
THE UNREASONABLY UNCERTAIN RISKS OF
“REASONABLE MEDICAL CERTAINTY” IN
CHILD ABUSE CASES: MECHANISMS FOR
RISK REDUCTION

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“In these matters, the only certainty is that nothing is certain.” – Pliny the Elder

ABSTRACT

The use of the phrase “reasonable medical certainty” is common in high-stakes child abuse legal trials. Yet, a review of cases since the phrase entered the legal lexicon, as well as a survey of medical professionals, reveals that the meaning

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of the phrase remains unclear. Using Pennsylvania as a case study, the Authors surveyed legal professionals in the Commonwealth to examine their understanding of the definition of the phrase. The Authors found there is limited to no agreement on the meaning of the phrase within the community of legal professionals. The lack of agreement is concerning given the common use of the phrase in high-stakes child abuse cases. The risks of using the phrase in court without an agreed-upon meaning are high: a perpetrator can be found not guilty or an innocent person can be erroneously convicted. To reduce the risks, the Authors recommend that the legal field remove the phrase from the legal lexicon or adopt a model definition that provides greater clarity.

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I. INTRODUCTION

Medical experts are often asked whether they can state their medical opinion with “reasonable medical certainty” (RMC) when testifying in child abuse cases. Though the meaning of the phrase¹ may seem self-explanatory at first glance, in fact, there is a range of meanings attributed to this phrase by attorneys, judges, and testifying witnesses, and often no definition is assigned in the course of legal proceedings.² As a result, there is a high risk of expert testimony being misinterpreted with potential false convictions or improper exonerations in child abuse cases.

The lack of a clear definition of the phrase creates a high risk of negative consequences for children who experience abuse and for the alleged perpetrators.³ Specifically, a false negative, where a court finds the alleged perpetrator did not abuse the child, risks returning the child back to an environment where the child is potentially susceptible to further abuse.⁴ Moreover, a false negative leaves a child abuse perpetrator free to commit further abuses against the child victim and other potentially vulnerable children.⁵ In the case of a false positive, where the court finds the child abuse did occur even though abuse did not occur, the alleged abuser can face serious legal consequences, including prison time and loss of custody of a child.⁶

These high-stakes cases mandate the need for cross-collaboration between the legal and medical fields and for mechanisms to reduce risk. For decades, the cross-collaboration has focused on medical professionals providing supporting evidence in child abuse cases regardless of the

1. In an effort to facilitate the discussion, the use of “the phrase” throughout the Article refers to “reasonable medical certainty” and its variants, which may include but are not limited to: “reasonable degree of medical certainty,” “reasonable medical probability,” and “reasonable scientific certainty.”

2. *See infra* Part II.

3. *See infra* Part IV.B.

4. *See infra* Part IV.B.1.

5. *See infra* Part IV.B.1.

6. *See infra* Part IV.B.2.

understanding of the phrase.⁷ The supporting evidence has helped fact finders reach informed outcomes on the issues presented in child abuse cases. Going forward, these two disciplines will continue to collaborate in child abuse cases. Risk-reduction mechanisms would strengthen the cross-collaboration and benefit all parties involved by providing further clarity for testifying physicians, attorneys, judges, and families facing child abuse allegations.⁸

The goal of this Article is to offer strategies for risk reduction by highlighting the present, pressing issues with the lack of understanding of the legal phrase. The Article first will provide background information on the history and evolution of the phrase in the legal field.⁹ The background is important in understanding the current lack of understanding of the phrase's definition. Next, the Article will present a survey and analysis of use of the phrase in child abuse cases across the United States throughout the decades.¹⁰ Then, the Article will discuss and analyze a survey of the Pennsylvania legal community's understanding of the phrase.¹¹ Finally, the Article will discuss how the current understanding of the phrase in the legal field, as partially illustrated by the survey in Pennsylvania, carries high risks for children and alleged perpetrators.¹² The Authors will propose potential mechanisms to provide better clarity and reduce risks moving forward.¹³ The legal field should promote a clearer definition of this phrase or create a formal, written standard that provides guidance for medical professionals who serve as medical expert witnesses in child abuse cases. The risk of an erroneous definition is too great and could have highly detrimental consequences. Though a common practice is to allow testifying physicians to come to their own understanding of the phrase, without that standard being specified, we simply cannot accept that "[the phrase] is whatever you say [the phrase] is, doctor."¹⁴

7. *See infra* Part IV.

8. *See infra* Part IV.C.

9. *See infra* Part II.

10. *See infra* Part II.C.

11. *See infra* Part III. The survey focuses on the Pennsylvania legal community as an example of what we believe is a nationwide concern. We chose Pennsylvania both because this is the area where the Authors are based and because the Pennsylvania legal community serves as a comparison point with a prior study of medical professionals' understanding of the phrase.

12. *See infra* Part IV.

13. *See infra* Part IV.C.

14. Mark S. Dias et al., *Defining 'Reasonable Medical Certainty' in Court: What*

II. BACKGROUND

A. Brief History and Evolution of the Phrase

The phrase “reasonable medical certainty” originated in the late 1800s to early 1900s in Illinois.¹⁵ Jeff L. Lewin’s seminal article on the genesis and evolution of reasonable medical certainty attributes the creation of the phrase to Illinois lawyers’ attempt to accommodate the tension between the reasonable-certainty rule and the ultimate-issue rule adopted in the late 1800s and early 1900s in Illinois.¹⁶ While attorneys in Illinois began using variants of the phrase to preface questions about causation as early as 1913,¹⁷ it was not until 1916 that the phrase “reasonable certainty” finally appeared in a legal opinion within the reasonable medical certainty context in *Fellows-Kimbrough v. Chicago City Railway Co.*, a personal injury case.¹⁸ The phrase reasonable certainty and its variants did not appear in other personal injury appellate cases between 1916 to 1930.¹⁹ Then, starting in 1931, the phrase reasonable medical certainty (or reasonable degree of medical certainty) resurfaced in workers’ compensation cases.²⁰ In effect, by the 1930s,

Does It Mean to Medical Experts in Child Abuse Cases?, 50 CHILD ABUSE & NEGLECT 218, 224 (2015).

15. Jeff L. Lewin, *The Genesis and Evolution of Legal Uncertainty About “Reasonable Medical Certainty”*, 57 MD. L. REV. 380, 407 (1998).

16. *Id.* at 407–10. The reasonable-certainty rule was used as a standard of proof to qualify medical opinions regarding future injuries when establishing damages. *Id.* at 408. The ultimate-issue rule prohibited medical opinions that expressed definitiveness or certainty regarding issues of causation of existing injuries. *Id.* at 410.

17. *Id.* at 417.

18. *Fellows-Kimbrough v. Chi. City Ry. Co.*, 111 N.E. 499, 502 (Ill. 1916) (“Doctor, referring to the [supposititious] or hypothetical patient and taking into account the elements of the hypothesis, have you an opinion as a medical man, and based upon *reasonable certainty*, as to what was the cause of the neurasthenia and the tumor in the hypothetical patient?”(emphasis added)), *overruled in part by Clifford-Jacobs Forging Co. v. Indus. Comm’n*, 166 N.E.2d 582 (Ill. 1960).

19. *See* Lewin, *supra* note 15, at 420.

20. *See Burns v. Indus. Comm’n*, 191 N.E. 225, 229 (Ill. 1934) (“[I]n [the physician’s] opinion, based upon the hypothetical question and upon a reasonable medical certainty, changes took place due to the inhalation of the fumes.”); *Ford Motor Co. v. Indus. Comm’n*, 192 N.E. 345, 346 (Ill. 1934) (“A hypothetical question based upon the circumstances of the injury and its after-effects was propounded to the witness. [The physician] answered that there is a direct causal relation, with a reasonable degree of medical certainty”); *Plano Foundry Co. v. Indus. Comm’n*, 190 N.E. 255, 260 (Ill. 1934) (“The six medical witnesses for the petitioner, in response to the hypothetical questions, testified in substance that as a matter of reasonable medical certainty death

attorneys in Illinois had adopted the phrase into the normal lexicon in personal injury cases and beyond.²¹ Irving Goldstein then published his 1935 manual, *Trial Technique*, presenting examples of hypothetical questions including the phrase reasonable medical certainty that attorneys could use when examining testifying physicians.²² The incorporation of the phrase into the hypothetical questions included in the manual reflected the pervasive use of the phrase in Illinois²³ but also gave credence to the phrase and promoted its continuous usage among Illinois trial attorneys.²⁴ Goldstein, however, did not explain or define the phrase anywhere in the manual.²⁵ As of the mid-1930s, the phrase did not appear to carry any legal weight.²⁶ However, in 1937 in *Shell Petroleum Corp. v. Industrial Commission*, the court found the evidence in support of the award insufficient because the expert witness physician failed to testify to “any reasonable medical certainty of a causal relationship between the blow on the head and the employee’s total break down.”²⁷ The court did not offer any definition or

was caused by endocarditis The four physicians testifying for the respondents on the cause of death, in response to hypothetical questions, stated, as a matter of reasonable medical certainty”); *Allith-Prouty Co. v. Indus. Comm’n*, 185 N.E. 267, 268 (Ill. 1933) (“[The testifying physician] stated, also, that it was his opinion that the existence of such a causal relation was within a reasonable degree of medical certainty. . . . He stated that it was his opinion that it is within a reasonable degree of medical certainty that a man working under the conditions of the employment of the deceased was exposed to a greater risk of being injured by the elements than were the public generally”); *Sanitary Dist. v. Indus. Comm’n*, 175 N.E. 372, 374 (Ill. 1931) (“[The physician] testified that from the fact, as he had been informed, that English’s decline began after the accident, the submerging in the water of the canal could, with reasonable medical certainty, aggravate a pre-existing nervous tension and increase it to a point where eventually he became disabled.”).

21. See Lewin, *supra* note 15, at 424–25.

22. E.g., IRVING GOLDSTEIN, *TRIAL TECHNIQUE* 455–57 (1935). This part is one of several throughout where “reasonable certainty” is referred to. See *id. passim*.

23. Goldstein explained in the *Trial Technique*’s preface that he collected the illustrations included in the manual “from more than a thousand records of actual cases tried by leading and successful trial attorneys” practicing in the Illinois appellate court in Chicago. *Id.* at v.

24. 1 IRVING GOLDSTEIN & FRED LANE, *TRIAL TECHNIQUE* iii (2d ed. 1969) (emphasizing in the preface, “This all time ‘best seller’ has guided more trial lawyers safely and successfully through the stormy seas of litigation than any other single book in the history of law.”).

25. Lewin, *supra* note 15, at 431.

26. *Id.* at 426.

27. *Shell Petrol. Corp. v. Indus. Comm’n*, 10 N.E.2d 352, 354 (Ill. 1937).

explanation of the phrase, implying its definition was self-evident.²⁸

The popularity of the phrase reasonable certainty and its variants expanded beyond Illinois in subsequent decades into other states across the United States and into federal courts.²⁹ The years between 1935 and 1960 marked a period of dissemination.³⁰ The phrase reasonable medical certainty made its first appearance outside of Illinois in 1941 in the Michigan case *Cole v. Simpson*.³¹ The phrase reasonable medical certainty also appeared in New York, Texas, Minnesota, Missouri, New Jersey, Wisconsin, Indiana, and Ohio cases during the same decade.³² During the 1950s, 12 more states adopted the phrase into their legal lexicon.³³ Secondary sources also began discussing the phrase and perceived meaning in the literature and encouraging its usage among attorneys prefacing questions for physicians.³⁴ By the 1960s, the phrase became so prominent that all but two states had incorporated the phrase in their legal opinions.³⁵ However, as the phrase spread, the definition remained largely unknown, with judges and other legal professionals accepting the phrase without any clear explanation of its meaning.³⁶ The result is a lack of coherence in either definitions or consensus across and throughout the legal and medical fields.³⁷

28. *See id.*

29. *See, e.g.,* *Alexander v. Mo. State Life Ins. Co.*, 68 F.2d 1, 2 (7th Cir. 1933) (“Q. Based upon the above assumption of facts have you an opinion as to whether or not the hypothetical individual received injuries evidenced by the abrasions or bruises which with a reasonable degree of medical certainty might or could have caused the cerebral hemorrhage resulting in the death of the hypothetical individual? . . . Q. Have you an opinion as to whether or not the accident which was evidenced by the abrasions or contusions discovered on the forehead and cheek of the hypothetical individual might or could have had, with a reasonable degree of medical certainty, a causal connection with the death of the hypothetical individual?”); *Vaccaro v. Marra Bros., Inc.*, 130 F. Supp. 12, 13 (E.D. Pa. 1955) (“Have you an opinion with reasonable medical certainty as to whether or not there was causal relation between the traumatic incident on the pier . . . and the coronary conditions . . . ?”); *DeVirgiliis v. Gordon*, 243 A.2d 459, 460 (Pa. Super. Ct. 1968).

30. *See* Lewin, *supra* note 15, at 430–55.

31. *Cole v. Simpson*, 1 N.W.2d 2, 4 (Mich. 1941) (“[The doctor] was asked whether he had any opinion based upon reasonable medical certainty whether or not the findings he ‘had made could have been caused by a fall or being dragged. . . .’”).

32. *See* Lewin, *supra* note 15, at 437–38.

33. *Id.* at 438.

34. *Id.* at 455–56.

35. *Id.* at 456.

36. *Id.* at 458.

37. Molly Gena, Comment, *Shaken Baby Syndrome: Medical Uncertainty Casts*

B. *Disparate Treatment: A Survey of the Use of RMC in Child Abuse Cases*

Ambiguity in the meaning of the phrase raises concerns regarding the testimony of medical professionals in a range of cases. This Article focuses on the narrower area of expert testimony in child abuse cases because these cases exemplify the problems arising from the ambiguity of reasonable medical certainty. These cases are often high stakes for all participants; young age, medical conditions, or both can prevent alleged victims from testifying, and expert testimony may be crucial to reaching a verdict.³⁸ Reliance on the phrase RMC in child abuse cases is a relatively recent phenomenon, having only gained widespread use in the 1980s.³⁹

The following Part presents child abuse cases that helped establish RMC (or one of its variants) in the context of expert testimony concerning the occurrence of child abuse, the timing of injuries related to alleged abuse, or both. This Part will note if the phrase is used in a different context. Noting its increased use throughout the decades,⁴⁰ this Part will focus on cases in which attorneys, physicians, or judges reference reasonable medical certainty.

1. *The Early Days: 1940s–1970s*

RMC appeared in a child abuse case as early as 1944. In *State v. Plunkett*, the defendant was convicted of first-degree murder of his five-month-old child.⁴¹ During the trial, the state asked an expert physician:

Q. From your testimony, which you have just given, and based upon *reasonable medical certainty*, do you have an opinion as to what might have caused the death of the child?" [The physician proceeded to explain his opinion:] "A. From the examination and appearance of the child's face, it occurred to me that a large hand could have been in that manner (indicating hand spread over face with fingers spread and extended) been placed on the baby's face. From a careful examination

Doubt on Convictions, 2007 WIS. L. REV. 701, 716–18 (2007) (describing the lack of agreed definition in the medical and legal fields); *see generally* Dias et al., *supra* note 14.

38. *See, e.g.*, *Galloway v. State*, 122 So. 3d 614, 666–67 (Miss. 2013) (quoting *Schulz v. Celotex Corp.*, 942 F.2d 204, 597 (3d Cir. 1991)).

39. *See* discussion *infra* Part II.B.2.

40. The following key search terms on LexisNexis yielded 1,292 cases: (reasonable w/4 medial w/2 certainty AND (child or minor or underage or baby or kid)) w/5 (abuse or murder or assault or harassment).

41. *State v. Plunkett*, 149 P.2d 101, 103, 105–06 (Nev. 1944).

of the child’s face I cannot see how the injury could occur from an accidental injury, for instance, a fall.⁴²

The court went on to explain that a physician is allowed to testify as to the cause of the injury and to explain that the opinion rendered was based on the judgment of the physician.⁴³ However, the court did not explain the meaning of RMC and did not appear to give the phrase any particular legal meaning or weight.⁴⁴

The phrase appeared again in a 1967 child abuse case in which a medical expert testified that the crime was a product of the defendant’s mental disease.⁴⁵ The court explained the question was not appropriate because the question was asking about outcome, rather than causation.⁴⁶ The court then suggested how to phrase an appropriate question including the phrase:

The correct form of question for counsel to put is to ask the expert to assume, but only for purposes of the case, that the accused did in fact commit the act charged and then inquire if the expert has an opinion based on reasonable medical certainty whether there is any causal relationship between the assumed act and the mental abnormality he has described.⁴⁷

The court did not explain what RMC meant but did imply that the use of the phrase was required, or at least strongly recommended its use when examining experts.⁴⁸

The 1970s saw a slow growth in the use of RMC in child abuse cases; however, the Authors found no documented discussion about its meaning or how much legal emphasis should be accorded to the phrase.⁴⁹ *People v. Ewing* is a noteworthy case from this decade because without further explanation or discussion, the court placed emphasis on the phrase, noting

42. *Id.* at 107 (emphasis added).

43. *Id.*

44. *See id.*

45. *Harried v. United States*, 389 F.2d 281, 285 n.3 (D.C. Cir. 1967).

