

The National Association of Medical Examiners Position Paper on the Investigation and Certification of Pediatric Deaths From Environmental Neglect

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Abstract: Pediatric deaths that occur because of environmental neglect often involve 4 common scenarios: (1) hyperthermia due to environmental exposure, (2) ingestion of an accessible drug or poison, (3) unwitnessed/unsupervised drownings, and (4) unsafe sleep practices. Given the same fact pattern, the manner of death will vary from accident to homicide to undetermined based on local custom and/or the certifier's training and experience. Medical examiner/coroner death certifications are administrative public health determinations made for vital statistical purposes. Because the manner of death is an opinion, it is understandable that manner determinations may vary among practitioners. No prosecutor, judge, or jury is bound by the opinions expressed on the death certificate. This position paper does not dictate how these deaths should be certified. Rather, it describes the challenges of the investigations and manner determinations in these deaths. It provides specific criteria that may improve consistency of certification. Because pediatric deaths often are of public interest, this paper provides the medical examiner/coroner with a professional overview of such manner determination issues to assist various stakeholders in understanding these challenges and variations.

Key Words: forensic pathology, pediatric, neglect, manner of death, homicide

(*Am J Forensic Med Pathol* 2024;00: 00–00)

All childhood deaths are tragedies, and the loss can be compounded when it might have been preventable and a parent or caregiver, often unintentionally, may have contributed to the circumstances that led to the death. Pediatric physical neglect is defined as the failure of a caretaker to provide adequate food, shelter, supervision, protection, or care necessary to maintain the health or safety of a child.^{1–5} *Environmental neglect* is a term that seeks to describe situations in which a child's environment is hazardous and/or where supervision in such an environment is inadequate. Examples of environmental neglect-related deaths include hyperthermia from environmental exposure (eg, exposure in a hot car),^{6–10} ingestion of an accessible drug or poison,^{11–18} unsupervised/unsupervised drownings,^{19–34} and unsafe sleep environments.^{35–41} Some degree of neglect, even if inadvertent, is often a component of these deaths. The challenge that medical examiners/coroners (ME/Cs) face is how to certify the manners of these deaths. Intentional versus inadvertent acts, illegal actions, and the extent of negligence are some of the considerations when investigating

and determining the manner of these deaths. The circumstances surrounding each of these deaths are unique, and there are no universal guidelines to help the certifier weigh these varied factors. Thus, some deaths may be certified as accidents in one jurisdiction while certified as homicide or undetermined in another.^{42–46} These deaths fall into a “gray area” with reasoned differences of opinion allowing for disparate manner certifications, especially as there can be subtle nuances from one death to another.⁴² Despite these variations, however, certain types of pediatric environmental neglect deaths are certified in a consistent way by a vast majority of forensic pathologists.⁴² The goal of this position paper is to detail criteria that may help improve the consistency of these manner determinations while acknowledging that, because of the nuances within individual cases, a subset will remain ambiguous and never reach 100% consensus.

As Drs Ross Zumwalt and Charles Hirsch stated in their chapter, “Pathology of Fatal Child Abuse”: “The absolute dependence of infants and children upon their parents or adult custodians renders them susceptible to a range of fatal maltreatment and neglect that defies the imagination of a thousand nightmares.”⁴⁷ Intentional starvation or extreme medical neglect is well-established examples of deaths with an extent of negligence that warrants a homicide manner determination.^{1,48–51} There is little professional discord about this manner certification. Other examples of environmental pediatric neglect, however, are less clear, and the manner determinations vary by jurisdiction based on local custom and medicolegal reasoning, which may still, however, maintain local consistency. When inadvertent environmental exposures, intoxications, and drownings occur in competent adults, the manners are commonly certified as accidents.

The ME/C's manner determination is not binding on any prosecutor. In fact, there are deaths involving criminal acts that, by convention, are certified as accidents (eg, a pedestrian struck by a motor vehicle operated by an intoxicated driver) even though the alleged perpetrator may be criminally charged (eg, vehicular manslaughter). In addition, there are deaths that are certified with a manner of homicide (eg, a shooting in self-defense) that are not criminally charged because the use of force was deemed justified.

