FIU Law Review

Volume 8 | Number 2 Article 19

Spring 2013

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Alice Férot
Florida International University College of Law

Online ISSN: 2643-7759

Recommended Citation
Alice Férot, *The Theory of Loss of Chance: Between Reticence and Acceptance*, 8 FIU L. Rev. 591 (2013).
DOI: https://dx.doi.org/10.25148/lawrev.8.2.19

The Theory of Loss of Chance: Between Reticence and Acceptance

*Alice Férot**

The theory of loss of chance has a distinctive feature: wherever it is implemented, it tends to be, at least initially, misunderstood or somewhat distorted, thus hindering its acceptance.[1] In this respect, the United States is no different than other countries that have adopted it.[2] The reticence in the United States toward the theory of loss of chance, however, has remained acute over the years.[3]

The theory of loss of chance allows an aggrieved party to assert a claim against a tortfeasor whose conduct decreased or eliminated the chance of a favorable outcome.[4] Accordingly, the theory may apply to

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* Juris Doctor, Florida International University College of Law, 2012, LL.M. graduate, New York University School of Law, 2008. I would like to extend special thanks to Professor Christy Hayes, my faculty advisor, for her invaluable guidance and to Rafael Ribeiro, my husband, for his continued support throughout my law school years.

1 For example, in France in the 1970s and in Italy in the 1980s, when the theory of loss of chance was in its infancy, the theory was heavily criticized and misunderstood, even though in both countries the theory is now widely accepted and implemented in many diverse areas. *See, e.g.*, Claire Beraud, Le principe de la Réparation de la Perte de Chance [Indemnification of the Loss of Chance] 17 (2001) (unpublished manuscript), *available at* http://www.droit.univ-paris5.fr/AOCIVCOM/01memoir/BeraudM.pdf; Luca D'Apollo, *Perdita di Chance: Danno Risarcibile, Onus Probandi e Criteri di Liquidazione* [Loss of Chance: Compensable Injury, Burden of Proof and Assessment Criteria], ALTALEX (Nov. 26, 2007), http://www.altalex.com/index.php?idnot=39075#sdendnote16anc.

2 For example, a number of courts continue to frame the issue of the loss of chance as a theory of causation rather than a theory of injury. *See, e.g.*, Mandros v. Prescod, 948 A.2d 304, 310 (R.I. 2008) (holding that the theory of loss of chance is an alternative to conventional notions of causation).

3 A majority of states reject the theory of loss of chance. *See, e.g.*, McAfee v. Baptist Med. Ctr., 641 So. 2d 265, 267 (Ala. 1994); Crosby v. United States, 48 F. Supp. 2d 924, 930 (Alaska 1999); Holt ex rel. Estate of Holt v. Wagner, 43 S.W.3d 128, 131 (Ark. 2001); Williams v. Wraxall, 39 Cal. Rptr. 2d 658, 666 (Cal. Ct App. 1995); MICH. COMP. LAWS ANN. § 600.2912a (West) (abrogating Falcon v. Mem'l Hosp., 462 N.W.2d 44 (Mich. 1990)); S.D. CODIFIED LAWS § 20-9-1.1 (abrogating Jorgenson v. Vener, 616 N.W.2d 366, 366 (S.D.2000)).

4 The definition given by Black's Law Dictionary is the following: a rule in some states providing a claim against a doctor who has engaged in medical malpractice that, although it does not result in a particular injury, decreases or eliminates the chance of surviving or recovering from the preexisting condition for which the doctor was consulted. BLACK'S LAW DICTIONARY 1031 (9th ed. 2009).

a number of situations, including the loss of an opportunity for promotions in an employment discrimination case,[5] or the loss of an opportunity to make a profit in a breach of contract case.[6] In the United States, the theory of loss of chance has been implemented mostly in the area of medical malpractice.[7] Usually, a patient, or his or her representative, will sue a healthcare provider for a failure to diagnose or a failure to cure a medical condition that resulted in the diminution of the patient's chance to survive or recover from the condition.[8]

The theory seems to have first appeared as early as 1966 when the Fourth Circuit Court of Appeals expressly addressed it in the seminal case *Hicks v. United States*.[9] In *Hicks*, the Court held that a physician's failure to diagnose an intestinal obstruction of a patient was negligence.[10] The Court held that "[i]f there was any substantial possibility of survival and the defendant has destroyed it, he is answerable."[11]

A few years later, in 1974, a New York case also addressed the issue of loss of chance.[12] In *Beth Israel*, the New York Supreme Court held that a patient who died from an aneurism could recover for the

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5 *See* Doll v. Brown, 75 F.3d 1200, 1206 (7th Cir. 1996) (finding that the theory of loss of chance is "peculiarly appropriate in employment cases involving competitive promotion," but refusing to hold that the theory was applicable to the case because the issue had not been briefed by the parties).