46. *Id.*

47. *Id.*

48. *See id.*

49. *See, e.g., People v. Ewing*, 140 Cal. Rptr. 299 *passim* (Ct. App. 1977); *In re T. Y. K.*, 598 P.2d 593, 594 (Mont. 1979); *In re Phillips*, No. 78AP-371, 1978 WL 217263, at *2 (Ohio Ct. App. Dec. 21, 1978); *Commonwealth v. Blevins*, 309 A.2d 421, 425 (Pa. 1973).

its importance with quotation marks.⁵⁰ The electronic database utilized for scanning case law recognized the implied importance of the phrase, and subsequently included RMC in the case summary and encouraged the use of the phrase by including the phrase in the case headnotes.⁵¹

2. *Decades of Diffusion: 1980s–1990s*

During the 1980s, the use of RMC proliferated, as did the need to understand its meaning. As courts increasingly referenced the importance of RMC, it became the subject of greater discussion. For example, in *State v. Jurgens*, the defendant argued that the state had not met its burden of proof (requiring guilt beyond a reasonable doubt) because the expert testified only to a reasonable medical certainty that the injuries were non-accidental.⁵² In response to the defendant's argument, the court explained that circumstantial evidence, including the medical testimony, was sufficient to support a conviction.⁵³ The defendants in *Commonwealth v. Hart* raised a similar argument, disputing the sufficiency of the state's evidence, alleging that a conviction required greater certainty than the expert physician's

50. *Ewing*, 140 Cal. Rptr. at 300 (“Both doctors testified to ‘a reasonable medical certainty’ that the child was a victim of the battered child syndrome.”).

51. The third headnote in *Ewing* indexed “Infants § 16—Offenses Against Infants—Child Abuse—Sufficiency of Evidence—Appeal” reads:

On appeal by defendant from a conviction of abusing a child of thirteen months under circumstances likely to produce great bodily harm or death . . . , there was substantial evidence from which the jury could reasonably infer that defendant had deliberately inflicted severe injuries on the child, where, although defendant's denial of guilt formed the only direct evidence, two doctors who examined the child when she was brought to the hospital suffering from three separate subdural hematomas, one of which proved fatal, testified to a *reasonable medical certainty* that the child was a victim of the battered child syndrome”

Id. (emphasis added) (internal citations omitted).

52. *State v. Jurgens*, 424 N.W.2d 546, 555 (Minn. Ct. App. 1988); *see also* *Roden v. Solem*, 431 N.W.2d 665, 669 (S.D. 1988) (describing the defendant's argument that the doctor failed to qualify the conclusion with reasonable medical certainty but lacking further discussion on the defendant's argument); *State v. McIntosh*, No. 85-27-III, 1986 WL 5880, at *1-2 (Tenn. Crim. App. May 23, 1986) (describing that “[t]he medical testimony showed that the physical condition of the eleven-year old was consistent with penetration, although it could not be established with reasonable medical certainty” and explaining the defendant's argument that the evidence was not sufficient to support a conviction).

53. *Jurgens*, 424 N.W.2d at 555.

testimony that reasonable medical certainty existed.⁵⁴ The court responded as follows:

While a conviction may not be based on suspicion or surmise, the Commonwealth need not establish guilt to a mathematical certainty and may rely wholly on circumstantial evidence. . . .

Appellants’ challenge to their convictions of murder is an attack on the testimony of the medical examiner. Doctor Catherman was unable to state the cause and manner of Misty’s death with absolute certainty, but he repeatedly stated that he held his opinion with “a reasonable degree of medical certainty.” . . . [T]he doctor’s testimony established far more than a *probability* that Misty’s death was caused by a criminal act.⁵⁵

In this case, the court might not have defined the meaning of RMC, but it did provide insight into how the court conceptualized the phrase.⁵⁶ First, the court indicated that RMC was distinct from both mathematical certainty and absolute certainty.⁵⁷ Second, the court noted that RMC implied “far more than a probability.”⁵⁸ However, even with its expanded discussion, the court’s explanation remained somewhat vague because it focused on what RMC is not, rather than what it is.⁵⁹ Third, the court’s ruling implied that RMC was sufficient to establish the connection needed for legal judgment.⁶⁰

During the 1980s, there was minimal overt discussion of RMC, but the use of the phrase was frequently reinforced in legal proceedings. Courts often incorporated RMC in their opinions in passing, implying its importance while at the same time failing to explain either its legal weight or explicit definition.⁶¹ For example, in *United States v. Lingle* the court implied

54. *Commonwealth v. Hart*, 501 A.2d 675, 677 (Pa. Super. Ct. 1985) (“Appellants argue that the evidence was insufficient to establish beyond a reasonable doubt . . .”).

55. *Id.* (internal citations omitted).

56. *See id.*

57. *Id.*

58. *Id.*

59. *See id.*

60. *Id.*

61. *Ex rel J.A.J.*, 652 S.W.2d 745, 747 (Mo. Ct. App. 1983) (“In conclusion, Dr. Venglarcik found, based upon a reasonable medical certainty, that M.J.D. was a victim of parental abuse because he suffered a ‘constellation of injuries [which were] not adequately explained by the history given.’” (alteration in original)); *see also* *Pinkerton v. State*, 784 P.2d 671, 677 (Alaska Ct. App. 1989) (“She claims that none of the

physicians who testified for the prosecution could state with reasonable medical certainty whether R.J. would have lived had she taken the child to the hospital earlier.”); *State v. Bass*, 385 N.W.2d 243, 244 (Iowa 1986) (“[C]an you state then in terms of reasonable medical certainty an opinion about the possibility of 9:30 p.m. being the time the injuries were received? A. In my opinion it would be exceedingly unlikely”); *State v. Pollard*, 719 S.W.2d 38, 41–42 (Mo. Ct. App. 1986) (“PROSECUTOR: Now, based upon your examination of the victim in this case, [S.J.’s name deleted], based upon your training and expertise as a pediatrician and as a staff pediatrician at Cardinal Glennon Memorial Hospital, based upon the examination you have performed as a pediatrician at Cardinal Glennon Memorial Hospital of children within the bounds of reasonable medical certainty, do you have a conclusion as to whether your findings are consistent with some type of anal penetration? A. There’s no doubt in my mind.” (alteration in original)); *State v. Closterman*, 687 S.W.2d 613, 617 (Mo. Ct. App. 1985) (“Do you have an opinion consistent with reasonable medical certainty of the cause of death? . . . Did you, from the examination do you have an opinion consistent with reasonable medical certainty of the cause of death?”); *State v. Forrester*, No. CA-88-7, 1989 WL 75749, at *1 (Ohio Ct. App. June 21, 1989) (“Dr. Tate did state within a reasonable medical certainty that the child had died due to blunt force trauma to the head. This was irreconcilable with any reasonable theory of the Defendant’s innocence.”); *State v. Boston*, No. 13017, 1988 WL 26184, at *3 (Ohio Ct. App. Mar. 2, 1988) (“Dr. Asch also testified that ‘probable’ meant 95 to 99 percent certainty while ‘possible’ meant being greater than 50 percent. Boston asserts that the expert’s opinion must be based on reasonable medical certainty and not mere possibility However, all that is required is that the context and phrasing of the doctor’s statement make it clear that she is testifying that something is at least more likely than not. . . . The doctor explained that ‘possible’ meant more likely than not.”), *rev’d on other grounds*, 545 N.E.2d 1220, 1240 (Ohio 1989); *State v. Wagner*, 508 N.E.2d 164, 165 (Ohio Ct. App. 1986) (“The doctor opined within reasonable medical certainty that the child had suffered trauma to his anal area consistent with sexual abuse.”); *State v. Schneider*, C.A. No. L-84-214, No. L-84-214, 1984 WL 3719, at *2 (Ohio Ct. App. Dec. 21, 1984) (“Q. Now, Doctor, did you also reach an opinion, based upon a reasonable medical certainty as to the cause of death of Patricia Schneider? A. Yes.”); *State v. Golebiewski*, No. L-83-306, 1984 WL 7877, at *2 (Ohio Ct. App. May 11, 1984) (“The doctor further testified, based on reasonable medical certainty, that the injuries to the vaginal area were caused by an instrument consistent with the diameter of a toy plastic gun which was found at the scene of the crime.”); *Ex rel. T.L.J.*, 303 N.W.2d 800, 805 (S.D. 1981) (“That according to the expert medical testimony of the treating physician, Dr. Haase, the injuries and the pattern thereof suffered by T.L.J. were, based upon the medical history, consistent with injuries by a hot liquid and were, based upon a reasonable medical certainty, of a type classically described as an immersion type burn, which is generally not accidental in nature.”); *State v. Perry*, No. 1237, 1989 WL 128527, at *1–2 (Tenn. Crim. App. Oct. 25, 1989) (“Are you saying, doctor, that in your medical opinion within a reasonable medical certainty what you found in examining this child, the opening to the hymen was consistent with her history of two finger pene-or digital penetration? A. Yes, sir.”); *Ebert v. Kettner*, 447 N.W.2d 62, 63 (Wis. Ct. App. 1989) (“He conceded on cross-examination that Dawn had reportedly handled her appearance in criminal proceedings very well, that she may handle court stress ‘better than an average patient,’ and that he could not,

the importance of RMC.⁶² Yet the court did not offer any discussion of the phrase beyond appending the words “beyond any” in front of the phrase, thereby distinguishing it from absolute certainty.⁶³

The 1980s also saw the use of RMC in two opposing categorical approaches. One approach adopted by courts required RMC as the legal standard to establish causation.⁶⁴ In the second approach, the courts held that the expert physician did not need to assert reasonable medical certainty in order to corroborate abuse.⁶⁵ In both approaches, the courts did not

to a reasonable medical certainty, attribute Dawn’s prior behavior difficulties to the alleged assault.”).

62. See *United States v. Lingle*, 27 M.J. 704, 706 (A.F.C.M.R. 1988).

63. See *id.* (“In Dr. Talarico’s experience an accidental spiral fracture is ‘very, very unlikely’ in a three year old child, and it was ‘*beyond any reasonable medical certainty*’ that the injury was an accident.”(emphasis added)).

64. *State v. New*, Nos. 11-171, 11-259, 1986 WL 14588, at *6 (Ohio Ct. App. Dec. 19, 1986) (“The test as to the admissibility of the opinion of a doctor is as follows: [T]he witness must connect the [symptoms with the alleged abuse] with a reasonable medical certainty. Probability, and not possibility is required.” (first alteration in original)); *State v. Holland*, 346 N.W.2d 302, 311 (S.D. 1984) (Henderson, J., dissenting) (“When in the course of this murder-manslaughter prosecution, the State must prove cause of death, said causation must be established within a reasonable medical certainty.”); see also *Miller v. State*, 448 N.E.2d 293, 296 (Ind. 1983) (explaining that the expert physician qualified his different conclusions to a reasonable medical certainty but lacking explanation or definition of the phrase); *State v. Ostlund*, 416 N.W.2d 755, 758–60 (Minn. Ct. App. 1987) (quoting excerpts from the expert testimony offered at trial, each excerpt including the phrase reasonable medical certainty but lacking further explanation as to the significance or meaning of the phrase); *State v. Applegate*, 668 S.W.2d 624, 632 (Mo. Ct. App. 1984) (insinuating the importance of the phrase by explaining how the expert continuously reached medical conclusions to a reasonable medical certainty but lacking further explanation as to the significance or meaning of the phrase); *State v. Lima*, 546 A.2d 770, 773–74 (R.I. 1988) (“This court has long held that we require that expert testimony speak in terms of strong probability, not mere possibility. . . . *Adams* does not require of the expert the use of the talismanic phrase ‘strong probability.’ The expert must merely testify to the effect that he reached his conclusion with reasonable medical certainty.”), *superseded by statute*, 11 R.I. GEN. LAWS ANN. § 11-9-5.3 (West 2018), *as recognized in* *State v. Sivo*, 925 S.2d 901 (R.I. 2007).

65. *State v. Coleman*, 426 N.W.2d 889, 894 (Minn. Ct. App. 1988) (“[The doctor] could not say to a reasonable medical certainty there was penetration because internal exams are not customarily done on children Her testimony, however, was sufficient to corroborate that of N.H. that penetration occurred.”); see also *Strong v. State*, 538 N.E.2d 924, 931 (Ind. 1989) (“[N]o threshold level of certainty or conclusiveness is required in an expert’s opinion as a prerequisite to its admissibility. Assuming the subject matter is one which is appropriate for expert testimony and that a proper foundation has been laid, the expert’s opinion or conclusion that, in the context of the facts before the

address the meaning of RMC.

The use of RMC in child abuse cases continued to rise in the first half of the 1990s⁶⁶ but then declined. Lengthy discussions of RMC remained lacking, with courts using the phrase in passing without further analysis of its legal significance.⁶⁷ As previously, some courts required the phrase to prove

witness, a particular proposition is ‘possible,’ ‘could have been,’ ‘probable,’ or ‘reasonably certain’ all serve to assist the finder of fact in intelligently resolving the material factual questions.” (alteration in original) (quoting *Noblesville Casting Div. of TRW, Inc. v. Prince*, 438 N.E.2d 722, 731 (Ind. 1982))).

66. A search in LexisNexis with the following terms yielded a semi bell curve, between the years 1990 and 1999, peaking in the year 1994: (reasonable w/2 medical w/2 certainty AND (child or minor or underage or baby or kid) w/5 (abuse or murder or assault or harassment)).

67. *State v. Sirimanochanh*, 602 A.2d 1029, 1031 (Conn. App. Ct. 1992) (“He further testified that there could be sexual touching without penetration, and he could not testify with reasonable medical certainty that there had not been any sexual touching.”), *rev’d*, 620 A.2d 761 (Conn. 1993); *State v. Dollinger*, 568 A.2d 1058, 1060 (Conn. App. Ct. 1990) (“[The physician] testified that, to a reasonable medical certainty, V’s injuries were caused by sexual molestation.”); *Ellibee v. Ellibee*, 826 P.2d 462, 467 (Idaho 1992) (“Dr. Weber observed nine bruises on Tolen’s left thigh and buttock that, with reasonable medical certainty, appeared to be approximately 48 hours old. . . . [T]he bruises were consistent with a severe spanking”); *Goodson v. State*, 566 So. 2d 1142, 1155 (Miss. 1990) (“Dr. Chidester was then asked whether ‘based upon your experience as a doctor, and in the area of gynecology, and upon reasonable medical certainty,’ did such behavior indicate anything to her.”); *Ex. rel. T.L.C.*, 566 So. 2d 691, 700 (Miss. 1990) (“Given your experience and your background working in the Trauma Center, and given the location of the bruises—the coloration of the bruises, as you have identified them—do you have an opinion, to a reasonable medical certainty, as to whether or not these bruises are consistent with a fall. . . . Do you have an opinion, Ms. Dubard, given your education and experience, to a reasonable medical certainty as to the origin of these bruises as you have described them on this child, TLC?”), *overruled by In re J.T.*, 188 So. 3d 1192 (Miss. 2016); *State v. Grant*, No. 83 C.A. 144, 1990 WL 176825, at *15 (Ohio Ct. App. Nov. 9, 1990) (“Dr. Belinky testified he . . . was familiar with the levels of carbon monoxide sufficient to cause death with reasonable medical certainty. . . . Dr. Belinky stated with reasonable medical certainty that the infants were not unconscious prior to the flames attacking their skin.”); *State v. Phillips*, No. 11576, 1990 WL 42316, at *4 (Ohio Ct. App. Apr. 10, 1990) (“Doctor, then, do you have an opinion, within a reasonable medical certainty, after conducting your examination of Tiffannie on that particular day as to how that injury was inflicted?”); *Ex. rel. J.J.*, 454 N.W.2d 317, 322 (S.D. 1990) (“Two physicians, a gynecologist and a pediatrician, examined [S.J.] and concluded to a reasonable medical certainty that she had been sexually assaulted.” (alteration in original)); *State v. Young*, 802 P.2d 829, 832–33 (Wash. Ct. App. 1991) (“Based on the thousands of examinations she had personally conducted, consultation with other professionals, and existing literature, J.’s vaginal opening size was ‘abnormal to a reasonable medical certainty.’”).

causation,⁶⁸ and defendants continued to challenge the sufficiency of the evidence because the expert failed to include the phrase in the expert testimony.⁶⁹ Other courts differentiated RMC from the required burden of proof but did not explicate the phrase.⁷⁰ Finally, some courts began to

68. *Floray v. State*, 720 A.2d 1132, 1136 (Del 1998) (“Generally when an expert offers a medical opinion it should be stated in terms of ‘a reasonable medical probability’ or ‘a reasonable medical certainty.’” (quoting *Oxendine v. State*, 528 A.2d 870, 873 (Del. 1987)); *State v. Stribley*, 532 N.W.2d 170, 172 (Iowa Ct. App. 1995) (“Defendant contends [the physician]’s opinion evidence should not have been admitted and the admission of [the physician]’s opinion was contingent on his determining it was based on reasonable medical certainty. . . . We agree with defendant, *Webb* supports the proposition the State needs to prove the causation element in a murder case by evidence that shows reasonable medical certainty.”); *State v. Carlson*, 906 P.2d 999, 1001 (Wash. Ct. App. 1995) (“After further argument from counsel, the trial court ruled that Dr. Feldman could testify ‘so as far as rendering an opinion with reasonable medical certainty that [E] is a victim of sexual abuse. . . .’” (alteration in original) (quoting Report of Proceedings at 731)); *see also Bergmann v. State*, 486 N.E.2d 653, 657 (Ind. Ct. App. 1985) (citing *Palace Bar, Inc. v. Fearnot*, 381 N.E.2d 858, 824 (Ind. 1978)) (“Ramsey’s answer was not *Palace Bar* mere speculation. Ramsey’s response was probative evidence because it was based upon reasonable medical certainty.”); *Walker v. State*, 671 So. 2d 581, 603 (Miss. 1995) (implying the necessity of the phrase to prove causation when an expert testifies, stating, “In order for the State to meet its burden of proving the crime of capital murder beyond a reasonable doubt, the cause of death can be established by expert medical testimony. Dr. McGarry opined within a reasonable medical certainty that Edwards’ death resulted from the combination of the injury to her neck and being held underwater, resulting in asphyxiation.”); *Skeen v. State*, 481 S.E.2d 129, 132 (S.C. 1997) (“When asked whether the examination indicated Joe was sexually abused, Dr. Baker stated that she could not determine ‘with any reasonable medical certainty whether or not he . . . was sexually abused[.]’” implying the need for the phrase).