Nonnatural pediatric deaths are often headline news, and it is important for the public to understand that ME/C certifications are public health determinations that do not distinguish murder, manslaughter, or criminally negligent homicide. Death certifications are not legally binding on police or prosecuting attorneys. Homicides, as defined by the ME/C, are violent deaths at the hand of another person or deaths due to the hostile or illegal acts of another person, usually exclusive of most motor vehicle and sport-related injury deaths.^{52–55} The National Association of Medical Examiners published “A Guide for the Manner of Death Classification,” which defined homicide as deaths from volitional acts committed by another person to cause fear, harm, or death.⁵³ Intent to cause death/harm is a common element but is not

The authors report no conflict of interest or funding.
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ISSN: 0195-7910/24/0000-0000
DOI: 10.1097/PAF.0000000000000911

universally required for classification as homicide.⁵³ The Organization of Scientific Area Committees for Forensic Science defined homicide as “death as a result of a volitional act committed by another person (eg, injury, poisoning).”⁵⁶

A study surveyed 144 board-certified forensic pathologists on how they would certify the manner of a number of pediatric environmental neglect-related deaths.⁴² The average number of years in forensic pathology practice was 16, and the range was 0.5 to more than 40 years. Of the respondents, 82% had been forensic pathologists for more than 5 years. The jurisdictional populations averaged 3.8 million. The study included scenarios for hyperthermia, intoxications, drowning, and positional asphyxia (sleep environment). Various factors within the circumstances of these deaths were examined to identify those that may affect manner determination.

Hyperthermia

Hyperthermia scenarios involving vehicles have different fact patterns, including the child entering the car on their own, caregivers intentionally and unintentionally leaving a child in the car, and caregivers putting the child in the car as punishment. In these scenarios, the manner was more likely to be certified as a homicide if the caregiver intentionally (knowingly) left the child in the car (35–87% certified as homicide with variations depending upon specific details of the scenario).

In addition, the motives for intentionally leaving the child in the vehicle affected the manner certification. For example, the child who was left in the car while the caregiver went into the grocery store was less likely to be certified as homicide (35%) than when the caregivers left the child in the car to visit a casino (73%) or when the caregiver placed the child in the car for punishment (87%). A child inadvertently left in the car was certified as an accident by 77% of respondents and as homicide by 13%. After investigations, explanations as to why a child was inadvertently left in a car have included a change in the caregiver's/family's routine that day, some other physiologic (eg, lack of sleep, illness) or new onset psychosocial stressor on that day, and large vehicles (eg, buses) with multiple children.⁸

Intoxications

For the intoxication deaths, an inadvertent ingestion of another person's prescription drug (eg, ingesting a pill dropped on the floor) was certified as an accident by 99% of respondents (1% certified it as a homicide). If, however, the drug was illicit (eg, cocaine), 34% certified the death as a homicide. Therefore, the type of drug (licit versus illicit) affected the manner of certification. If an adult intentionally gave the drug for nonmedical purposes (eg, a daycare provider gives an infant diphenhydramine to put the child to sleep), 92% certified the death as a homicide.

Drownings

For the drowning deaths, no respondent certified an unsupervised toddler who drowned in a pool as a homicide (98% accidents). For unsupervised deaths in bathtubs, however, the age of the child affected the manner determination. A 3-month-old infant left unsupervised in the bathtub was certified as homicide by 40% of respondents, as an accident by 43%, and as undetermined by 17%. An ambulatory 2-year-old toddler left in the bathtub was certified as a homicide by 3%, with 78% choosing accident and 19% choosing undetermined. In the latter age group, disparate manner determinations are likely predicated on the presence or absence of exculpatory autopsy findings (eg, the identification of potentially incapacitating chemical or mechanical injury or natural disease). The prominent use of “undetermined” may

also indicate that there is significant variation in certifiers' levels of comfort with the reliability and veracity of the history given in different scenarios.

Unsafe Sleep

For the deaths occurring in an unsafe infant sleeping environment, the majority were certified as accidents (more than 70% in all scenarios) with the instance of the infant wedged between the bed and the adjacent wall having the highest percentage certified as accident (94%). The variations in this group largely involved accident versus undetermined. In one scenario involving an overlay by an intoxicated adult, 13% of respondents certified the death as homicide (77% certified it as accident). Although these scenarios specifically described common positional asphyxia-type deaths, the certification of the cause of death in these instances also can be challenging.^{40,57} Therefore, some of the undetermined manner selections may be a result of the respondent concluding that the cause of death also was undetermined (eg, unexplained sudden death, sudden unexplained infant death). The cause of death determination in these sleep scenarios, like the manner, may be affected by training, local customs, and variables relating to the extent of the investigation (eg, scene reenactment, autopsy results, etc). Strict diagnostic criteria have been proposed to invoke an asphyxial etiology.⁴¹

