro v. Town of West Warwick*, 889 F. Supp. 2d 292 (D.R.I. 2012).

³⁵³ *Estate of Hezekiah Harvey v. Roanoke City Sheriff's Office*, 2007 BL 184012, at *5 (W.D. Va. Feb. 23, 2007).

³⁵⁴ *Ibid.*

³⁵⁵ Brief of Cross-Ideological Groups Dedicated to Ensuring the Public's Trust in Law Enforcement, and Promoting the Rule of Law as Amici Curiae in Support of Petitioner at 5, *Taylor v. Riojas*, 141 S. Ct. 52 (2020), https://www.supremecourt.gov/DocketPDF/19/19-1261/143596/20200514193421509_Taylor%20v.%20Riojas%20cross-ideological%20brief.pdf.

³⁵⁶ United Nations, "Universal Declaration of Human Rights (UDHR)," G.A. Res. 217A (III) at 71, art. 3, U.N. GAOR, 3d Sess., 1st plen. Mtg., U.N. Doc. A/810 (Dec. 12, 1948) <https://www.un.org/en/about-us/universal-declaration-of-human-rights>.

³⁵⁷ United Nations, "International Covenant on Civil and Political Rights (ICCPR)," Treaty Series vol. 999, (Dec. 16, 1966):171, art. 6, <https://www.ohchr.org/en/professionalinterest/pages/ccpr.aspx>.

³⁵⁸ UDHR, art. 7; ICCPR, art. 26.

³⁵⁹ United Nations, "International Convention on the Elimination of All Forms of Racial Discrimination (ICERD)," G.A. res. 2106 (XX), Annex, 20 U.N. GAOR Supp. (no. 14) at 47, art. 5, U.N. Doc. A/6014, 660 U.N.T.S. 195, (1966), entered into force Jan. 4, 1969, <https://www.ohchr.org/en/professionalinterest/pages/cerd.aspx>.

³⁶⁰ United Nations, "International Convention on the Protection and Promotion of the Rights and Dignity of Persons with Disabilities (CRPD)," art. 10, G.A. Res. 61/106, (Dec. 13, 2006), <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>.

³⁶¹ United Nations, "United Nations Human Rights Committee, General Comment No. 36, Art. 6: right to life," CCPR/C/GC/36 (Sept. 3, 2019) https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CCPR/C/GC/36&Lang=en.

³⁶² United Nations, "UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials," adopted by the Eighth United Nations Congress on the Prevention of Crime and the Treatment of Offenders, Havana, Cuba, (Aug. 27-Sept. 7, 1990), <https://www.ohchr.org/en/professionalinterest/pages/useofforceandfirearms.aspx>.

³⁶³ *Ibid.*, par. 5(c).

³⁶⁴ *Ibid.*

³⁶⁵ United Nations, "International Covenant on Economic, Social and Cultural Rights (ICESCR)," *United Nations Treaty Series* vol. 993, no.3, art. 12, (Dec. 16, 1966), <https://www.ohchr.org/documents/professionalinterest/cescr.pdf>.

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- ³⁶⁶ United Nations General Assembly, “Principles for the protection of persons with mental illness and the improvement of mental health care,” art. 2, G.A. res. 46/119, (Dec. 17, 1991), <https://www.ohchr.org/EN/ProfessionalInterest/Pages/PersonsWithMentalIllness.aspx>.
- ³⁶⁷ ICERD, art. 5.
- ³⁶⁸ CRPD, art 25.
- ³⁶⁹ United Nations, “Principles on the Effective Prevention and Investigation of Extra-legal, Arbitrary and Summary Executions,” arts. 1 and 9, res. 1989/65, (May 24, 1989), <https://www.ohchr.org/Documents/ProfessionalInterest/executions.pdf>
- ³⁷⁰ Office of the United Nations High Commissioner for Human Rights, *The Minnesota Protocol on the Investigation of Potentially Unlawful Death (2016)* (New York/Geneva: United Nations, 2017), <https://www.ohchr.org/Documents/Publications/MinnesotaProtocol.pdf>.
- ³⁷¹ Ibid.
- ³⁷² UDHR, art. 8; ICCPR, art. 2; ICERD art. 6. See also, UN Special Rapporteur on extrajudicial, summary or arbitrary executions, “International standards,” <https://www.ohchr.org/EN/Issues/Executions/Pages/InternationalStandards.aspx>; International Commission of Jurists, *The Right to a Remedy and Reparation for Gross Human Rights Violations: A Practitioners’ Guide* (Geneva: United Nations, October 2018), <https://www.icj.org/wp-content/uploads/2018/11/Universal-Right-to-a-Remedy-Publications-Reports-Practitioners-Guides-2018-ENG.pdf>



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