69. *Nation v. Colla*, 841 P.2d 1370, 1374 (Ariz. Ct. App. 1991) (“The trial court also denied a motion in limine in which Colla asked the court to prohibit evidence on the death of James Nation since there was no expert that could testify to any degree of reasonable medical certainty that Colla caused the death of James Nation.”); *State v. Valdez*, No. 90-OT-014, 1991 Ohio App. LEXIS 5691, at *29 (Ohio Ct. App. Nov. 29, 1991) (“Appellant argues that this evidence fails to meet certainty requirements, is prejudicial and, since Dr. Ferrer was unable to express an opinion concerning this issue in terms of reasonable medical certainty or probability, must be excluded.”).

70. *See, e.g., Commonwealth v. Melchionno*, 558 N.E.2d 18, 21 (Mass. Ct. App. 1990) (quoting *Commonwealth v. Lewandowski*, 491 N.E.2d 670, 671 (Mass. Ct. App. 1986)) (“That the physician gave his opinion that the exhibited symptoms were to a ‘reasonable medical certainty’ the product of sexual abuse did not dilute the standard of proof (beyond a reasonable doubt) which applies in a criminal case.”); *State v. J.Q.*, 599 A.2d 172, 190 (N.J. Super. Ct. App. Div. 1991) (Stern, J., dissenting) (“Doctors can offer their opinions as to causation based on reasonable medical certainty and without belief beyond a reasonable doubt.”).

explain that the phrase was not necessary so long as the expert provided some degree of certainty in the medical conclusion provided in court.⁷¹

3. *An Attempt to Understand the Phrase in an Era of Its Proliferation: The 2000s–2010s*

With the new century, a few courts began to advance varying understandings of the phrase in legal proceedings. So while many courts continued the use of RMC without further explanation,⁷² some allowed

71. See *Eversley v. State*, 748 So. 2d 963, 968 (Fla. 1999) (“In a criminal case expert medical opinion as to cause of death does not need to be stated with reasonable medical certainty. Such testimony is competent if the expert can show that, in his opinion, the occurrence could cause death or that the occurrence might have or probably did cause death.” (quoting *Delap v. State*, 440 SO. 2d 1242, 1253 (Fla. 1983))), *superseded by statute*, FLA. STAT ANN. § 782.07 (West 2018), *as recognized in Bayer v. State*, 788 So. 2d 310 (Fla. Ct. App. 2001); *In re F.A.P.*, No. 69,104, 1994 Kan. App. Unpub. LEXIS 559, at *18–20 (Kan. Ct. App. Feb. 18, 1994) (explaining after only one doctor of six testified to a reasonable medical certainty that “[n]o magic words are necessary when an expert medical witness gives an opinion” so long as the experts “g[i]ve opinions that show within a reasonable medical probability” that abuse occurred); *In re Samuel W.*, No. A-98-720, 1999 WL 170021, at *16 (Neb. Ct. App. Mar. 23, 1999) (citing *Paulsen v. State*, 541 N.W.2d 636, 643 (Neb. 1996)) (“An expert opinion is to be judged in view of the entirety of the expert’s opinion and is not validated or invalidated solely on the basis of the presence or lack of the magic words ‘reasonable medical certainty.’”); *State v. Monk*, No. 96 CA 33, 1997 Ohio App. LEXIS 4935, at *7 (Ohio Ct. App. Oct. 23, 1997) (“After reviewing this report, Dr. Budin reached the conclusion, within the bounds of reasonable medical certainty, that Melissa’s genitalia showed no hymenal ring.”); *Fatimus v. Fatimus*, No. 95-T-5287, 1996 WL 210775, at *4 (Ohio Ct. App. Mar. 29, 1996) (“[W]e are unable to say the trial court erred in its conclusion that no sexual abuse was established, either on the basis of manifest weight or sufficiency. Significantly, not one expert was able to conclude with certainty that abuse had occurred. A review of the expert testimony reveals that some experts offered, at best, inconclusive opinions regarding the validity of the sexual abuse charges, while others denied the validity of the charges.”); *State v. Emerick*, 670 N.E.2d 1060, 1063 (Ohio Ct. App. 1995) (“In both cases, we held that an opinion of an expert physician is no longer inadmissible merely because it is not stated to a reasonable medical certainty . . .”). *But see State v. D’Ambrosio*, 616 N.E.2d 909, 915 (Ohio 1993) (“While several decision from this court indicate that speculative opinions by medical experts are inadmissible since they are based on possibilities and not probabilities, . . . we believe that the better practice, especially in criminal cases, is to let experts testify in terms of possibility.”).

72. *Leal v. Dretke*, No. Civ.SA-99-CA-1301-RF, 2004 WL 2603736, at *13–14 (W.D. Tex. Oct. 20, 2004) (using the phrase without further explanation); *United States v. Ellis*, 57 M.J. 375, 386 (C.A.A.F. 2002) (“During the cross-examination of Dr. Odom, the trial counsel attempted to attack Dr. Odom’s conclusion that he was confident to a reasonable medical certainty that the child’s fatal injury occurred some two to three

weeks before June 4.”); *United States v. Ellis*, 54 M.J. 958, 969 (N.M. Ct. Crim. App. 2001) (“When the cause of death can be established with reasonable medical certainty, a report of the autopsy findings is made available to the State Attorney’s office”); *People v. Uribe*, 76 Cal. Rptr. 3d 829, 835 (Ct. App. 2008) (“From [the doctor’s] review of the records and photos, Dr. Hariton arrived at the conclusion that ‘with reasonable medical certainty this [penetrating trauma] did not happen.’” (second alteration in original)); *Joshua P. v. Miranda P.*, No. B182239, 2005 WL 2416668, at *3 (Cal. Ct. App. Sept. 30, 2005) (“In [the coroner’s] opinion, to a reasonable medical certainty, Isabel’s death was a homicide.”); *People v. Vizcarra*, No. E032384, 2004 WL 65269, at *2 (Cal. Ct. App. Jan. 15, 2004) (“It appeared that the trauma was inflicted and Dr. Mandi suspected child abuse had caused Nicole’s death to a reasonable medical certainty.”); *Miranda G.-P. v. Superior Court*, No. B176795, 2004 WL 2526000, at *2 (Cal. Ct. App. Nov. 9, 2004) (“[I]n [the Deputy Medical Examiner’s] opinion, to a reasonable medical certainty, [the child’s] death was a homicide.”); *Carl T. v. David T.*, No. B157827, 2003 WL 1950378, at *3 (Cal. Ct. App. Apr. 25, 2003) (“Dr. Grogan could not be sure to a reasonable medical certainty that the X-ray technician did not displace the fracture.”); *State v. Gonzalez*, 864 A.2d 847, 868–69 (Conn. 2005) (Vertefeuille, J., dissenting) (“He also acknowledged that he could not state, with any reasonable medical certainty, what type of object had penetrated the victim.”); *State v. Nolan*, 882 So. 2d 1246, 1251 (La. Ct. App. 2004) (“Finally, [the doctor] opined that ‘[w]ith a reasonable medical certainty, this child died of abusive head trauma and as well manifested prior trauma of likely an abusive etiology that was not the fatal cause of death.’” (second alteration in original)); *State v. Arwood*, 762 So. 2d 1266, 1269 (La. Ct. App. 2000) (“Dr. Benton opined, with reasonable medical certainty, that this child sustained a blunt penetrating trauma to her hymen, which was most likely of a non-accidental nature.”); *Cowin v. State*, No. A05-1724, 2006 WL 1891746, at *1 (Minn. Ct. App. July 11, 2006) (“Dr. Levitt testified to a reasonable medical certainty that EP had been sexually abused.”); *In re Welfare of A.L.H.*, No. CX-00-639, 2000 WL 1221616, at *1 (Minn. Ct. App. Aug. 29, 2000) (“On March 11, 1999, A.L.H. was diagnosed with four acute broken ribs which, within all reasonable medical certainty, were intentionally inflicted.”); *Sanderson v. State*, 872 So. 2d 735, 738 (Miss. Ct. App. 2004) (“When she was asked whether she had an opinion based on reasonable medical certainty that Lulu had been sexually penetrated, Dr. Chidester answered, ‘Yes, I do.’”); *James v. State*, 777 So. 2d 682, 693 (Miss. Ct. App. 2000) (“It was his opinion, based on a reasonable medical certainty, that the injuries to Shenekqua had to occur prior to noon on June 7, 1995. It also was his opinion based on a reasonable medical certainty that the various enzymes found in Shenekqua’s blood at elevated levels when she was admitted to the hospital”), *rev’d on other grounds*, 912 So. 2d 940, 953–54 (Miss. 2005); *State v. Foster*, 244 S.W.3d 800, 802–03 (Mo. Ct. App. 2008) (“Over objection, [the doctor] opined to a reasonable medical certainty that most of the other 95% were sexually abused as well. . . . He believes this to a reasonable medical certainty, as professional SAFE–CARE examiner.”); *State v. Molina*, 713 N.W.2d 412, 425, 433 (Neb. 2006) (noting the expert witness physicians qualified their medical conclusions with the phrase but offering no further explanation of the phrase); *In re Civil Commitment of C.R.M.*, No. SVP-263-02, 2006 WL 742185, at *4 (N.J. Mar. 23, 2006) (a psychiatrist’s diagnosis stated: “It is my medical impression within a reasonable medical certainty based upon his past history and current mental status that he is a . . . Sexually Violent Predator [and] is more likely than not to commit future Sex

physicians to offer their own definitions, or at least explain their own

Offenses.” (alteration in original)); *State v. Driver*, No. COA03-103, 2004 WL 77831, at *1 (N.C. Ct. App. Jan. 20, 2004) (“My opinion at the completion of our evaluation was that with reasonable medical certainty the patient had experienced and received the medical diagnosis of sexual abuse.”); *Commonwealth v. Manila*, No. 02-017-GA, 2005 WL 3771376, at *5 (N. Mar. I. Oct. 7, 2005) (“Now based upon your training, your education and experience the autopsy you performed on six month old [N.R.M.] within the bounds of reasonable medical certainty have you formed an expert opinion concerning the cause of death of baby [N.R.M.]? . . . In short, all of the medical experts that gave their opinion to a medical certainty as to the cause of N.R.M.’s death stated that the cause of death was Shaken Baby Syndrome.” (alterations in original)); *State v. Iacona*, 752 N.E.2d 937, 950 (Ohio 2001) (“[A]nd after consultation with her colleagues, she still was able, based on reasonable medical certainty to make the causative finding of death by asphyxia. . . . Once again, despite a number of hypotheticals that were presented, based not only on his investigation but on the evidence produced, he did not waiver from his decision based on a medical certainty.”); *State v. Tribett*, No. 04AP-828, 2006 WL 1826749, at *7, *11 (Ohio Ct. App. June 30, 2006) (noting the medical physicians testified to a reasonable medical certainty but offering no further discussion of the phrase); *State v. Krull*, 796 N.E.2d 979, 984 (Ohio Ct. App. 2003) (“Defense counsel for Hilt asked Dr. Lerer, ‘[D]o you have an opinion based upon reasonable medical certainty as to whether or not this amounts to child abuse?’” (alteration in original)); *State v. Matheny*, No. 2001AP070069, 2002 WL 386163, at *6–7 (Ohio Ct. App. Mar. 6, 2002) (“[D]o you think, within a reasonable degree of medical certainty, there would be any possible way you could make a finding at that point in time as to any sexual abuse? . . . [W]ould you expect, within a reasonable degree [of] medical certainty that would be evidence to show trauma or something that might show abuse?”); *State v. Warren*, 197 P.3d 605, 607 (Or. Ct. App. 2008) (“[W]e had a medical doctor testify to her opinion within a medical reasonable certainty according to the—her training and her experience.” (alteration in original)); *Commonwealth v. Scher*, 803 A.2d 1204, 1226–28 (Pa. 2002) (explaining that the expert conclusions were qualified to a reasonable medical certainty but not explaining the phrase any further); *In re Mackenzie C.*, 877 A.2d 674, 686 (R.I. 2005) (“Doctor Raggio testified that, in her opinion, based upon reasonable medical certainty, Mackenzie suffered from [a particular syndrome]”); *Nunn v. State*, No. M2007-00974-CCA-R3-PC, 2008 WL 3843906, at *4 (Tenn. Crim. App. Aug. 18, 2008) (“But if my diagnosis of voyeurism is correct, and as I said, I have within reasonable medical certainty come to that conclusion, that the arousing part for him was the voyeuristic part and he has consistently said that over the years.”); *Segura v. State*, No. 03-03-00685-CR, 2005 WL 2313559, at *3 (Tex. App. Sept. 23, 2005) (“[The pediatrician] said therefore that ‘seeing the cleft gets my attention,’ but did not lead her to say with ‘reasonable medical certainty’ that Y.G. had been abused.”); *State v. Stensrud*, No. 32819-4-II, 2006 WL 2329474, at *3 (Wash. Ct. App. Aug. 11, 2006) (“[T]he State’s expert testified that there was no reasonable medical certainty that [failure to clamp the umbilical cord] was a cause of death.”); *State v. Salzer*, No. 23741-5-II, 2001 WL 528231, at *3 (Wash. Ct. App. May 18, 2001) (“Dr. Soderstrom could not opine with reasonable medical certainty whether C.’s hymenal tissue had been damaged by the insertion of a penis or other object.”).

understanding of the phrase.⁷³ Other courts, however, emphasized the distinction between RMC and certainty by appending “beyond a” in front of the phrase,⁷⁴ sometimes comparing the phrase with other degrees of certainty.⁷⁵ As such, defendants continued to challenge the sufficiency of the evidence when experts failed to use the phrase,⁷⁶ some courts continued to

73. *Commonwealth v. Fields*, No. 2005-CA-000960-MR, No. 2005-CA-0011017-MR, 2007 WL 1720142, at *7 (Ky. Ct. App. June 15, 2007) (“Rather, [the doctor] could not find any evidence indicating with a reasonable medical certainty, which he defined as a ‘nine-five percent confidence,’ that the baby was born alive.”); *Bridges v. Paquin*, No. 286428, 2009 WL 457927, at *5 (Mich. Ct. App. Feb. 24, 2009) (“Diaz conceded that he lacked ‘reasonable’ medical certainty by a preponderance of the evidence available to him that Michael’s death qualified as a homicide.”); *State v. Ross*, No. 02AP-898, 2003 WL 21470091, *8 (Ohio Ct. App. June 26, 2003) (“Although Dr. Norton eventually acknowledged that he could not say with reasonable medical certainty that the blow occurred less than two hours before the death, he asserted that such a time frame was ‘probably’ involved and made the concession about ‘probably’ only on cross-examination after stating with greater assurance on direct examination that only minutes passed between the blow and the baby’s death.”); *State v. Hanson*, No. E2006-00883-CCA-R3-CD, 2007 WL 2416103, at *5 (Tenn. Crim. App. Aug. 27, 2007) (“Dr. Morris opined that to a reasonable medical certainty S.H. had been abused. However, Dr. Morris acknowledged that his medical definition of child abuse included passive neglect that causes injury to a child. Dr. Morris also explained that ‘reasonable medical certainty’ meant that it was ‘more probable than not.’”), *rev’d*, 279 S.W.3d 265, 278 (Tenn. 2009) (holding there was sufficient evidence to support the conviction); *State v. Redford*, No. 25350-0-II, 2001 WL 13280, at *1 (Wash. Ct. App. Jan. 5, 2001) (“But Hanna-Truscott could not say with reasonable medical certainty that abuse had occurred. Nonetheless, the physical findings, coupled with A.R.’s verbal disclosure of abuse, led Hanna-Truscott to conclude that there had been ‘probable sexual abuse.’”).

74. *Furtado v. State*, No. 08-00-00230-CR, 2001 WL 959437, at *3, *8 (Tex. App. Aug. 23, 2001) (“Although three of the six bite marks were of insufficient quality to make a determination, he found, to a reasonable medical certainty, that Appellant had made one of the bites and his teeth were consistent with two of the remaining injuries. . . . Further, the bite mark evidence excluded Sanders as the source of the bite marks while showing *beyond a* reasonable medical certainty that at least one of the bite marks matched Appellant’s teeth.” (emphasis added)).