DISCUSSION

In scenarios in which the child got themselves into the hazardous position (eg, car, pool), the manner of death was often certified as an accident. If a caregiver placed or left the child in the hazardous environment (a hot car, bathtub), then more were certified as homicides, with the exception of the unsafe sleep scenarios. Whether the death was attributable to an act of omission versus one of commission appears to be a consideration in manner determination. Did the child enter the car on their own, or was the child put in the car? Also, if placed in the car, was the child left there apparently intentionally or unintentionally? Did the child ingest the pill that had been dropped on the floor or was the child administered the drug? An area that we do not address is a child's access to a firearm.^{58–60} The approach to these deaths may be similar to those that allow a child access to an illicit drug or an unsupervised potentially dangerous environment.

Legally, criminal neglect is defined as conduct in which a person ignores a known or obvious risk (disregards the life/safety of others), “recklessness,” or when a person acts significantly differently than an ordinary or reasonable person would under similar circumstances.^{61,62} It may be helpful when considering an individual case to consider the legal concept of the reasonable person standard.⁶³ This standard has been used in the legal system to facilitate determination of the degree of culpability in a situation that arises out of some degree of negligence. It rests on the premise of defining what amount of care or caution a fictional “reasonable person” would be expected to use in a similar situation. Although the use of this standard may not alleviate the subjectivity of the death certification, it may serve to guide or clarify the thought processes leading up to the determination. If, for example, the certifier would not expect an individual to possess the medical knowledge to recognize the severity of a child's symptoms before death, such a death may be appropriate to certify as natural; however, if the certifier was of the opinion that the symptoms would have prompted a reasonable person to seek medical attention for the child, a homicide determination may be a legitimate consideration.^{47,48,64,65}

Many of these issues of neglect are for a jury to decide. Nonetheless, ME/C often face similarly subjective questions in their deliberations regarding manner, including how to avoid

allowing their personal feelings and beliefs to become a consideration. An acknowledgment of this challenge and an understanding that there are reasonable differences of opinion in these deaths offer support for ME/C who may be criticized for an unpopular determination or pressured for a specific manner of death.^{66,67}

National Association of Medical Examiners' "A Guide for the Manner of Death Classification" noted that medical examiners and coroners have debated for decades about how manners of death should be classified and defined.^{53,68–71} Discussions have included the scenarios outlined here involving hyperthermia and drowning. The guide notes: "Deaths in which infants/young children die because of placement in a potentially hostile environment (such as in a bathtub with water, or being left in a locked car) may be classified as accident if there is no evidence of intent to harm the child."⁵³ On balance, the authors also go on to emphasize that the classification of homicide for death certification purposes is a "neutral" term ("death at the hand of another") and neither indicates, implies, nor requires criminal intent, the latter remaining largely a legal determination.⁵³

CONCLUSIONS

Death certifications are administrative determinations made for public health purposes. Some manner of death determinations do vary from jurisdiction to jurisdiction based on local custom and medicolegal reasoning.^{42–46,68–71} Recognizing local variations and understanding the role of the death certificate are important in placing the manner of death in proper legal and public health perspectives. Individual ME/Cs often must "defend" their opinions, and therefore, criteria that promote internal consistency are helpful. These criteria and consistency may extend to individual offices with the caveat that "office policy" should not, for the sake of consistency, trump reasoned judgments in nuanced cases. As long as certifiers maintain consistency and avoid arbitrary or capricious decisions, these variations are professionally acceptable and will continue. Based on the aforementioned survey results, however, there are useful criteria to be considered when certifying these deaths. There is always room for offices to reassess their practices in light of demonstrated relevant considerations and widely held professional consistency. Considerations include the intentional actions of the child versus the caregiver (knowingly placing or leaving a child in a location that creates a risk of harm to the child's health or safety), inadvertent occurrences, illegal actions, and the history and extent of the neglect. Some will use reasoning similar to that for typical traffic fatalities in which most, by convention, are certified with an accidental manner, if there is no apparent intent to cause harm. Despite having some criteria, variations in manner determination will continue to exist, and likewise, such cases will continue to pose a challenge for the ME/C. Although it is impossible to prescribe a "correct" manner for every possible scenario, a better understanding of the decision-making criteria in common usage may help increase consistency individually, locally, and nationally.