6 *See* Miller v. Allstate Ins. Co., 573 So. 2d 24, 29 (Fla. Dist. Ct. App. 1990) (finding that it is now an "accepted principle of contract law . . . that recovery will be allowed where a plaintiff has been deprived of an opportunity or chance to gain an award or profit even where damages are uncertain"). In *Miller*, an insurer had breached a promise to return a wrecked automobile which the insured needed as evidence in a planned products liability suit against a manufacturer. *Id.* at 25. The Court held that the insured could recover against the insurer for the lost chance of winning the product liability case. *Id.* at 29.

7 *See, e.g.*, Hardy v. Sw. Bell Tel. Co., 1996910 P.2d 1024, 1027 (Okla. 1996) (limiting the application of the theory of loss of chance to medical malpractice cases); *see also* Frey v. AT&T Mobility, LLC, 379 F. App'x 727, 729 (10th Cir. 2010).

8 *See, e.g.*, DeBurkarte v. Louvar, 393 N.W.2d 131, 135 (Iowa 1986) (finding that the physician, who had failed to diagnose breast cancer, had caused his patient to lose chances of survival).

9 Hicks v. United States, 368 F.2d 626, 628-30 (4th Cir. 1966).

10 *Id.* at 632.

11 *Id.*

12 Kallenberg v. Beth Israel Hosp., 357 N.Y.S.2d 508 (N.Y. App. Div. 1974), *aff'd*, 337 N.E.2d 128, 128 (1975); *see also* Zaven T. Saroyan, *The Current Injustice of the Loss of Chance Doctrine: An Argument for A New Approach to Damages*, 33 CUMB. L. REV. 15, 22 (2003) ("*Israel Hospital* became the first case to expressly announce this doctrine."); Margaret T. Mangan, *The Loss of Chance Doctrine: A Small Price to Pay for Human Life*, 42 S.D.L. REV. 279, 287-88 (1997); Darrell L. Keith, *Loss of Chance: A Modern Proportional Approach to Damages in Texas*, 44 BAYLOR L. REV. 759, 765 (1992). It should also be noted that courts have addressed the issue of loss of chance of profit in breach of contract actions well before the *Beth Israel* case. *See* Robert H. Sturgess, *The "Loss of Chance" Doctrine of Damages for Breach of Contract*, FLA. B.J., October 2005, at 29 (finding that *Taylor v. Bradley*, 39 N.Y. 129 (1868) was the first instance where a court was faced with a loss of chance in a suit for breach of contract).

loss of 20% to 40% chance of survival due to the defendants' failure to give the patient a medication.[13] The Court, however, awarded damages for the ultimate outcome, the death, not the loss of chance.[14] At the time, the decision attracted little attention and the Court of Appeals affirmed without opinion.[15]

In 1978, in *Hamil v. Bashline*,[16] the Supreme Court of Pennsylvania was one of the first courts to rely on section 323 of the Restatement of Torts to expand the increased risk of harm to instances of loss of chance.[17] In *Hamil*, the wife of the decedent brought a wrongful death action against a hospital for failure to properly treat her husband's myocardial infarction.[18] The Court vacated and remanded a trial court order because the jury had been wrongly instructed that the loss of chance could not be considered a proximate cause of the patient's death.[19]

In 1981, Professor Joseph H. King wrote the first scholarly article in the United States dealing with the loss of chance in the Yale Law Journal.[20] Professor King theorized that "the loss of a chance of achieving a favorable outcome or of avoiding an adverse consequence should be compensable."[21] He advocated for a "reevaluation of the traditional ways of thinking about the interest for which relief is sought and the role of chance in valuing that interest."[22] Professor King, however, formulated the theory of loss in chance in terms of causation and burden of proof, not in terms of injury.[23]

To this day, the American Law Institute (ALI), the independent organization producing "Restatements" of law to clarify, modernize, and otherwise improve the law,[24] has taken no position on the issue.[25]

The cases discussed above have been followed by numerous state supreme court decisions on the loss of chance.[26] While not every state

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13 *Kallenberg*, 357 N.Y.S.2d at 510.