75. *State v. Duncan*, 802 So. 2d 533, 541 (La. 2001) (“Dr. Riesner, testified with varying degrees of certainty that wounds found on the victim’s cheek, neck and elbow were caused by defendant’s teeth. . . . Dr. Kirschner, also testified ‘to a reasonable medical certainty’ that the injuries were not bite marks.”).

76. *United States v. Eagle*, 515 F.3d 794, 800 (8th Cir. 2008) (describing the defendant’s request to exclude the expert physician’s testimony or to hold a hearing to determine whether the medical conclusions were qualified with reasonable medical certainty); *In re C.M.*, 678 S.E.2d 794, 798 (N.C. Ct. App. 2009) (“Respondent-father specifically contends that there was no clear and convincing evidence to determine whether Alexander’s brain injury was caused by accidental or non-accidental means,

require the use of RMC to prove causation, and a few other courts explicitly declined the use of any particular phrase.⁷⁷

What did begin to emerge, however, were lengthier discussions on RMC and its significance in different types of cases. For example, in *State v. Muro*, the defendant appealed her conviction for child abuse resulting in the death of her child, arguing that the prosecution failed to prove causation of the child's death with reasonable medical certainty.⁷⁸ The prosecution presented expert opinions from two physicians to prove the element of causation, and the appellate court quoted that testimony at length.⁷⁹ The first physician, Dr. Alexander, explained that "the 4-hour period from the onset of symptoms to the time when Vivianna was taken to Tri-County Hospital at approximately 11 p.m. was a long time for a child to survive a head injury and was not typical."⁸⁰ He further explained "that he was unable to put a percentage on the number of children who would survive having gone 4 hours between severe head trauma and receiving medical attention, because 'nobody's done that experiment and nobody would do such an experiment.'"⁸¹ He did, however, explain that if 100 children suffered severe injuries, survived for approximately four hours, and died soon after receiving medical attention, then the situation suggests that the injuries were not fatal

none of the doctors testified with 'reasonable medical certainty' whether the cause was accidental or non-accidental, and doctors could not say with 'reasonable medical certainty' the specific mechanism or exact time that the brain injury occurred."); *Marin v. State*, No. 01-08-00517, 2009 WL 2526434, at *8 (Tex. App. Aug. 20, 2009) ("Marin attacks the testimony of the State's expert witnesses, arguing that none of the medical experts expressed their opinions in terms of reasonable medical certainty."); *State v. Dailey*, No. 26131-6-II, 2002 WL 339417, at *5 (Wash. Ct. App. Mar. 1, 2002) ("Dailey argues that the trial court erred by admitting this testimony first because the laceration was irrelevant, and second because [director of Sexual Assault Nurse Examination program] could not say with reasonable medical certainty that the laceration was caused by anal intercourse with him.").

77. See, e.g., *Richardson v. State*, 794 N.E.2d 506, 513 (Ind. Ct. App. 2003) ("[T]he issue in *Strong* is whether there is a 'threshold level of certainty or conclusiveness . . . required in an expert's opinion as a prerequisite to its admissibility.' . . . The court held that there is no threshold level of certainty, and it restated the well-settled rule that a jury is always 'free either to accept or reject the opinion of the expert witness . . .'" (quoting *Strong v. State*, 538 N.E.2d 924, 931 (Ind. 1989))).

78. *State v. Muro*, 688 N.W.2d 148, 151, 157 (Neb. Ct. App. 2004), *aff'd in part and vacated in part*, 695 N.W.2d 425 (Neb. 2005).

79. *Id.* at 158-59.

80. *Id.* at 159.

81. *Id.*

and the child could have survived if the child received medical treatment earlier.⁸² The second physician, Dr. Parys, testified to a reasonable degree of medical certainty that the child would have had a chance of survival.⁸³

Addressing the issue of causation, the majority in the court stated the following:

[W]e reject the argument that the State had the burden to show by a reasonable degree of medical certainty that Vivianna’s chances of survival had [the defendant] sought medical care sooner were “more likely than not” or some other bright-line percentage. . . .

There is no case in Nebraska establishing that in cases such as this, the State must prove that the child’s chances of survival were higher than an arbitrary predetermined percentage. Aside from the lack of precedent on this issue, we think using such a preestablished bright-line rule would fail to account for the particular factual nuances that are present in cases such as these. We are at a loss as to where such a bright line should be set and what the justification for such a particular line would be; why might a 50-percent chance of survival be sufficient, but a 49-percent not sufficient, for example?⁸⁴

The dissenting judge argued that the standard for “medical proof” is probability, not mere possibility.⁸⁵ He then emphasized that “while the medical testimony need not be couched in magic words such as reasonable medical certainty or reasonable probability, it must be ‘sufficient as examined in its entirety to establish the crucial causal link.’”⁸⁶ He concluded his argument by stating that medical opinions “must rise to the level of probability, or of ‘more likely than not’ or ‘reasonable medical certainty.’”⁸⁷ The Supreme Court of Nebraska agreed with the dissenting opinion, vacated the defendant’s 20-year sentence, and remanded the case for appropriate sentencing.⁸⁸ A California court reached a similar conclusion that reasonable medical certainty is equivalent to a finding that a conclusion is more probable than not when stating,

82. *Id.*

83. *Id.*

84. *Id.* at 160.

85. *Id.* at 164.

86. *Id.* at 165 (internal citations omitted) (quoting *People v. Phillips*, 414 P.2d 353, 357 n.2 (Cal. 1966)).

87. *Id.*

88. *State v. Muro*, 695 N.W.2d 425, 432 (Neb. 2005).

The fact that Dr. Weinraub only reached his conclusion “on more probable than not basis” did not detract from its evidentiary value. “To hold that medical opinion fails as a matter of law to sustain a jury in reaching a conviction ‘beyond a reasonable doubt,’ because the testimony rests upon ‘reasonable medical certainty,’ would in substance foreclose the realistic use of medical testimony at criminal trials.”⁸⁹

In 2007, the Supreme Court of Nebraska reiterated its standard, providing insight into the jurisdiction’s definition of RMC once again.⁹⁰ In *State v. Kuehn*, the defendant argued the expert testimony was not admissible because the physician failed to use the phrase to qualify the medical conclusions.⁹¹ The majority in the court emphasized that while the preferred form when qualifying expert physicians’ opinions is to use the phrase, RMC is not necessary so long as the testimony establishes a causal link.⁹² The defendant in *United States v. Two Elk* argued that the expert testimony must be established to a reasonable medical certainty.⁹³ The court rejected the contention, explaining that the *Larson* rule of testimony reliability, derived from Federal Rule of Evidence 702, applied to the federal case; because the testimony was reliable, it was admissible.⁹⁴

That same year, in *People v. Ramirez*, the Supreme Court of Colorado took an unprecedented approach, explicitly rejecting the need for the phrase as a standard to admit expert physician testimony and providing a lengthy discussion on the phrase.⁹⁵ In *Ramirez*, the defendant was convicted of sexual assault on a child.⁹⁶ The conviction was based in part on the testimony of an expert nurse, Ms. Burns, who testified for the prosecution.⁹⁷ After the prosecution offered Burns as an expert, the defense proceeded to question her qualifications as an expert and the certainty of her medical conclusions.⁹⁸ What follows is the exchange between the defense and Burns:

89. *People v. Rowe*, No. E038356, 2006 WL 2349633, at *8 (Cal. Ct. App. Aug. 15, 2006).

90. *State v. Kuehn*, 728 N.W.2d 589, 597–98 (Neb. 2007).

91. *Id.* at 597.

92. *Id.* at 597–98.

93. *United States v. Two Elk*, 536 F.3d 890, 904 (8th Cir. 2008).

94. *Id.*

95. *People v. Ramirez*, 155 P.3d 371, 372–73 (Colo. 2007) (en banc).

96. *Id.* at 374.

97. *Id.*

98. *Id.* at 373.

At one point, defense counsel asked Burns if she had been able to reach any conclusion to a reasonable degree of medical certainty. After asking for further clarification, Burns replied that her findings “are suspicious, but not diagnostic.” Defense counsel stated, “And so you have not reached a conclusion to a *reasonable degree of medical certainty* in this case, have you?”, and Burns answered, “Correct.” Following his questioning of Burns, defense counsel objected to Burns’ testimony on the grounds that she was not qualified to render an expert opinion, and that . . . her testimony would not be helpful to the jury because it would not be to a *reasonable degree of medical certainty*.⁹⁹

The trial court allowed her testimony, stating the medical exam revealed “suspicious” results, meaning the results “‘rais[ed her] index of suspicion’ and is a finding that may well have been caused by sexual abuse but could have been caused by something else.”¹⁰⁰ The defense again objected to the testimony arguing that the testimony was speculative.¹⁰¹ The trial court allowed the testimony to move forward, and the jury found the defendant guilty.¹⁰² The appellate court reversed the conviction, implicitly reasoning that Burns’ testimony was not admissible because the testimony was not stated with reasonable medical probability.¹⁰³ The state supreme court reversed the appellate court’s decision, explaining that requiring the use of the phrase was an antiquated requirement that predated the Colorado Rules of Evidence (CRE) and wrongly placed emphasis on sufficiency of evidence rather than admissibility of physicians’ expert testimony.¹⁰⁴ The Supreme Court of Colorado proceeded to explain in detail the multi-prong test for admitting expert testimony and found the testimony admissible because it was reliable and met the prongs.¹⁰⁵

The use of RMC in child abuse cases continued to rise in the 2000s, with most courts using the phrase in passing as in prior decades. However, courts in this decade have increasingly chosen to elaborate on issues arising from the use of the phrase. Generally, most of the cases in this decade

99. *Id.* (emphasis added).

100. *Id.* at 373–74.

101. *Id.* at 374.

102. *Id.*

103. *Id.* at 375.

104. *Id.* at 375, 382.

105. *Id.* at 378–80. The multi-prong test states that the testimony must be relevant under CRE 401 and 402, reliable and relevant under CRE 702, and not substantially outweighed by concerns (e.g., prejudice) detailed under CRE 403. *Id.* at 378.

continue to use the phrase in passing, implicitly promoting its need and signaling its importance but offering no further analysis, a practice largely unchanged from prior decades.¹⁰⁶ Expert witnesses, parties, and courts also

106. *Phillips v. Bradshaw*, 607 F.3d 199, 220 (6th Cir. 2010) (“Dr. Cox, who performed the autopsy on Sheila’s body, testified that on the day of her death she suffered numerous internal and external injuries from multiple blows, and that, based on a reasonable medical certainty, these blows caused Sheila’s death.”); *Hebert v. Rogers*, No. 15-4950, 2016 WL 8291110, at *5 (E.D. La. Nov. 14, 2016) (“In [the psychiatry expert’s] opinion, with reasonable medical certainty, due to severe psychotic depression, distorted mind, delusions, and hallucinations, the defendant could not distinguish whether stabbing her children was right or wrong because she believed it was in their best interests.”); *Grose v. Streeter*, No. 3:12CV46-MPM-DAS, 2016 WL 4996530, at *6 (N.D. Miss. Sept. 19, 2016) (“[The pediatrician] also testified that to a reasonable medical certainty, her opinion was that the bruising inside the labia majora was caused by ‘penetration by an object, whether it be, you know, a penis or whatever.’” (internal citation omitted)); *Riley v. Medeiros*, No. 14-cv-14401, 2016 WL 4408984, at *9 (D. Mass. Aug. 16, 2016) (“Accordingly, he testified ‘with reasonable medical certainty . . . that Clonidine, although elevated, did not cause [Rebecca’s] death or contribute to her death,’ and that pneumonia had caused her death.” (alteration in original) (internal citation omitted)); *Leonard v. Oregon*, No. 2:13-cv-01865-ST, 2016 WL 1172114, at *1 (D. Or. Feb. 8, 2016) (“Dr. Chervenak concluded ‘to a reasonable medical certainty’ that JR had been sexually abused, and was concerned that she had been physically abused as well.”); *United States v. White*, 23 F. Supp. 3d 1033, 1041 (D. Minn. 2014) (“‘So, [the abused child] has a form of head trauma or head injury which,’ in his opinion to a ‘reasonable medical certainty . . . is an example of blunt impact injury.’”), *rev’d and remanded*, 794 F.3d 913 (8th Cir. 2015); *Staruh v. Winstead*, No. 3:11-CV-1604, 2012 WL 1144655, at *3 (M.D. Pa. Mar. 8, 2012) (“In opposition to [the petitioner’s] testimony, the pathologist declared with reasonable medical certainty that J.J.’s injuries were not consistent with a two-foot fall from a stool, claiming such an accident would not cause fatal brain injury.” (alteration in original)); *Moore v. Newton-Embry*, No. CIV-09-985-C, 2011 WL 5143080, at *9 n.97 (W.D. Okla. Sept. 7, 2011) (“[The doctor] was asked: ‘And you feel comfortable with that within a reasonable medical certainty that we’re talking rapidly within minutes?’”); *People v. Vaughn*, No. B272301, 2017 WL 2289986, at *2, *4 (Cal. Ct. App. May 25, 2017) (“It was not possible for [the doctor] to say, to a medical certainty, how many blows were inflicted. . . . [The defendant’s] version of the events fits the facts of the case with ‘reasonable medical certainty.’”); *L.H. v. C.H.*, No. C075666, 2015 WL 9005772, at *5 (Cal. Ct. App. Dec. 16, 2015) (“Dr. Rosas opined to a reasonable medical certainty that child abuse caused the injuries.”); *People v. Ackles*, No. D060772, 2012 WL 3900676, at *2 (Cal. Ct. App. Sept. 10, 2012) (“To a reasonable medical certainty, [the board certified emergency physician’s] opinion was this was an accident.”); *Angelina B. v. Superior Court of Tulare Cty.*, No. F062782, 2011 WL 4433091, at *7 (Cal. Ct. App. Sept. 23, 2011) (“Under questioning by county counsel, Dr. Hyden opined to a reasonable medical certainty that S. was injured between the time she was discharged on the morning of December 15, 2010, from children’s hospital and the time she was readmitted there later that evening.”); *Darryl J. v. Superior Court of Tulare Cty.*, No. F062788, 2011 WL 4433093, at *10 (Cal. Ct. App. Sept. 23, 2011) (“During his

testimony, Dr. Hyden first opined to a reasonable medical certainty the injury occurred on December 15, 2010, between the child’s discharge at 1:30 a.m. and her readmission that same date. . . . Dr. Hyden, after being given a hypothetical that Dr. Sanchez observed left-sided weakening, opined to a reasonable medical certainty that if that were the case, the injury most likely occurred prior to Dr. Sanchez seeing the child.”); *People v. Uribe*, 132 Cal. Rptr. 3d 102, 109 (Ct. App. 2011) (“A defense expert, Dr. Theodore Hariton, a retired obstetrician and gynecologist, opined, based upon records and photographs from the SART exam, that ‘with reasonable medical certainty this [penetrating trauma] did not happen.’” (alteration in original)); *Joseph V. v. Samuel V.*, No. B218035, 2010 WL 968107, at *2 (Cal. Ct. App. Mar. 18, 2010) (“Dr. Imagawa held this opinion to a reasonable medical certainty, and could not perceive any other reasonable medical explanation for Joseph’s history.”); *In re R.K.*, NO. CAAP-14-0001091, 2016 WL 6779484, at *5 (Haw. Ct. App. Nov. 16, 2016) (“Dr. French’s opinions as expressed in two reports, as well as her trial testimony, were made to a reasonable medical certainty.”); *Albers v. Broam*, No. 10-0594, 2010 WL 3894478, at *1 (Iowa Ct. App. Oct. 6, 2010) (“The regional director of the Child Protection Center labeled it as a nonaccidental injury caused by the carelessness of Brandon; that it is a reasonable medical certainty that a spiral fracture to an infant is a result of a forceful twisting motion.”); *Alger v. State*, No. 102,453, 2011 WL 767886, at *2 (Kan. Ct. App. Feb. 25, 2011) (“For these reasons, Pojman testified, ‘with reasonable medical certainty,’ that Alexis’ injury occurred during the 20 to 30 minutes between the time Alger had dropped Sobely off at work and the time emergency medical services were dispatched to the home. Melhorn was able to state, ‘with reasonable medical certainty,’ that Alexis’ injury occurred within that timeframe.”); *State v. Thomas*, No. 2013 KA 0279, 2013 WL 5915193, at *2 (La. Ct. App. Nov. 1, 2013) (“Dr. Zeretske also testified, without objection, that a CT scan of the victim’s head showed chronic subdural effusions, as well as fresh blood at the tentorium along the midline falx, and a left-sided parietal skull fracture.”); *Barber v. State*, 153 A.3d 800, 807–17 (Md. Ct. Spec. App. 2017) (continuously quoting the expert medical opinions where the phrase was used); *Commonwealth v. Pugh*, 969 N.E.2d 672, 680 (Mass. 2012) (“Callery, the defendant’s medical expert, testified that he could not state ‘to a degree of reasonable medical certainty’ whether the baby was born alive.”); *People v. Chevis*, No. 304358, 2013 WL 5539279, at *6 (Mich. Ct. App. Oct. 8, 2013) (“[T]here was nothing improper regarding the prosecutor’s question whether Dr. Simms had ‘an opinion based on reasonable medical certainty as to whether or not [the] physical examination and medical history [were] consistent with [the] allegation of sexual abuse.’” (second, third, and fourth alteration in original)); *State v. Beecroft*, 813 N.W.2d 814, 856 (Minn. 2012) (“Dr. Ophoven also provided a written report to Dr. Roe in which Dr. Ophoven concluded that there was no evidence, to a reasonable medical certainty, that Beecroft’s baby was born alive.”); *State v. Herrera*, 856 N.W.2d 310, 326 (Neb. 2014) (“[A geneticist and pediatrician] testified that he reached his diagnosis of PSS with reasonable medical certainty.”); *Collman v. Warden of Nev. State Prison*, No. HC-0105006, 2014 Nev. Dist. LEXIS 215, at *38 (Dist. Ct. Nev. Mar. 28, 2014) (“Damian did not suffer an acute subdural hematoma. Dr. Plunkett agreed that Damian was an abused child and that he could not with any reasonable medical certainty testify that Damian died of a fall down the stairs.”); *State v. D.M.*, No. A-1050-07T4, 2010 WL 2868503, at *2 (N.J. Super. Ct. App. Div. July 21, 2010) (“Dr. Finkel opined, within a reasonable medical certainty, that