REFERENCES

1. Knight LD, Collins KA. A 25-year retrospective review of deaths due to pediatric neglect. *Am J Forensic Med Pathol.* 2005;26(3):221–228.
2. Berkowitz CD. Fatal child neglect. *Adv Pediatr.* 2001;48:331–361.
3. Ross AH, Juarez CA. A brief history of fatal child maltreatment and neglect. *Forensic Sci Med Pathol.* 2014;10(3):413–422.
4. Wissow LS. Child abuse and neglect. *N Engl J Med.* 1995;332(21):1425–1431.
5. Child Welfare Information Gateway. (2022). Definitions of Child Abuse and Neglect. U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau. Available at: <https://www.childwelfare.gov/topics/systemwide/laws-policies/statutes/define/>. Accessed December 19, 2023.
6. Zumwalt R, Petty CS, Holman W. Temperatures in closed automobiles in hot weather. *Forensic Sci Gazette.* 1976;7:7–8.
7. Booth JN 3rd, Davis GG, Waterbor J, et al. Hyperthermia deaths among children in parked vehicles: an analysis of 231 fatalities in the United States, 1999–2007. *Forensic Sci Med Pathol.* 2010;6(2):99–105.
8. Quinton RA. Certification of vehicular hyperthermia deaths in the pediatric population. *Acad Forensic Pathol.* 2016;6(4):657–662.
9. Krous HF, Nadeau JM, Fukumoto RI, et al. Environmental hyperthermic infant and early childhood death: circumstances, pathologic changes, and manner of death. *Am J Forensic Med Pathol.* 2001;22(4):374–382.
10. Grundstein AJ, Duzinski SV, Dolinak D, et al. Evaluating infant core temperature response in a hot car using a heat balance model. *Forensic Sci Med Pathol.* 2015;11(1):13–19.
11. Parker KM, Lera TA Jr. Acute isopropanol ingestion: pharmacokinetic parameters in the infant. *Am J Emerg Med.* 1992;10(6):542–544.
12. Baker AM, Johnson DG, Levisky JA, et al. Fatal diphenhydramine intoxication in infants. *J Forensic Sci.* 2003;48(2):425–428.
13. Levine B, Moore KA, Aronica-Pollak P, et al. Oxycodone intoxication in an infant: accidental or intentional exposure? *J Forensic Sci.* 2004;49(6):1358–1360.
14. Nine JS, Rund CR. Fatality from diphenhydramine monointoxication: a case report and review of the infant, pediatric, and adult literature. *Am J Forensic Med Pathol.* 2006;27(1):36–41.
15. Tardiff K, Marzuk PM, Leon AC, et al. Accidental fatal drug overdoses in New York City: 1990–1992. *Am J Drug Alcohol Abuse.* 1996;22(2):135–146.
16. Palmiere C, Staub C, La Harpe R, et al. Parental substance abuse and accidental death in children. *J Forensic Sci.* 2010;55(3):819–821.
17. Minera G, Robinson E. Accidental acute alcohol intoxication in infants: review and case report. *J Emerg Med.* 2014;47(5):524–526.
18. Allibe N, Eysseric-Guerin H, Kintz P, et al. Amitriptyline poisoning of a baby: how informative can hair analysis be? *Forensic Sci Int.* 2015;249:53–58.
19. Somers GR, Chiasson DA, Smith CR. Pediatric drowning: a 20-year review of autopsied cases: III. Bathtub drownings. *Am J Forensic Med Pathol.* 2006;27(2):113–116.
20. Somers GR, Chiasson DA, Smith CR. Pediatric drowning: a 20-year review of autopsied cases: II. Pathologic features. *Am J Forensic Med Pathol.* 2006;27(1):20–24.
21. Somers GR, Chiasson DA, Smith CR. Pediatric drowning: a 20-year review of autopsied cases: I. Demographic features. *Am J Forensic Med Pathol.* 2005;26(4):316–319.
22. Simon HK, Tamura T, Colton K. Reported level of supervision of young children while in the bathtub. *Ambul Pediatr.* 2003;3(2):106–108.
23. Quan L, Cummings P. Characteristics of drowning by different age groups. *Inj Prev.* 2003;9(2):163–168.
24. Alpert B. Bathtub drowning: unintentional, neglect, or abuse. *Med Health R I.* 2003;86(12):385–386.
25. Schmidt P, Madea B. Death in the bathtub involving children. *Forensic Sci Int.* 1995;72(2):147–155.
26. Lavelle JM, Shaw KN, Seidl T, et al. Ten-year review of pediatric bathtub near-drownings: evaluation for child abuse and neglect. *Ann Emerg Med.* 1995;25(3):344–348.
27. Kemp AM, Mott AM, Sibert JR. Accidents and child abuse in bathtub submersions. *Arch Dis Child.* 1994;70(5):435–438.
28. Mizuta R, Fujita H, Osamura T, et al. Childhood drownings and near-drownings in Japan. *Acta Paediatr Jpn.* 1993;35(3):186–192.