14 *Id.* at 509.

15 *Id.*, *aff'd*, 337 N.E.2d 128, 128 (1975).

16 Hamil v. Bashline, 392 A.2d 1280, 1288 (Pa. 1978).

17 *Id.*

18 *Id.* at 1283.

19 *Id.* at 1289-90.

20 Joseph H. King, Jr., *Causation, Valuation, and Chance in Personal Injury Torts Involving Preexisting Conditions and Future Consequences*, 90 YALE L.J. 1353, 1370 (1981).

21 *Id.* at 1354.

22 *Id.* at 1370.

23 *Id.* at 1354.

24 *ALI Overview*, ALI, http://www.ali.org/index.cfm?fuseaction=about.overview (last visited June 9, 2013).

25 Tory A. Weigand, *Lost Chances, Felt Necessities, and the Tale of Two Cities*, 43 SUFFOLK U.L. REV. 327, 352 (2010).

has addressed the theory of loss of chance, those that have, implement it in very different ways.[27] Three trends can be identified:[28] some states recognize the theory;[29] some states refuse to recognize it and instead indemnify the loss of the favorable outcome through the use of a relaxed causation requirement;[30] and some states refuse to indemnify for loss of chance.[31] In some instances, confusion surrounding its application remains. The loss of chance is not a theory of causation but a theory of injury.[32] In a medical malpractice action, a plaintiff claiming a loss of chance must prove that the physician's negligence caused the injury, which is a decreased chance of recovery.[33] As a result, the endorsement or rejection of the theory should not be based on arguments relating to the applicable causation standard or burden of proof. This comment is an attempt to clarify the theory and to address how and why some jurisdictions may have misunderstood it. This comment also encourages these states to either recognize or reject the damage of loss of chance but in a manner that does not distort the theory, and in a manner compatible with the applicable standard of causation and burden of proof.

This comment will first address (I) the nature of the theory of loss of chance, then (II) its uneven implementation in the United States among the fifty states.

I. THE LOSS OF CHANCE: A THEORY OF INJURY

The core concept of the theory is the recognition that a loss of chance is in itself an injury.[34] Because a chance has some inherent value, a tortious deprivation of chance should trigger the tortfeasor's

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26 *See, e.g.*, Thornton v. CAMC, 305 S.E.2d 316, 324-25 (W. Va. 1983); Gooding v. Univ. Hosp. Bldg., Inc., 445 So. 2d 1015 (Fla. 1984); Thompson v. Sun City Cmty. Hosp., Inc., 688 P.2d 605 (Ariz. 1984); Brown v. Koulizakis, 331 S.E.2d 440, 446 (Va. 1985).

27 VICTOR E. SCHWARTZ, KATHRYN KELLY & DAVID F. PARTLETT, PROSSER, WADE AND SCHWARTZ'S TORTS, 272-73 (Foundation Press, 11th ed., 2005).

28 *Id.*

29 *See, e.g.*, Matsuyama v. Birnbaum, 890 N.E.2d 819 (Mass. 2008).

30 *See, e.g.*, Herskovits v. Grp. Health Coop. of Puget Sound, 664 P.2d 474 (Wash. 1983).

31 *See, e.g.*, *Gooding*, 445 So. 2d at 1015.

32 *Matsuyama*, 890 N.E.2d at 823 (holding that the loss of chance is a theory of injury, not causation).