D.L. experienced trauma to the structures of the vaginal vestibule.”); *Jackson v. Franke*, 392 P.3d 328, 336 (Or. Ct. App. 2017) (“Is the uncritical faith that factfinders place in a doctor’s diagnosis that is within a ‘reasonable medical certainty’ unfairly prejudicial when balanced against the limited scientific validity of a diagnosis that is based on the examiner’s subjective belief that the child is telling the truth?”); *State v. Cox*, 273 P.3d 299, 301 (Or. Ct. App. 2012) (“Despite a lack of physical findings indicating that K had been abused, [the medical examiner] nonetheless diagnosed ‘with reasonable medical certainty that [K] had been the victim of child sexual abuse’ based on K’s history and the disclosures that K had made to a forensic child interviewer about the abuse.” (second alteration in original)); *State v. Clay*, 230 P.3d 72, 74 (Or. Ct. App. 2010) (“[A pediatric nurse practitioner] then testified that, to a reasonable medical certainty, she had diagnosed J. as having been sexually abused.”); *State v. Robat*, 49 A.3d 58, 68 (R.I. 2012) (“Doctor Arden added that, given the evidence that the baby had taken only ‘but [a] few breaths,’ he could not ‘arrive at the opinion that providing neonatal care would have, to a reasonable medical certainty, altered the outcome.’” (alteration in original)); *In re A.A.T.*, No. 04-16-00344-CV, 2016 WL 7448370, at *6 (Tex. App. Dec. 28, 2016) (“[The testifying pediatric geneticist and pediatrician] was unable to say with reasonable medical certainty that Mother or J.G. had a Vitamin D deficiency.”); *Ex parte Mayhugh*, 512 S.W.3d 285, 320 (Tex. Crim. App. 2016) (Alcala, J., concurring) (“[The doctor] states that, based on that new understanding, and specifically in light of the study published in 2007, it is now her expert medical opinion that she ‘cannot determine with reasonable medical certainty whether [V.L.’s] hymen had ever been injured at the time of the 1994 examination.’” (alteration in original)); *Ex parte Overton*, 444 S.W.3d 632, 639 (Tex. Crim. App. 2014) (noting that a leading expert on hypernatremia was asked: “Do you have an opinion based on reasonable medical certainty and your education, your experience in this field as someone who has studied dozens of hypernatremia cases even since the trial of this case, do you have an opinion whether or not with a sodium level of 245 he could have saved even in the best of care, even if that 9–1–1 call had been made immediately, the ambulance had come immediately, and they’d taken him in and gave him the very, very best of care?”); *In re A.G.G.*, No. 13-11-00299-CV, 2013 WL 53756, at *8 (Tex. App. Jan. 3, 2013) (“Drs. Tinoco and Harper described I.V.’s physical appearance at the time of his hospitalization as ‘wasted’ and likened his appearance to victims of the Nazi concentration camps of World War II. Dr. Tinoco also testified with reasonable medical certainty that I.V. was within moments of death, given that I.V.’s glucose level was at 3, and a medically normal level is between 60 and 110.”); *Pierson v. State*, 398 S.W.3d 406, 422 (Tex. App. 2013) (“When asked whether he believed, ‘based on reasonable medical certainty,’ that vaginal or anal sexual activity had occurred immediately before the examination, Dr. Jacobson replied that there did not appear to be.”); *In re E.S.*, No. 13-10-00100-CV, 2010 WL 5401409, at *14 (Tex. App. Dec. 21, 2010) (“Dr. Harper agreed that based on reasonable medical certainty, E.S.’s injuries were non-accidental.”); *State v. Trebilcock*, 341 P.3d 1004, 1007 (Wash. Ct. App. 2014) (“Based on Dr. Valvano’s review of J.T.’s records, his examination of J.T., and J.T.’s progress and improvement at the hospital, Dr. Valvano opined to a reasonable medical certainty that improper exposure to cold weather caused J.T.’s hypothermic state and that not being given enough food to eat caused J.T.’s malnourishment.”); *State v. Wilson*, No. 41990-4-II, 2013 WL 1335162, at ¶ 48 (Wash. Ct. App. Apr. 2, 2013) (arguing the meaning of the phrase “most consistent” and the word “deep” but not the phrase

continued to provide their own definition or to offer insight into their conceptual understanding of the phrase, sometimes differentiating RMC from other standards.¹⁰⁷ Some courts continued to require the phrase to prove causation, while others expected experts to use a phrase such as RMC

“reasonable medical certainty”); *State v. Venegas*, 228 P.3d 813, 819–20 (Wash. Ct. App. 2010) (referencing continuously that the expert physician testified to a reasonable medical certainty as to causation but never explaining the meaning of the phrase).

107. *See, e.g., McLain v. Blacketter*, No. 3:08-cv-01440-KI, 2012 WL 3116186, at *5 (D. Or. July 27, 2012) (“Q. And that conclusion is reached to a reasonable medical certainty? A. Yes. Q. A person might say, well, how can you make a reasonable medical certainty conclusion when what information you have basically is that which is provided to you by the child during the course of the examination . . . ? A. Well, reasonable medical certainty means that given an examiner with similar experience, education, and training, they would reach the same conclusion if they had the same information.”); *People v. Luevano*, No. F065562, 2014 WL 3555469, at *7 (Cal. Ct. App. July 18, 2014) (“Defendant claims the court was required to sua sponte ‘modify CALCRIM No. 220 to inform the jury that the phrase ‘to a reasonable medical certainty[.]’ was not the same as [‘]beyond a reasonable doubt’ ‘because [‘]the jury likely believed . . . [‘to a] reasonable medical certainty[.]’ equaled [‘]beyond a reasonable doubt[.]’[‘] and, [w]ithout this clarification, the jury could not understand the import of Dr. Hyden’s opinion on the ultimate issues in this case.”); *Nyla W. v. Nora A.*, No. NA-11077/12, 2013 WL 3069661, at *11 (N.Y. Fam. Ct. Apr. 4, 2013) (“The expert’s opinion or conclusion must be based upon a reasonable degree of certainty, not on supposition or speculation or mere possibility.”); *In re Te.R.*, No. L-15-1015, 2015 WL 9589733, at *4 (Ohio Ct. App. Dec. 30, 2015) (citation omitted) (“In Ohio, the admissibility of expert testimony that an event is the proximate cause is contingent upon the expression of an opinion by the expert with respect to the causative event in terms of probability. . . . [A]n event is probable if there is a greater than fifty percent likelihood that it produced the occurrence at issue. . . .’ The fact that Dr. Schlievert did not use the specific phrase ‘reasonable degree of medical certainty’ is inconsequential.” (alteration in original) (quoting *Stinson v. England*, 633 N.E.2d 532, 537 (Ohio 1994))); *Dep’t of Human Servs. v. H.L.R.*, 260 P.3d 787, 795 (Or. Ct. App. 2011) (“When asked whether his predictions of future effects of mother’s diagnosis on her parenting were ‘made to a reasonable medical certainty,’ [the psychologist evaluator] noted that he could not ‘say for certain that future events will take place’ and that ‘reasonable medical sufficiency’ relates typically to ‘a current diagnosis, current condition, current functioning’ and not to ‘predictions related to the future, which is inherently difficult to do.’”); *Commonwealth v. Martin*, 101 A.3d 706, 715 (Pa. 2014) (“Although he could not exclude the possibility that the injury inside G.B.’s vagina could have been caused by some other type of blunt object, such as a finger or rounded pen, Dr. Wecht opined ‘with reasonable medical certainty, not absolute certainty but with reasonable medical certainty, that the most likely instrumentality or object that would have produced [the] injury would have been a penis,’ based on the coinciding evidence that G.B.’s pants and panties had been pulled down and that she had died by manual strangulation.” (alteration in original) (citation omitted)).

to establish the necessary degree of certainty of the expert testimony.¹⁰⁸ For example, in *Galloway v. State*, the defendant argued the expert testimony was insufficient to support the conviction because the expert physician did not qualify the medical conclusion—that the child suffered anal penetration—with the RMC phrase.¹⁰⁹ The court proceeded to provide a detailed explanation of the use of the phrase.¹¹⁰ The court explained the use of RMC gave probative value to the expert’s testimony, helping establish the weight, though not the admissibility, of the medical opinion.¹¹¹ Quoting at length from *Schulz v. Celotex Corp.*, the court explained the applicable legal principles as follows:

... [T]he phrase “with a reasonable degree of medical certainty” is a useful shorthand expression that is helpful in forestalling challenges to

108. See, e.g., *State v. Galloway*, No. 1012003724 (R-1), 2015 WL 4460992, at *6 (Del. Super. Ct. July 16, 2015) (“‘[A] doctor’s testimony can only be considered evidence when his conclusions are based on reasonable medical certainty that a fact is true or untrue.’ In order to be admissible and considered, every medical opinion must be offered to a reasonable medical probability or reasonable certainty.” (alteration in original) (quoting *Oxendine v. State*, 528 A.2d 870, 873 (Del. 1987)); *Alvarez-Madriral v. State*, 71 N.E.3d 887, 891 (Ind. Ct. App. 2017) (“Alvarez-Madriral then objected, stating, ‘This clearly calls for speculation. It’s not relevant to the facts of the case.’ . . . The State responded, ‘She’s a child abuse expert. She has talked about her evaluation of psychological and emotional mental health. It’s part of her job to know statistics.’ . . . The trial court did not expressly rule on the objection, but stated, ‘Then ask her this, ask every question in terms of reasonable medical certainty.’” (citations omitted)); *Williams v. State*, 35 So. 3d 480, 486 (Miss. 2010) (“‘[B]efore a qualified expert’s opinion may be received, it must rise above mere speculation.’ . . . ‘[O]nly opinions formed by medical experts upon the basis of credible evidence in the case and which can be stated within reasonable medical certainty have probative value.’ . . . Although an expert need not use the exact phrase, ‘reasonable degree of medical certainty,’ this does not diminish the requirements for admissibility.” (alterations in original) (first quoting *Goforth v. City of Ridgeland*, 603 So. 2d 323, 329 (Miss. 1992), then quoting *Catchings v. State*, 684 So. 2d 591, 596 (Miss. 1996)); *G.H. v. Mental Health Bd. of the Fourth Judicial Dist.*, 781 N.W.2d 438, 445 (Neb. 2010) (“In that context, we have held that although expert medical testimony need not be couched in the magic words ‘reasonable medical certainty’ or ‘reasonable probability,’ it must be sufficient as examined in its entirety to establish the crucial causal link between the plaintiff’s injuries and the defendant’s negligence.”); *State v. Consaul*, 332 P.3d 850, 865 (N.M. 2014) (“Unlike the present case, doctors usually testify as to what caused a patient’s condition using phrases like ‘to a reasonable medical probability’ or ‘to a reasonable medical certainty,’ phrases that demonstrate a sufficient degree of conviction to be probative.” (citation omitted)).

109. *Galloway v. State*, 122 So. 3d 614, 664–65 (Miss. 2013).

110. *Id.* at 665.

111. *Id.* at 666.

the admissibility of expert testimony. Care must be taken, however, to see that the incantation does not become a semantic trap and the failure to voice it is not used as a basis for exclusion without analysis of the testimony itself. . . . Situations in which the failure to qualify the opinion have resulted in exclusion are typically those in which the expert testimony is speculative, using such language as “possibility.” . . . Phrases like “strong possibility,” or “20-80% probability,” also invite speculation. . . .

Accordingly, while the particular phrase used should not be dispositive, it may indicate the level of confidence the expert has in the expressed opinion. Perhaps nothing is absolutely certain in the field of medicine, but the intent of the law is that if a physician cannot form an opinion with sufficient certainty so as to make a medical judgment, neither can a jury use that information to reach a decision.¹¹²

While the court is representative of the approach of its home state, the rationale presented may be more generalizable: the phrase attaches a form of weight to the expert’s testimony and allows the fact finder to reach a verdict based on the weight.¹¹³

Alleged child abuse offenders in the current decade continue to challenge expert physician testimony as insufficient when the expert fails to qualify the medical opinions to a reasonable medical certainty—with many courts countering this claim.¹¹⁴ For example, the court in *State v. Merrill*

112. *Id.* at 666–67 (citations omitted) (quoting *Schulz v. Celotex Corp.*, 942 F.2d 204, 208 (3d Cir. 1991)).

113. *Id.*; see also *Consaul*, 332 P.3d at 865 (“[P]hrases like ‘to a reasonable medical probability’ or ‘to a reasonable medical certainty’ These phrases ‘are also terms of art in the law that have no analog for a practicing physician.’ . . . Essentially, these phrases satisfy a minimal standard of probability, and therefore admissibility, that an opinion is more likely than not true.” (citations omitted)).

114. See, e.g., *State ex rel. Montgomery v. Whitten*, 262 P.3d 238, 243 (Ariz. Ct. App. 2011) (“[District Medical Group] also raises concerns about pretrial interview questions focusing on causation, stating: In regard to causation, the prosecutor asked Dr. Connell ‘what type of circumstances would you see similar fractures from?’ The defendant’s counsel asked Dr. Gridley, ‘are there any conclusions that you can draw to a reasonable medical certainty based on these records as to the cause of the these injuries?’ The State followed up, asking Dr. Gridley, ‘would you be able to indicate whether or not the cause of that was from trauma?’ Dr. Rosenberg was asked the same questions. Dr. Lezine was asked about the possibility that the injuries were ‘caused’ by a short fall of[f] a bed and what literature supported her answer.” (second alteration in original)); *Denise M. v. Burnett*, No. A142006, 2015 WL 6787055, at *4 (Cal. Ct. App. Nov. 6, 2015) (“Defendant finally challenges the therapists’ declarations on the ground they fail to state their

provided a lengthy discussion about why RMC is not needed in response to the defendant's claim for sufficiency of evidence.¹¹⁵ The defendant in *Merrill* then appealed, arguing that the district court erred in admitting the expert physician's testimony because the expert failed to qualify the medical conclusions in court with a "reasonable medical certainty," the alleged legal standard.¹¹⁶ However, the Utah Court of Appeals rejected this argument, explaining that the Utah Supreme Court had allowed expert testimony in other cases even when the physician was unable to qualify the medical conclusions with the phrase, and stating that questions of uncertainties are for the fact finder to resolve.¹¹⁷ Second, the court reasoned that in criminal cases, the phrase RMC is not required.¹¹⁸ Instead, experts may qualify their medical conclusions with "probability, possibility, or likelihood," so long as the testimony represents the expert's "best judgment to a reasonable certainty."¹¹⁹ And because the expert in *Merrill's* case based his medical conclusions on his best judgment, the testimony did not require the use of the phrase.¹²⁰ A court of criminal appeals in Tennessee provided a similar response to a defendant's argument that the expert was required to testify using RMC.¹²¹ The court explained, "Although in criminal cases, experts have often testified to the cause of injuries or other conditions 'to a

opinions are to a reasonable medical certainty. . . . However, [precedent] does not provide the expert's testimony must use the words 'reasonable medical probability,' instead, it provides the evidence must prove the identified fact within a reasonable medical probability." (citations omitted)); *Desormeaux v. State*, 362 S.W.3d 233, 239 (Tex. App. 2012) ("Appellant cites no criminal case requiring that the testimony regarding cause of death include the phrase 'reasonable medical certainty,' and he did not object to the testimony on this basis at trial. . . . Issues four and five are overruled."); *In re Commitment of B. Brady*, No. 09-09-00360-CV, 2011 WL 2420862, at *6 n.4 (Tex. App. June 16, 2011) ("Brady complains that Dr. Dunham failed to 'quantify' the phrase "'high' risk' and Dr. Arambula based his opinion on a 'reasonable medical probability' instead of a 'reasonable medical certainty.' Brady cites no authority for these arguments. . . . Assuming without deciding that quantification is necessary, the record contains other evidence regarding the recidivism rate for offenders in the 'high' range category. Moreover, Dr. Arambula's use of the 'reasonable medical probability' standard merely goes to the weight of his testimony." (citations omitted)).

115. *State v. Merrill*, 269 P.3d 196, 201–02 (Utah Ct. App. 2012).

116. *Id.* at 201.

117. *Id.* at 201–02.

118. *Id.* at 201.

119. *Id.*

120. *Id.* at 202.