29. Feldman KW, Monastersky C, Feldman GK. When is childhood drowning neglect? *Child Abuse Negl.* 1993;17(3):329–336.
30. Diekema DS, Quan L, Holt VL. Epilepsy as a risk factor for submersion injury in children. *Pediatrics.* 1993;91(3):612–616.
31. Jensen LR, Williams SD, Thurman DJ, et al. Submersion injuries in children younger than 5 years in urban Utah. *West J Med.* 1992;157(6):641–644.
32. Quan L, Gore EJ, Wentz K, et al. Ten-year study of pediatric drownings and near-drownings in King County, Washington: lessons in injury prevention. *Pediatrics.* 1989;83(6):1035–1040.
33. Pearn JH, Brown J 3rd, Wong R, et al. Bathtub drownings: report of seven cases. *Pediatrics.* 1979;64(1):68–70.
34. Pearn J, Nixon J. Bathtub immersion accidents involving children. *Med J Aust.* 1977;1(7):211–213.
35. Blair PS, Fleming PJ, Smith IJ, et al. Babies sleeping with parents: case-control study of factors influencing the risk of the sudden infant death syndrome. CESDI SUDI research group. *BMJ.* 1999;319(7223):1457–1461.
36. Li L, Fowler D, Liu L, et al. Investigation of sudden infant deaths in the state of Maryland (1990–2000). *Forensic Sci Int.* 2005;148(2–3):85–92.
37. Byard RW. Hazardous infant and early childhood sleeping environments and death scene examination. *J Clin Forensic Med.* 1996;3:115–122.
38. Garstang J, Ellis C, Griffiths F, et al. Unintentional asphyxia, SIDS, and medically explained deaths: a descriptive study of outcomes of child death review (CDR) investigations following sudden unexpected death in infancy. *Forensic Sci Med Pathol.* 2016;12(4):407–415.
39. Randall BB, Wade SA, Sens MA, et al. A practical classification schema incorporating consideration of possible asphyxia in cases of sudden unexpected infant death. *Forensic Sci Med Pathol.* 2009;5(4):254–260.
40. Pasquale-Styles MA, Regensburg M, Bao R. Sudden unexpected infant death certification in New York City: intra-agency guideline compliance and variables that may influence death certification. *Acad Forensic Pathol.* 2017;7(4):536–550.
41. Bundock E, Corey T, eds. National Association of Medical Examiners Panel on sudden unexpected death in pediatrics: unexplained pediatric deaths: investigation, certification, and family needs San Diego, CA: Academic Forensic Pathology International; 2019.
42. Mahar TJ, Keyes K, Ely SF, et al. Assessing neglect in pediatric environmental deaths: a survey of manner of death determinations. *Am J Forensic Med Pathol.* 2023;44(4):251–257.
43. Gill JR, Girela-López E. Manner of death for in-custody fatalities. *Acad Forensic Pathol.* 2015;5(3):402–413.
44. Neitzel AR, Gill JR. Death certification of “suicide by cop”. *J Forensic Sci.* 2011;56(6):1657–1660.
45. Gill JR, Maloney KF, Hirsch CS. The consistency and advantage of therapeutic complication as a manner of death. *Acad Forensic Pathol.* 2012;2(2):176–181.
46. Warner M, Paulozzi LJ, Nolte KB, et al. State variation in certifying manner of death and drugs involved in drug intoxication deaths. *Acad Forensic Pathol.* 2013;3(2):231–237.
47. Zumwalt RE, Hirsch CS. Pathology of fatal child abuse. In: Helfer RE, Kempe RS, eds. *The Battered Child.* 4th ed. Chicago, IL: The University of Chicago Press; 1987:247–285.
48. Adelson L. Homicide by starvation: the nutritional variant of the “battered child”. *JAMA.* 1963;186(5):458–460.
49. Davis JH, Rao VJ, Valdes-Dapena M. A forensic science approach to a starved child. *J Forensic Sci.* 1984;29(2):663–669.