121. *State v. Greenwood*, No. M2013-01924-CCA-R3-CD, 2014 WL 6609308, at *33–34 (Tenn. Crim. App. Nov. 21, 2014).

reasonable degree of medical certainty,’ Tennessee law requires neither these nor ‘any other specific words be recited’ as a condition precedent for admissibility of an expert opinion.”¹²²

Analyses such as the one offered in *Merrill* leave some issues unresolved. For example, in *Merrill*, the reader learns from the court that reasonable medical certainty is understood as having greater certainty than mere probability, possibility, or likelihood.¹²³ However, the court does not define what medical certainty is, either numerically or using another standard.¹²⁴ The court also explains the standard for expert physician testimony is that the testimony be based on the expert’s best judgment to a reasonable certainty.¹²⁵ However, the court does not explain how reasonable certainty differs from reasonable medical certainty.¹²⁶ Moreover, when the court applies the purported standard, the court focuses on the best judgment portion and does not address the reasonable certainty portion at all.¹²⁷ From the discussion, the reader may conclude that the court endorsed a standard under which the expert’s testimony is valid so long as the testimony reflects the expert’s best judgment, without requiring an explicit degree of certainty.¹²⁸

This survey of the use of RMC in child abuse cases throughout the decades illustrates the lack of coherence in the use of this phrase and the need for further clarification in the fields of medicine and the law. The majority of the cases leave the phrase undefined or unaddressed while signaling its importance through its continued use and emphasis through quotation marks or italics.¹²⁹ Understandably, this lack of consensus conduces different parties in the legal proceeding to use and interpret RMC according to their own subjective understanding of the phrase.

Imagine, for example, a state’s attorney asking an expert physician, “Doctor, can you state with a reasonable medical certainty that the child’s injuries resulting in the death of the child are non-accidental?” The judge

122. *Id.* at *33 (citing *State v. Young*, No. 01C01-9605-CC-00208, 1998 WL 258466, at *22 (Tenn. Crim. App. May 22, 1998)).

123. *See Merrill*, 269 P.3d at 201.

124. *Id.*

125. *Id.*

126. *See id.*

127. *Id.*

128. *See id.* at 201–02.

129. *See, e.g., United States v. Lingle*, 27 M.J. 704, 706 (A.F.C.M.R. 1988); *People v. Ewing*, 140 Cal. Rptr. 299, 300 (Ct. App. 1977).

may understand the question as asking the physician whether the physician can assert this conclusion using his or her best professional judgment, while the physician may interpret the question as asking if he or she can assert with certainty that the injuries were intentional; and yet the state's attorney may actually be asking whether the physician can assert that it is more likely than not that the evidence supports the conclusion.¹³⁰ Others in the courtroom, including the opposing counsel and the jury, may conceptualize the question as asking whether the physician can draw the conclusion with at least a 95 percent confidence level.¹³¹ And, still others may wonder how reasonable medical certainty is related to true certainty. Each of these interpretations is understandable, and the issues at stake in child abuse cases are formidable, therefore clarification of RMC is a pressing issue.

Moreover, any response clarifying the definition must be broadly applicable. Expert physicians are not bound to testify in particular jurisdictions, but instead share their expertise across the country.¹³² So even if individual jurisdictions reach consensus within their separate domains, it will not be sufficient for cases where multiple experts with multiple understandings of the phrase testify in the same proceeding. Equally, if not more problematic, is that having different definitions across jurisdictions could mean that a defendant could be found guilty of child abuse and lose custody of a child in one jurisdiction but not in another simply because of the locale—a risk that could be avoided by developing cross-jurisdictional consensus regarding RMC.¹³³

C. A National Survey of Medical Professionals

Having experienced inconsistency in the interpretation of RMC in court cases involving child abuse, a group of physicians and attorneys (including the Authors) were motivated to move beyond anecdotal frustration to a comprehensive analysis of the meaning and application of RMC.¹³⁴ As a first step, in 2015, Dias and Levi expanded prior work on the

130. Dias et al., *supra* note 14, at 224.

131. *Id.* at 225.

132. See, e.g., Alice R. Berkowitz, *Introduction*, JURISPRO EXPERT WITNESS DIRECTORY, <https://www.jurispro.com/expert/alice-berkowitz-995> (last visited July 13, 2017) (describing the increase in costs when she has to travel out of town or out of the country to testify at trials).

133. Paul C. Giannelli, "Reasonable Scientific Certainty": A Phrase in Search of a Meaning, *CRIM. JUST.*, Spring 2010, at 40, 41.

134. See generally Dias et al., *supra* note 14.

concept of reasonable medical certainty, surveying physicians.¹³⁵ This survey recruited child abuse pediatricians, forensic pathologists, pediatric neurosurgeons, and pediatric ophthalmologists from across the country,¹³⁶ of whom 95 percent (279 out of 294) had served as expert witnesses in child abuse cases.¹³⁷ Though the data showed clustered responses around some proposed definitions of RMC and revealed 95 percent internal consistency in individual respondent’s responses, the data showed significant variability in the definition of RMC across both individuals and the medical specialties.¹³⁸ The data also revealed that almost 30 percent of respondents used different interpretations of RMC depending on whether the case in which they were testifying involved criminal charges, as opposed to civil charges.¹³⁹ These results emphasize not only the lack of consensus regarding how medical experts interpret RMC, but also the importance of addressing this issue.¹⁴⁰

III. SURVEY OF THE PENNSYLVANIA LEGAL COMMUNITY

Perplexed and intrigued by the results of the first study surveying physicians, the Authors were interested in learning how legal professionals conceptualize RMC, so they conducted an analogous survey of attorneys and judges in the Commonwealth of Pennsylvania. The results revealed what the cases suggest and the prior survey of physicians supports: RMC has become an incantation without meaning, which leaves parties in legal proceedings to attach subjective meanings when using the phrase.¹⁴¹ RMC’s meaning can vary even within the same jurisdiction, and hence supports the need for risk-reduction mechanisms.¹⁴²

A. *Methods*

This three-section survey was comprised of similar questions as the prior physician survey but included modifications for the legal community.¹⁴³ The first section surveyed respondents’ understanding of RMC based on (a)

135. *See id.* at 219.

136. *Id.*

137. *Id.* at 220.

138. *Id.* at 220–22.

139. *Id.* at 222.

140. *See infra* Part III.B.

141. *See infra* Part III.B.

142. *See infra* Part III.B.

143. *See infra* Part III.B.

prior training; (b) the respondents' normative views of the phrase; and (c) expected probability that child abuse occurred when an expert testifies that child abuse occurred to a reasonable medical certainty (i.e., most likely explanation, second most likely explanation, third most likely explanation, fourth most likely explanation, and fifth most likely explanation).¹⁴⁴ The survey also asked the respondents to specify whether and how their interpretations of the phrase varied depending on the type of case (family law versus criminal law) and the severity of the charges (murder versus assault/battery).¹⁴⁵ The second section presented respondents with five court hypotheticals with varying levels of ambiguity and complexity in which a hypothetical expert witness testified that abuse occurred to a reasonable medical certainty.¹⁴⁶ The respondents were asked to indicate their level of agreement with the doctor's assertion that abuse occurred in each case.¹⁴⁷ The third section asked respondents for their basic personal and professional demographic data.¹⁴⁸

The Authors distributed the survey via listservs for judges and district attorneys. Potential participants received an email that invited them to participate in the study. The email provided a link to the online survey in SurveyMonkey, an internet survey provider. The authors used SAS, a statistical data analysis software, to analyze the results of the survey, including frequency distributions for each question. While other tests did not reveal any relevant, statistically significant results due to the divergence of responses and resulting small sample sizes, the frequency results are noteworthy because they highlight the vast differences in the understanding of the phrase in the legal profession.¹⁴⁹

B. Results

1. Demographic Data

The majority of respondents were legal professionals who had practiced law for several decades.¹⁵⁰ A total of 91 respondents completed the survey, of whom 63.7 percent were court of common pleas judges, 27.5

144. See *infra* Parts III.B.2.a, III.B.2.b.

145. See *infra* Part III.B.2.c.

146. See *infra* Part III.B.3.

147. See *infra* Part III.B.3.

148. See *infra* Part III.B.1.

149. See discussion *infra* Part III.B.

150. See *infra* Table 1.

percent district attorneys, and 8.8 percent other.¹⁵¹ Most respondents reported being in the legal profession for more than 30 years, and more than 85 percent reported more than 15 years of professional experience.¹⁵² While 91 attorneys participated in the survey, not all respondents answered all questions.¹⁵³

Table 1

<i>Position & Experience (91 Respondents)</i>		<i>Age & Gender (63 Respondents)</i>	
Court of Common Pleas	63.7%	>50 years	71.4%
District Attorneys	27.5%	35 to 50 years	27.0%
Other	8.8%	25 to 34 years	1.2%
<15 years of experience	12.1%	Male	73.0%
16 to 30 years	46.2%	Female	27.0%
>30 years	41.8%	White (Non-Hispanic)	98.4%
		African-American	1.6%

Respondents reported extensive professional experience with child abuse cases and physician expert testimony.¹⁵⁴ They also reported in their experience almost all cases involving child abuse involved medical expert testimony, and most medical experts testified for the prosecution.¹⁵⁵ Asked about their experience over the past five years, the majority of respondents (70.3 percent) reported calling or cross-examining expert witnesses in three or fewer cases where the expert was the child’s primary physician, while only 9.5 percent reported doing so in greater than 14 cases.¹⁵⁶ Cross-examination of medical experts was similarly uncommon, with only 25.7 percent of respondents having done so for greater than or equal to 9 cases.¹⁵⁷ Of note, only 9 percent of respondents reported any prior training or formal education regarding the meaning of RMC.¹⁵⁸

151. *See infra* Table 1.
 152. *See infra* Table 1.
 153. *See infra* Tables 1, 2.
 154. *See infra* Table 2.
 155. *See infra* Table 2.
 156. *See infra* Table 2.
 157. *See infra* Table 2.
 158. *See infra* Figure 1.

2. *Defining Reasonable Medical Certainty*

Table 2

<i>Participation in Cases with Suspected Abuse (86 Respondents):</i>		<i>Participation in Cases with Suspected Child Abuse Where Physician Expert Testified (88 Respondents):</i>	
>30 cases	76.7%	Expert testimony offered	97.7%
11 to 30 cases	14.0%	Expert testimony not offered	2.3%
1 to 10 cases	9.3%		
<i>Testimony Offered By (74 Respondents):</i>			
<i>Child's Primary Physician</i>		<i>Independent Medical Expert</i>	
0 to 3 cases	70.3%	0 to 3 cases	54.1%
4 to 8 cases	20.3%	4 to 8 cases	20.3%
>14 cases	9.5%	9 to 13 cases	12.2%
		>14 cases	13.5%
<i>Expert Testimony Offered for (85 Respondents):</i>			
<i>Prosecution</i>	88.2%	<i>Defense</i>	0%
<i>Roughly Equal for Prosecution and Defense, Competing Experts</i>	7.1%	<i>Roughly Equal for Prosecution and Defense, One-Sided Expert</i>	1.2%

*Note: The Percentages reflect the percentage of respondents, based on the total number of respondents, who provided a particular answer.

This Part presents the respondents' definition of the phrase based on two frameworks: numerical probability and ordinal probability.

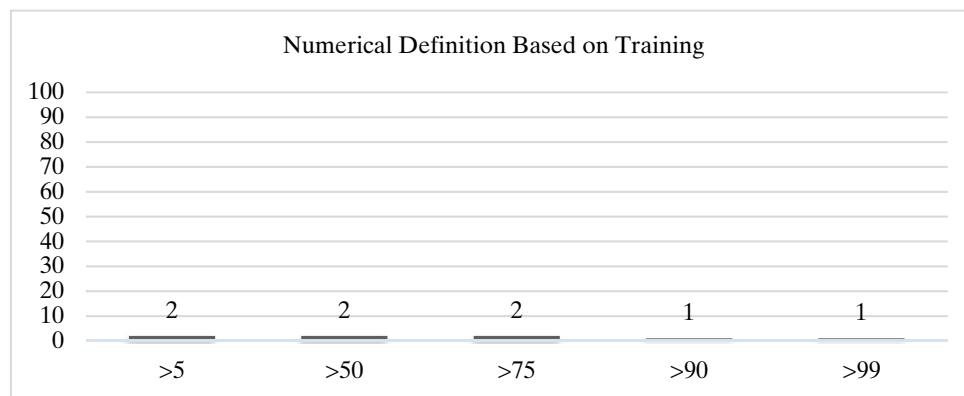
a. *Definition based on numerical probability.* The survey asked the respondents to provide information on prior training on the meaning of the phrase, but fewer than 10 reported any form of training.¹⁵⁹ As a follow-up question, the survey asked respondents who reported prior training to explain the definition of the phrase based on the information received during

159. See *infra* Figure 1.

training. The responses show stark, wide-ranging differences in the understanding of the phrase.¹⁶⁰

Of the eight respondents who reported any training on the meaning of RMC, there was wide variability in the numerical probability they equated with RMC.¹⁶¹ Two respondents indicated RMC could be as low as 5 percent as the required threshold, two set the definition of RMC at 50 percent, two set the threshold at 75 percent, and one each set the threshold at greater than 90 percent and 99 percent, respectively.¹⁶² If these findings accurately reflect the content of the education respondents received, it suggests at the very least current training on RMC is far from consistent.

Figure 1

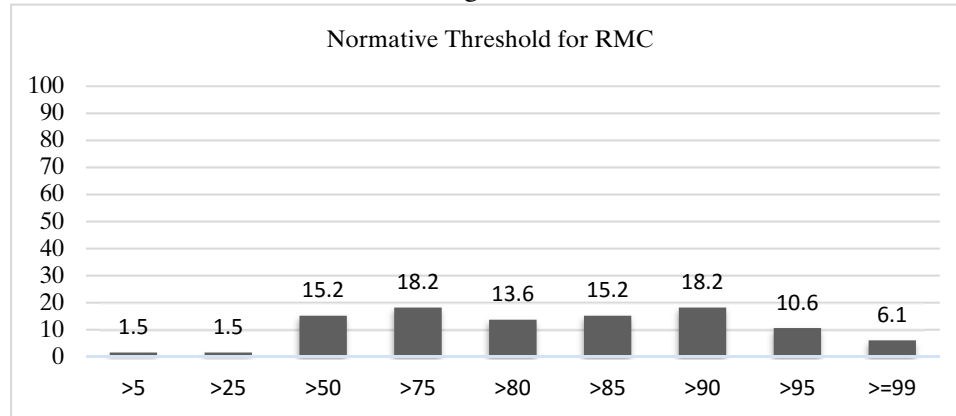


Similarly, no consensus emerged from the responses of the 66 individuals who answered the question of how great the likelihood of abuse should be for medical experts to testify with reasonable medical certainty that abuse occurred.¹⁶³ Using the numerical probability framework, the majority of the respondents (64 out of 66) indicated that RMC required a probability greater than 50 percent, with 18 percent setting a threshold greater than 90 percent probability, and 17 percent setting a threshold of greater than 95 percent.¹⁶⁴ Only two respondents set the threshold greater than 25 percent probability, with one setting the threshold greater than 5

160. See *infra* Figure 1.
 161. See *infra* Figure 1.
 162. See *infra* Figure 1.
 163. See *infra* Figure 2.
 164. See *infra* Figure 2.

percent.¹⁶⁵

Figure 2



b. *Definition based on expected ordinal probability.* Respondents were also asked to use an ordinal-probability framework to indicate how likely child abuse had to be in order for a medical expert to testify that there was reasonable medical certainty that abuse had occurred.¹⁶⁶ Again, 66 individuals provided a response, with the majority (71.2 percent) indicating that child abuse had to be *the* most likely explanation for the child's condition.¹⁶⁷ Less than one-fourth (22.7 percent) indicated child abuse could be the second most likely explanation, and only four individuals (6.1 percent) indicated that child abuse could be the third most likely explanation of the child's condition and still qualify as RMC.¹⁶⁸

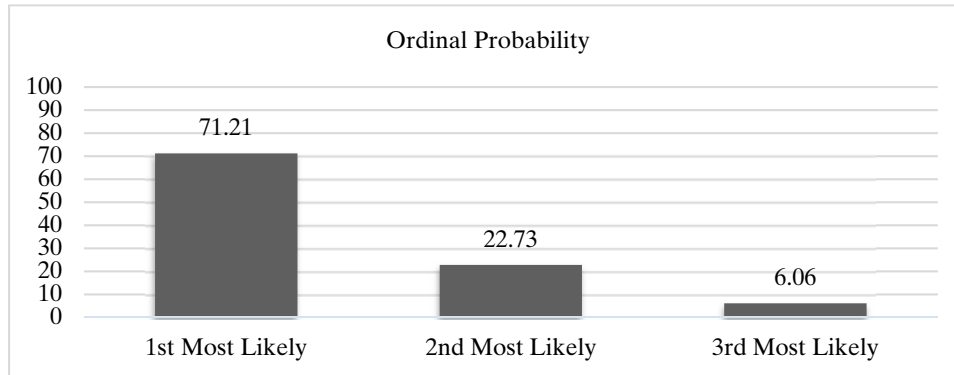
165. See *infra* Figure 2.

166. See *infra* Figure 3.

167. See *infra* Figure 3.

168. See *infra* Figure 3.

Figure 3



c. *Definition variation based on type of case and type of injury.* Finally, the respondents were asked to indicate whether, and how, the meaning of RMC should vary in criminal versus family cases, and assault versus battery. Roughly two-thirds of respondents (67.7 percent) indicated that the same threshold definition should be used in both family and criminal cases, while the vast majority (92.31 percent) made no distinction in their interpretation of RMC in assault versus battery cases. Nearly one-third of respondents (30.8 percent) indicated that a higher threshold should exist for criminal cases than for family cases, although one respondent indicated that criminal cases should have lower thresholds.

3. Court Hypotheticals

The third framework used to examine how legal professionals interpreted expert testimony regarding RMC involved hypothetical court cases. Respondents were asked to indicate on a five-point Likert-type scale (1 indicating strongly agree, 5 indicating strongly disagree) whether they agreed with the hypothetical medical expert testimony regarding RMC. The responses of the 70 legal professionals who expressed their opinion are shown in Table 3. As with the preceding frameworks, these responses demonstrate no consensus regarding what constitutes reasonable medical certainty.¹⁶⁹

169. See *infra* Table 3, Figures 4–8.

Table 3

Hypothetical	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	0	7.14	25.71	30.00	37.14
2	0	11.43	42.86	31.43	14.29
3	0	17.14	42.86	30.00	10.00
4	5.71	22.86	47.14	15.71	8.57
5	37.14	45.71	15.71	0	1.43

Hypothetical case 1 (three-year-old with a linear skull fracture)

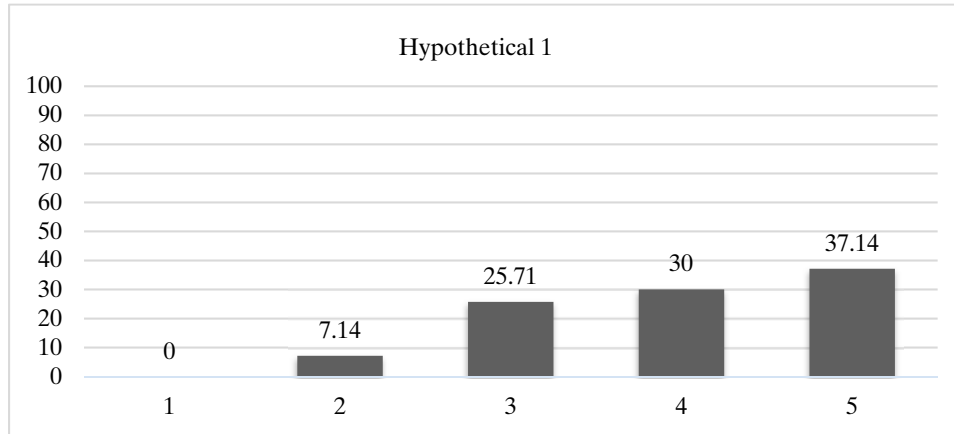
The story you are told is that a young mother and her neighbor took their three-year-old twin sons to the park to play. In the presence of both parents, one of the boys fell from his wagon and struck his head hard on the concrete. He cried vigorously but was consolable. Scalp swelling developed quickly at the point of impact. Because he continued to seem irritable, sleepy, and vomited twice that afternoon, the child's mother and the neighbor brought him to the Emergency Department for evaluation. His physical exam was normal except for a subgaleal hematoma (bleeding between the skull and the brain). Skull films and cranial CT scan confirmed a linear, parietal skull fracture and a small, focal, acute (i.e., hyperdense) subdural hematoma underlying the fracture. The mother of the child denied any form of inflicted trauma, and both she and the neighbor were consistent in their accounts of the event with repetition over time. Given this situation, would you agree if a doctor testified to a reasonable degree of medical certainty that the abuse DID occur[.]

Responses to this case were heterogeneous, but nearly 70 percent either disagreed or strongly disagreed with the testimony.¹⁷⁰ No respondent *strongly* agreed that abuse occurred, but nearly 10 percent reported agreement with the expert witness testimony that abuse occurred.¹⁷¹

170. See *infra* Figure 4.

171. See *infra* Figure 4.

Figure 4



Scale: 1 (strongly agree), 2 (agree), 3 (neither agree nor disagree), 4 (disagree), 5 (strongly disagree)

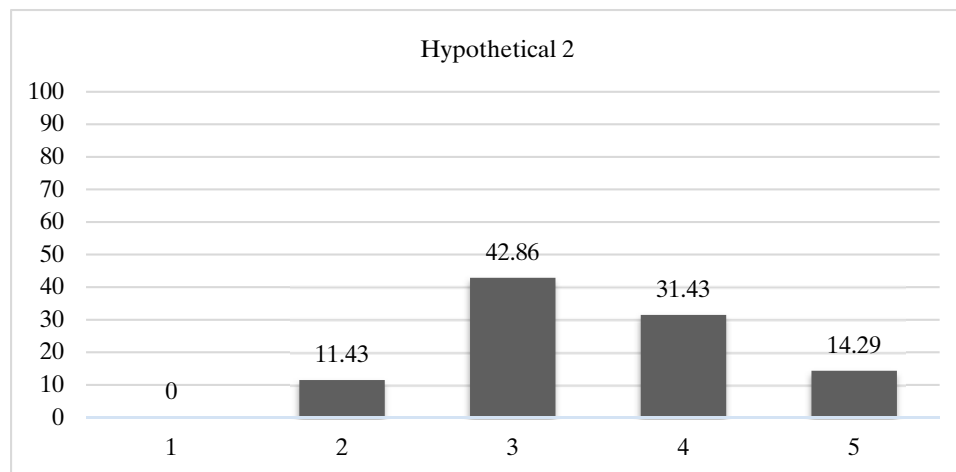
Hypothetical case 2 (toddler with no witness other than parents):

The story you are told is that the mother of a normally developing 14-month-old girl discovered scalp swelling and tenderness while brushing her daughter's hair. The next day, she took the child to her pediatrician, who ordered skull X-rays that revealed a non-diastatic, linear, parietal skull fracture. Concerned about child abuse, the pediatrician obtained a skeletal survey and a cranial CT scan. Both studies were negative. The parents of the child consistently denied accidental or inflicted head trauma. Given this situation, would you agree if a doctor testified to a reasonable degree of medical certainty that the abuse DID occur[.]

Responses were again quite heterogeneous, with 42.9 percent of respondents indicating they neither agreed nor disagreed with the expert testimony, 11.4 percent reporting agreement, and 45.7 percent reporting disagreement or strong disagreement. No respondent indicated strong agreement.¹⁷²

172. See *infra* Figure 5.

Figure 5



Scale: 1 (strongly agree), 2 (agree), 3 (neither agree nor disagree), 4 (disagree), 5 (strongly disagree)

Hypothetical case 3 (infant with mother as only witness)

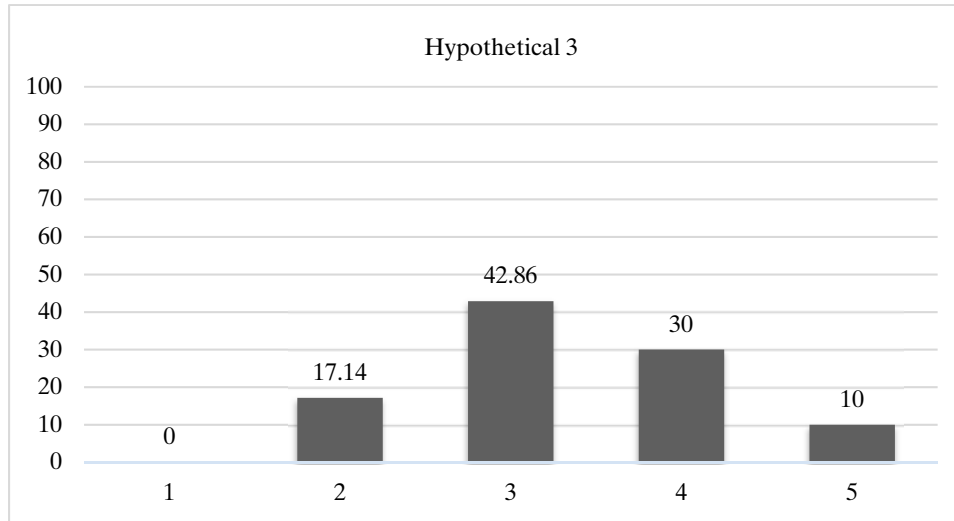
The story you are told is that the mother of a six-month-old boy was carrying him when she tripped and fell onto a linoleum floor, landing on top of her son. She reports that he cried right away but remained fussy and did not move his right arm much. After an hour or so, she decided to bring him into the Emergency Department, where the boy's physical examination was normal except for swelling and tenderness over his right forearm, and swelling along his right temple. A skeletal survey showed only a mid-shaft buckle fracture of the right radius; an ophthalmology exam was unremarkable; and a cranial CT scan revealed a small linear skull fracture and overlying subcutaneous tissue swelling. The mother's story remained consistent with repetition over time. Given this situation, would you agree if a doctor testified to a reasonable degree of medical certainty that the abuse DID occur[.]

Responses were again quite heterogeneous, with 42.9 percent of respondents indicating they neither agreed nor disagreed with the expert testimony, 17.4 percent reporting agreement, and 40 percent reporting disagreement or strong disagreement.¹⁷³ No respondent indicated strong agreement.¹⁷⁴

173. See *infra* Figure 6.

174. See *infra* Figure 6.

Figure 6



Scale: 1 (strongly agree), 2 (agree), 3 (neither agree nor disagree), 4 (disagree), 5 (strongly disagree)

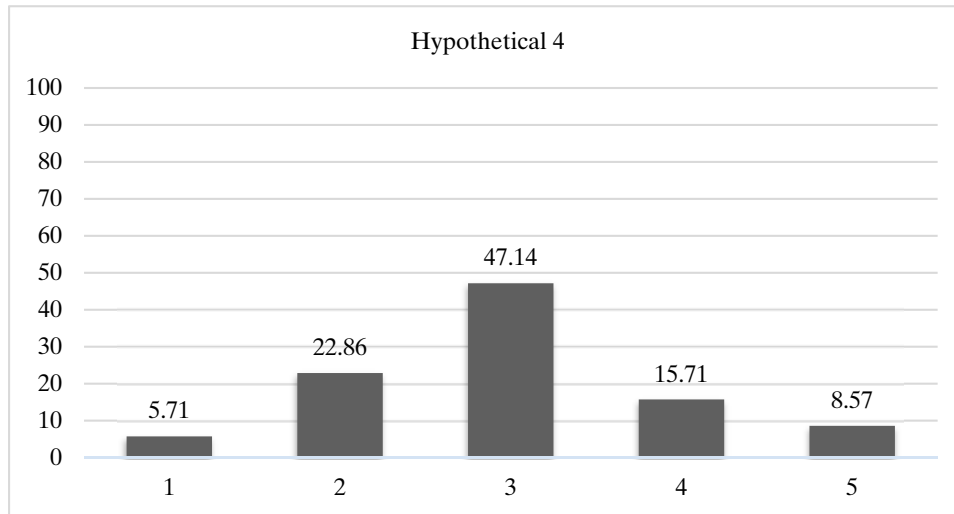
Hypothetical case 4 (one-year-old child with prolonged seizure activity):

The story you are told is that a 12-month-old boy was admitted to the intensive care unit in status epilepticus (i.e., prolonged seizure activity). A CT scan revealed diffuse, bilateral brain swelling, with no evidence of bleeding or fractures. An ophthalmologic exam did not demonstrate any hemorrhages, nor did a skeletal survey find any evidence of fractures. The father reported that he was at home alone with the baby when the infant suddenly became unresponsive, limp, and stopped breathing for “what seemed like a long time.” According to the father, the boy had been sick for the past 24 hours, with a fever and increased fussiness. The father adamantly denied both accidental and inflicted trauma. Given this situation, would you agree if a doctor testified to a reasonable degree of medical certainty that the abuse DID occur[.]

Responses were again quite heterogeneous, with 47.1 percent of respondents indicating they neither agreed nor disagreed with the expert testimony, 28.6 percent reporting agreement or strong agreement, and 24.3 percent reporting disagreement or strong disagreement.¹⁷⁵

175. See *infra* Figure 7.

Figure 7



Scale: 1 (strongly agree), 2 (agree), 3 (neither agree nor disagree), 4 (disagree), 5 (strongly disagree)

Hypothetical case 5 (toddler with bone fractures in various stages of healing):

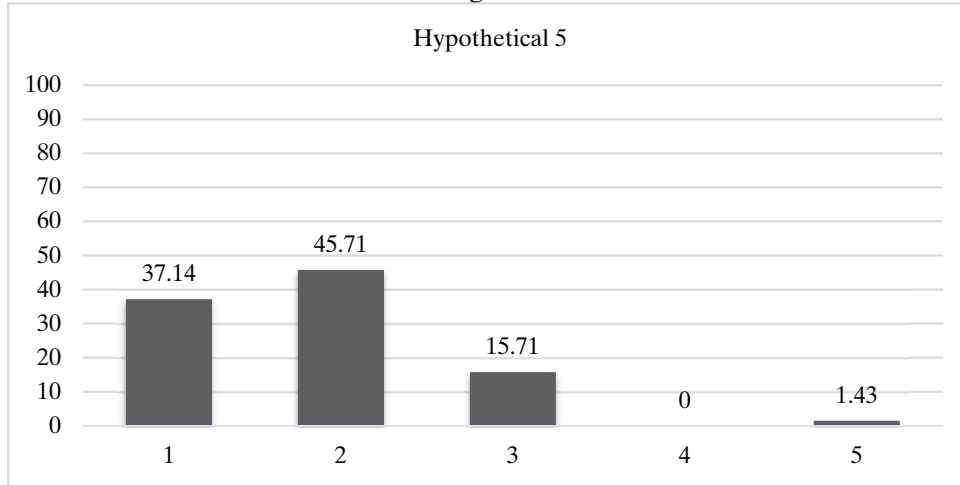
The story you are told is that an 18-month-old girl was brought to clinic for complaints of ear pain and fever. On exam, she had an upper respiratory tract infection and possibly the beginning of an ear infection. Additionally, she is extremely thin, with multiple bruises over her shins, upper arms, and rib cage (front and back). A skeletal survey demonstrates five rib fractures in various stages of healing, along with significant callous deposits on the ulnar of her left arm and the fibula of her right leg, suggestive of healed fractures. Her last clinic visit was at 13 months of age when she was noted to be underweight but developing normally. Given this situation, would you agree if a doctor testified to a reasonable degree of medical certainty that the abuse DID occur[.]

In this case, the majority of respondents were in either agreement (45.7 percent) or strong agreement (37.1 percent) with the hypothetical expert testimony regarding RMC.¹⁷⁶ Only 15.7 percent asserted neither agreement

176. See *infra* Figure 8.

nor disagreement, and only one respondent indicated strong disagreement with the hypothetical expert testimony.¹⁷⁷

Figure 8



Scale: 1 (strongly agree), 2 (agree), 3 (neither agree nor disagree), 4 (disagree), 5 (strongly disagree)

C. Limitations

The biggest limitation in the study is the sample size. The small sample size precluded the Authors from conducting further statistical analysis, which would allow for broader generalizations. Likewise, given the small sample size, the survey participants may not be fully representative of the legal professionals in Pennsylvania or the United States. Further research in this area is warranted.

IV. ANALYSIS

The survey results reported here exhibit a remarkable lack of agreement on the meaning of the term reasonable medical certainty and highlight the need for guidance in its interpretation.¹⁷⁸ In order for expert medical testimony regarding RMC to contribute to just verdicts in (often high-stakes) child abuse cases, consistency or at least general consensus is needed for interpreting RMC.¹⁷⁹ This Part discusses the risks associated with

177. See *infra* Figure 8.

178. See *supra* Part III.

179. See *supra* Part II.B.

the kind of ambiguity demonstrated by the present survey results and proposes several mechanisms to reduce such risks.

A. Ambiguity in the Legal and Medical Fields

The meaning of RMC has been shown to vary across jurisdictions.¹⁸⁰ A prior national survey of the medical experts who frequently testify in court about child abuse demonstrated widespread variability in how the medical community interprets RMC.¹⁸¹ Among medical experts who testify in court, some assert that the phrase RMC is a legal term of art.¹⁸² But if this is so, data suggest that legal experts have no more insight into the meaning of RMC than physicians.¹⁸³

The present survey of Pennsylvania legal professionals is illustrative not only for its lack of consensus about RMC, but also for its finding that training on the meaning of RMC is itself highly variable—employing thresholds as low as 5 percent to as high as 99 percent probability.¹⁸⁴ It is possible that legal professionals do in fact understand the meaning of the phrase, but cannot accurately articulate its meaning. However, the present findings show large variability across multiple frameworks for understanding how legal professionals interpret RMC: numerical probability, ordinal probability, and applied judgment in hypothetical cases.¹⁸⁵

Though the results for the numerical probability framework show the broadest spread, it is perhaps most striking that the possibility legal professionals do in fact understand the meaning of the phrase is unlikely, as illustrated by the lack of consensus as to the legal professionals' normative views.¹⁸⁶ Some equate the phrase to requiring 50 percent likelihood that abuse occurred, while others require anywhere from 75 percent probability to absolute certainty (i.e., 100 percent probability).¹⁸⁷ A larger concern with the spread is that someone's interpretation of the required threshold may be extraordinarily difficult to compare to someone else's interpretations.

180. *See supra* Part II.A.

181. *See supra* Part II.C.