50. Sarvesvaran ER. Homicide by starvation. *Am J Forensic Med Pathol.* 1992;13(3):264–267.
51. Schmidt P, Grass H, Madea B. Child homicide in Cologne (1985–94). *Forensic Sci Int.* 1996;79(2):131–144.
52. Adams VI, Flomenbaum MA, Hirsch CS. Trauma and disease. In: Spitz WU, ed. *Spitz and Fisher's Medicolegal Investigation of Death.* 4th ed. Springfield, IL: Charles C Thomas; 2006:436–459.
53. Hanzlick R, Hunsaker JC, Davis GJ. *A Guide for the Manner of Death Classification.* Atlanta, GA: National Association of Medical Examiners; 2002.
54. Oliver WR. Intent in manner determination. *Acad Forensic Pathol.* 2012;2(2):126–137.
55. Oliver WR. Manner determination in forensic pathology. *Acad Forensic Pathol.* 2014;4(4):480–491.
56. OSAC 2022-N-0026 MDI Terms Definitions 2.0. National Institute of Standards and Technology, U.S. Department of Commerce, July 2022. Available at: <https://www.nist.gov/system/files/documents/2022/08/30/OSAC%202022-N-0026%20MDI%20Terms%20Definitions.REGISTRY%20VERSION.pdf>. Accessed December 19, 2023.
57. Pasquale-Styles MA, Tackitt PL, Schmidt CJ. Infant death scene investigation and the assessment of potential risk factors for asphyxia: a review of 209 sudden unexpected infant deaths. *J Forensic Sci.* 2007;52(4):924–929.
58. Prahlow JA. Fatal gunshot wounds in young children. *Acad Forensic Pathol.* 2016;6(4):691–702.
59. Lancia M, Rosati V, Gioia S, et al. An unusual case of unintentional firearm death of a 3-year-old child. *Am J Forensic Med Pathol.* 2014;35(3):178–180.
60. Miller M, Azrael D, Hemenway D. Firearm availability and unintentional firearm deaths, suicide, and homicide among 5–14 year olds. *J Trauma.* 2002;52(2):267–274; discussion 274–265.
61. Dubowitz H, Black M, Starr R, et al. A conceptual definition of child neglect. *Criminal Justice Behav.* 1993;20(1):8–26.
62. *New Directions in Child Abuse and Neglect Research.* Washington, DC: National Academies Press (US); 2014.
63. Miller AD, Ronen P. The reasonable person. *N Y Univ Law Rev.* 2012;87(2):323–392.
64. Adelson L. Pesticide revisited. The slaughter continues. *Am J Forensic Med Pathol.* 1991;12(1):16–26.
65. Zumwalt RE, Hirsch CS. Subtle fatal child abuse. *Hum Pathol.* 1980;11(2):167–174.
66. Melinek JTL, Oliver WR, Schmunk GA, et al. National Association of Medical Examiners position paper: medical examiner, coroner, and forensic pathologist Independence. *Acad Forensic Pathol.* 2013;3(1):93–98.
67. Luzi SAMJ, Oliver WR. Medical Examiners' Independence is vital for the health of the American legal system. *Acad Forensic Pathol.* 2013;3(1):84–92.
68. Hanzlick R, Goodin J. Mind your manners. Part III: individual scenario results and discussion of the National Association of medical examiners manner of death questionnaire, 1995. *Am J Forensic Med Pathol.* 1997;18(3):228–245.
69. Lu TH, Sun SM, Huang SM, et al. Mind your manners: quality of manner of death certification among medical examiners and coroners in Taiwan. *Am J Forensic Med Pathol.* 2006;27(4):352–354.
70. Goodin J, Hanzlick R. Mind your manners. Part II: general results from the National Association of medical examiners manner of death questionnaire, 1995. *Am J Forensic Med Pathol.* 1997;18(3):224–227.
71. Hanzlick RL, Goodin J, Haden-Pinneri K. Mind your manners: 20 years later. *Acad Forensic Pathol.* 2015;5(3):380–395.