182. *See, e.g.*, Glenn E. Bradford, *Dissecting Missouri's Requirement of "Reasonable Medical Certainty"*, J. MO. B., May/June 2001, at 136, 137.

183. *See supra* Part III.

184. *See supra* Part III.

185. *See supra* Part III.

186. *See supra* Part III.B.2.a.

187. *See supra* Part III.B.2.a.

Imagine, for example, that an attorney’s subjective 75 percent is equivalent to another attorney’s subjective 80 percent threshold. Clearly, there is no reliable mechanism to identify such differences. The present survey results from the Pennsylvania legal community are far too heterogeneous to draw any conclusion, much less identify a normative consensus.

While the survey results for the ordinal probability framework revealed the greatest consensus for interpreting RMC, nearly 30 percent of respondents dissented from the proposition that to qualify as RMC, child abuse must be *the* most likely explanation for a child’s injuries or condition.¹⁸⁸ This means that nearly 30 percent of respondents accepted the proposition that not even preponderance of the evidence was needed for RMC, since only the most likely explanation can support the preponderance of the evidence.¹⁸⁹

The fact that respondents’ interpretations of RMC changed according to the type of case (criminal versus family; battery versus assault) even more clearly demonstrates that the current situation introduces unwarranted risk to courts, and in particular to those seeking justice.¹⁹⁰ It is, of course, Pollyannaish to expect absolute consensus in any human endeavor. However, the subjectivity evidenced in the hypothetical cases suggests the need for greater common ground among those positioned to seek justice.¹⁹¹

B. *The Risks Associated with the Current Lack of Agreement*

Child abuse cases involve highly sensitive allegations, as well as a vulnerable population that depends on responsible professionals working together to make sound judgments that protect the innocent. False negative judgments perpetuate risk that can be life-threatening for children. False positive judgments both offend justice and cause undue harm to the innocent and their families.

1. *False Negatives*

Acquittals exemplify how constitutional safeguards function in criminal cases. These cases often generate little notoriety, making false negatives difficult to accurately identify.¹⁹² In fact, the phrases “wrongful

188. *See supra* Part III.B.2.b.

189. *See supra* Part III.B.2.b.

190. *See supra* Part III.B.2.c.

191. *See supra* Part III.B.2.c.

192. Andrew D. Leipold, *The Problem of the Innocent, Acquitted Defendant*, 94 NW.

acquittal” and “false negative” are almost legally nonsensical because an acquittal indicates that the fact finders lacked sufficient evidence to return a guilty verdict.¹⁹³ If the fact finders did not have sufficient evidence, then how can a defendant be *wrongfully* acquitted?¹⁹⁴ In cases of alleged child abuse, an acquittal may be based on lack of evidence even though the defendant actually harmed the child and demonstrable consequences of that harm persist.¹⁹⁵

The case of James Marzolf in New Jersey exemplifies the danger of lack of recourse in child abuse cases where an expert provides testimony casting doubt on the child abuse charges.¹⁹⁶ Marzolf found himself facing sexual abuse charges when his nephew disclosed abuse after the boy’s stepfather walked into the room and found Marzolf with his hand inside the boy’s pants.¹⁹⁷ The family endured a taint hearing, in which the trial court would decide whether to admit the child’s testimony in court during trial due to pretrial issues.¹⁹⁸ During the hearing, Bruck, a leading suggestibility expert in the country, criticized the mother and stepfather.¹⁹⁹ Bruck attempted to discredit the stepfather, claiming his story changed throughout time.²⁰⁰ As for the mother, Bruck claimed she used suggestive questions to interrogate her son between his first and second interview with Sergeant Hassim, which led to the boy’s answers during the second interview.²⁰¹ To be clear, Bruck explained that she could not be sure what the mother allegedly told her son,

U. L. REV. 1297, 1298–99 (2000) (explaining that an acquittal proves that “the right to counsel, the requirement of proof beyond a reasonable doubt, [and] the presumption of innocence” function properly in the criminal justice system); *see also* Thomas D. Lyon et al., *Wrongful Acquittals of Sexual Abuse*, 32 J. INTERPERSONAL VIOLENCE 805, 806 (2017) (describing the difficulty of locating cases where acquittals occur because acquittals are immune from appeals due to double jeopardy concerns and because court reporters are not mandated to create a transcript of the court notes unless there is an appeal).

193. *See* Lyon et al., *supra* note 192, at 819.

194. *See id.*

195. *See id.* at 808–09, 819 (describing the acquittal of Alejandro Avila for lack of evidence in a sexual molestation case, the impact on the victim children, and a subsequent conviction for the murder of a different child).

196. *See* ROSS E. CHEIT, *THE WITCH-HUNT NARRATIVE: POLITICS, PSYCHOLOGY, AND THE SEXUAL ABUSE OF CHILDREN* 391 (2014) (describing the Marzolf case).

197. *See id.* at 390–91.

198. *See id.* at 391.

199. *Id.* at 392.

200. *Id.*

201. *Id.*

but Bruck had a “feeling” the mother tainted the boy’s responses.²⁰²

While the judge was not convinced by Bruck’s “feeling” and instead relied on the testimony of a psychologist testifying on behalf of the state, the consequences were catastrophic.²⁰³ The family did not want to go to trial after enduring two years of trial-like procedures, which made the family feel as though they were the defendants.²⁰⁴ The family refused to cooperate any further and moved away, and the prosecution dropped the charges in December 1997.²⁰⁵ Marzolf also moved away to Pennsylvania, where he opened a karate school.²⁰⁶ In 2002, Marzolf was arrested for possession of child pornography and nine counts of child abuse, and eventually pleaded guilty to possession of child pornography and child molestation.²⁰⁷

Similarly, the case of Alejandro Avila illustrates the risks of an ambiguous definition of RMC and the challenge of accurately identifying false negatives.²⁰⁸ Avila faced child abuse charges after his girlfriend’s nine-year-old daughter and her nine-year-old cousin disclosed years-long sexual abuse.²⁰⁹ The girls explained the defendant fondled their chest and vaginal areas, and penetrated them with objects, fingers, and his penis.²¹⁰ However, as often is the case with sexual abuse, there were no physical findings from the medical exam.²¹¹ The girls’ stories were the main evidence presented at trial, and the jury acquitted the defendant.²¹² Recognizing the state’s inability to seek further recourse, the defendant subsequently boasted, because of double jeopardy, “[he] could do anything [he] want[ed] to that little girl.”²¹³ It is difficult to claim that the defendant was guilty because, presumably, if enough evidence existed, then the jury would have found him guilty.²¹⁴ However, a few years later, six-year-old Samantha Runnion was kidnapped from outside her home and later found dead with signs of having been

202. *Id.*

203. *Id.* at 392–93.

204. *Id.*

205. *Id.*

206. *Id.*

207. *Id.*

208. Lyon et al., *supra* note 192, at 808.

209. *Id.* at 808–09.

210. *Id.* at 809.

211. *See id.*

212. *Id.*

213. *Id.* at 820.

214. *See id.* at 819.

raped.²¹⁵ In this instance, Alejandro Avila was charged and convicted for Samantha's rape and murder because of DNA evidence found under Samantha's fingernails and in Avila's vehicle.²¹⁶

The risks of returning child predators to the community are evidenced by recidivism data.²¹⁷ Such perpetrators are likely to reoffend as late as 15 to 20 years after their first incident of abuse, and recidivism rates are themselves often underestimated.²¹⁸ To the extent that false negatives can be diminished by propagating a clear and defensible definition of RMC, risk will be diminished.²¹⁹ The fact that defendants can appeal wrongful convictions but that states are unable to appeal an acquittal because of double jeopardy should give legal and medical professionals pause and encourage these professionals to present evidence in the most clear and coherent manner the first time.²²⁰

2. False Positives

Julie Baumer was convicted of inflicting massive brain injuries on her six-week-old nephew, whom she was caring for while her sister (the child's mother) struggled with drug addiction.²²¹ Two expert physicians testifying for the prosecution concluded that the infant's brain damage was likely inflicted by Baumer, who had sole custody of the child.²²² The defense did not offer any expert testimony, and Baumer was convicted of child abuse and

215. *Id.*

216. *Id.*

217. See generally ANDREW J. R. HARRIS & KARL HANSON, SEX OFFENDER RECIDIVISM: A SIMPLE QUESTION 7 (2004) (describing the different recidivism patterns by age, type of abuse, and type of abusers).

218. Robert A. Prentky, Austin F. S. Lee, Raymond A. Knight & David Cerce, *Recidivism Rates Among Child Molesters and Rapists: A Methodological Analysis*, 21 LAW & HUM. BEHAV. 635, 650-56 (1997).

219. See Lyon et al., *supra* note 192, at 819.

220. *Id.*

221. Laura Candler, *Julie Baumer: Wrongfully Convicted of Child Abuse*, AM. PUB. MEDIA: STORY (June 11, 2013), <http://www.thestory.org/stories/2013-06/julie-baumer-wrongfully-convicted-child-abuse>; Katie Vloet, *Exonoree Julie Baumer Shares Story with MLaw Students*, MICH. L. UNIV. MICH. (Oct. 6, 2016) https://www.law.umich.edu/newsandinfo/features/Pages/baumer_mic_100616.aspx ("She was found guilty based largely on the testimony of two physicians who testified for the prosecution, saying that the baby must have been shaken for the injuries to have occurred."); see also *People v. Baumer*, No. 267373, 2007 WL 1095236, at *1 (Mich. Ct. App. Apr. 12, 2007).

222. *Baumer*, 2007 WL 1095236, at *1, *3.

sentenced to 10 to 15 years in prison.²²³ The Michigan Law Innocence Clinic successfully appealed her case, based in large part on the testimony of six prominent physicians who concluded that the child’s brain damage was due to a stroke, not shaking.²²⁴ One is left to wonder what interpretation of RMC was used by the prosecution’s expert witnesses, and whether Ms. Baumer might have been spared seven years in prison had there been a consistent and transparent definition for what counts as RMC.²²⁵

Medical testimony was also crucial in securing a conviction in the case of four women convicted of raping two young girls.²²⁶ The same physician’s recanted testimony was crucial in freeing the four women.²²⁷ The court granted the women habeas relief and declared them innocent, acknowledging the following:

Given the implausible and contradictory nature of the allegations, Dr. Kellogg’s medical testimony was crucial to the case. It was the only piece of evidence that could show a crime had ever occurred. Not surprisingly, this opinion testimony was central to the State’s theory of criminal liability. From opening argument, to closing argument, there were two themes in both trials: the girls’ stories were inconsistent, but that didn’t matter in light of Dr. Kellogg’s testimony.²²⁸

Both stories underscore the gravitas that medical testimony receives in court and the repercussions suffered from false positives. While the women are free, the turmoil and years lost in prison cannot be recuperated. These cases also highlight the importance of providing the best medical opinion possible in child abuse cases, which includes a better approach to using the phrase.

C. Mechanisms for Risk Reduction

Two possible alternatives for reducing the risk associated with RMC in

223. *Id.* at *5; *see also* Vloet, *supra* note 221 (“Her attorney would not bring in a radiologist to examine the baby’s brain scans, so the opinions of the prosecution experts were not challenged.”).

224. Vloet, *supra* note 221.

225. *See id.*

226. *Ex parte* Mayhugh, 512 S.W.3d 285, 304 (Tex. Crim. App. 2016).

227. *Id.* at 320 (Alcala, J., concurring) (“[I]t is now her expert medical opinion that she ‘cannot determine with reasonable medical certainty whether [V.L.’s] hymen had ever been injured at the time of the 1994 examination.’” (second alteration in original)).

228. *Id.* at 304.

child abuse legal proceedings are to remove it from the legal lexicon or clarify its meaning. This Part presents how the risks may be reduced with either alternative and how they each might serve the best interests of the children.

1. *Removing the Phrase from the Legal Lexicon*

The appeal of removing RMC from the legal lexicon is its simplicity and avoidance of ambiguity. At least one jurisdiction has adopted this approach.²²⁹ Colorado focuses on the admissibility of the physician's testimony rather than on the sufficiency of evidence (which is often predicated on the magical and substantively lacking phrase RMC).²³⁰ Colorado courts instead ensure that medical testimony is relevant to the fact finders, reliable based on sound scientific grounds, and not prejudiced.²³¹ This focus on the admissibility of expert physician testimony has the advantage of clear and demonstrable criteria. By contrast, in many jurisdictions the phrase RMC serves as both a standard for admissibility and a conclusion.²³² The risk of such dual use is that RMC becomes almost a tautology, insofar as the phrase is necessary for expert opinion to have evidentiary weight, but also de facto concludes debate of the finding.²³³

2. *Providing a Uniform Definition*

As a model definition, providing a numerical threshold has both advantages and drawbacks.²³⁴ Research has established the lay public has difficulty applying percentages, which could lead to confusion in the courtroom.²³⁵ One can imagine jurors struggling to discern how much weight to attach to conflicting expert testimony. Likewise, medical experts might be hesitant to defend their calculation of 70 percent versus 90 percent confidence. By contrast, the use of ordinal ranking offers at least a lower

229. *People v. Ramirez*, 155 P.3d 371, 375 (Colo. 2007) (en banc).

230. *Id.*

231. *Id.* at 378–80. The multi-prong test states that the testimony must be relevant under CRE 401 and 402, reliable and relevant under CRE 702, and not substantially outweighed by concerns (e.g., prejudice) detailed under CRE 403. *Id.* at 378.

232. *See supra* Part II.

233. *See Ramirez*, 155 P.3d at 375; *supra* Part II.B.

234. *See Earl F. Rose, The Medical Expert and the Lawsuit*, 16 S.D. L. REV. 1, 17 (1971).

235. *Id.*

limit of admissibility.²³⁶ If the testifying medical expert cannot at least assert that child abuse is *the* most likely explanation of a child’s condition, it is not clear why child abuse should be concluded by a court of law. That said, it would be important to make sure that all involved are clear that the likelihood of “the most likely explanation” depends on the probability of the alternative explanations.²³⁷

Model definitions and statutes are workable and common in the legal field²³⁸ and, as a legal term of art, the phrase may be more accepted than in the medical field.²³⁹ Certainly, to the extent that RMC is a term invented and propagated by lawyers and judges, it makes sense that the legal field should take the initiative to provide clarity and guidance on the meaning of the phrase.²⁴⁰ Moreover, if the medical field were to create a meaning of the phrase, the medical field would have to find a way to communicate the definition to the legal field and would have to ensure that the definition meets all the legal criteria. The American Bar Association may be best positioned to develop a model definition of RMC in collaboration with medical professionals.²⁴¹ Such collaboration is important to ensure both the validity and acceptance of the meaning the phrase should have in both legal and medical fields. If the final definition of the phrase is understood in the legal community but is poorly understood in the medical community, the risks will continue to persist. Cross-collaboration helps to ease the translation between the legal and medical field by providing feedback from the medical community as to the understanding of the meaning of the phrase.

236. *See supra* Part III.B.2.b.

237. Benjamin H. Levi & Georgia Brown, *Reasonable Suspicion, A Study of Pennsylvania Pediatricians Regarding Child Abuse*, 116 *PEDIATRICS* e5, e5 (2005).

238. *See, e.g.*, MODEL RULES OF PROF’L CONDUCT (AM. BAR ASS’N 2017) (“The Model Rules were adopted by the House of Delegates of the American Bar Association on August 2, 1983. At the time this edition went to press, all but eight of the jurisdictions had adopted new professional standards based on these Model Rules.”); *Model Penal Code*, ALI, <https://www.ali.org/publications/show/model-penal-code/> (last visited Feb. 11, 2018) (“This seminal work played an important part in the widespread revision and codification of the substantive criminal law of the United States. Respected and influential, it is still cited by courts.”).

239. Bradford, *supra* note 182, at 137 (“[M]any lawyers and judges believe the phrase is a medical term of art. Physician commentators, however, have described the phrase as a legal term of art.”).

240. *See supra* Part II.

241. *See supra* text accompanying note 239.

Dissemination of the meaning of the phrase would require a concerted effort. Once the final model meaning of the phrase is presented, the legal entity, such as the American Bar Association, and the medical entity, such as the American Medical Association can further promote the uniform definition by issuing a joint guidance. The joint guidance would further support the use of the phrase. Finally, in order to change the current general use of the phrase, the new meaning of the phrase must reach the courtroom proceedings in child abuse cases.²⁴² To reach the experts and legal professionals who partake in child abuse cases, legal and medical professionals can teach others about the meaning of the phrase through trainings, such as the continuing legal education required trainings in the field. A salient issue with this method is finding individuals able and willing to train others in the medical and legal fields. An alternative solution that circumvents this issue is for judges and attorneys to present the model definition during the court proceedings when the experts are to present expert testimony. The attorneys or judges could then ask the testifying expert whether, given the definition, the expert can qualify the conclusion with the phrase RMC. This would also allow all parties present in the courtroom to have a shared understanding of what the phrase means.

V. CONCLUSION

The use of reasonable medical certainty has been inconsistent for decades, offering little guidance to either the testifying expert or those who must interpret their testimony.²⁴³ Particularly in cases involving child abuse, the current use of RMC is indefensible because it introduces unwarranted risk.²⁴⁴ Collaboration between legal and medical experts could provide clarity and thereby consistency, which in turn could both promote justice and decrease risk in high-stakes cases involving child abuse.

242. *See supra* Part IV.A.

243. *See supra* Parts II, III.

244. *See supra* Part IV.B.