33 *See id.*

34 *Id.* (holding that the loss of chance is a theory of injury, not causation); Jorgenson v. Vener, 616 N.W.2d 366, 370 (S.D. 2000) ("Courts that adopt the loss of chance doctrine in effect recognize a lost chance as a distinct cause of action, treating it as the compensable injury, not the underlying injury itself.").

liability.[35] Once the principle that a loss of chance is an injury worthy of redress is accepted,[36] the traditional concepts of tort apply.[37]

A. The Elements of the Theory

In a typical loss of chance case, the plaintiff must prove the traditional elements of negligence: (1) an injury; (2) the defendant's breach of a duty of care; and (3) causality between the injury and the breach.[38]

1. The Injury

To recover for a loss of chance, the plaintiff must prove that she or he initially had at least some chance of a favorable outcome.[39] Accordingly, no action will lie if the patient had no chance of a favorable outcome before the tortious action occurred.[40] In *Broussard v. United States*,[41] the Fifth Circuit Court of Appeals affirmed the district court's decision denying recovery for a loss of chance when the patient had no chance of survival. The parents of a three-year-old boy sued a hospital employee for medical malpractice under the Federal Tort Claims Act because the employee had failed to promptly treat the child upon his arrival.[42] After a bench trial, the district court found that the parents could not recover for loss of chance of their son because the "[child]'s injuries were so severe and so extensive that nothing could have been done for him that would have saved his life."[43] In other words, even with prompt and proper treatment, the child could not have survived. Therefore, the negligence of the employee could not have caused the loss of a chance the child never had.[44]

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35 *Matsuyama*, 890 N.E.2d at 823 (holding that the loss of chance doctrine views a person's prospects for surviving a serious medical condition as something of value).

36 *Jorgenson*, 616 N.W.2d at 370.

37 *Matsuyama*, 890 N.E.2d at 828-29 (holding that Massachusetts joins the majority of states who have endorsed the theory "to ensure that the fundamental aims and principles of [Massachusetts] tort law remain fully applicable to the modern world of sophisticated medical diagnosis and treatment").

38 *See id.* at 823 (finding that the recognition of the theory of loss of chance comports with the common law of wrongful death)

39 *See* Broussard v. United States, 989 F.2d 171, 172 (5th Cir. 1993).

40 *See id.*

41 *See id.*

42 *See id.* at 172-74.

43 *Id*. at 178.

44 This principle according to which a healthcare provider cannot be liable for an outcome that would have occurred even in the absence of negligence is not limited to loss of chance cases. *See, e.g.*, Rewis v. United States, 503 F.2d 1202, 1218 (5th Cir. 1974) (holding that the cause of a child's death was the lethal dose of aspirin the child accidently absorbed and not the subsequent physician's failure to diagnose the poisoning nor the physician's prescription of aspirin because the condition of the child was already hopeless before the negligent act).

Likewise, a plaintiff will not recover for a loss of chance if the negligence of the physician, in fact, caused the unfavorable outcome. If the patient had a 100% chance to be cured or saved and the tortious act of the physician caused all this chance to be lost, then the tortfeasor is responsible for the unfavorable outcome, not the loss of chance.[45]

Additionally, the loss of chance causes an injury independent from the unfavorable outcome. The loss of chance is the original injury. It is abstract and contains some uncertainty: the loss of chance may or may not have caused the adverse outcome. Even when the unfavorable outcome is realized, this uncertainty remains. Accordingly, under the theory, the plaintiff is not required to prove with certainty that the unfavorable outcome would have been avoided if the chance had not been lost.[46] In *Hamil*, where the wife of the decedent brought a wrongful death action against a hospital for failure to properly treat her husband, who had suffered a heart attack, the court held that the law "does not require the plaintiff to show to a certainty that the patient would have lived had [the patient] been hospitalized and operated on promptly."[47] Similarly, in *Hicks v. United States*,[48] where a physician mistakenly diagnosed a deadly intestinal obstruction as gastroenteritis, the Fourth Circuit Court of Appeals held that when a defendant's tortious conduct terminates a person's chance of survival, "it does not lie in the defendant's mouth to raise conjectures as to the measure of the chances that he has put beyond the possibility of realization."[49] This is because, the Court further stated, "[r]arely is it possible to demonstrate to an absolute certainty what would have happened in circumstances that the wrongdoer did not allow to come to pass."[50] Requiring that the patient prove he would have lived or recovered would be an "unreasonable burden."[51]

The unfavorable outcome, contrary to the loss of chance, is concrete and certain: it is the state of the patient. While the two injuries, the loss of chance and the occurring of the adverse outcome, are distinct, they are also complementary: they are both necessary to trigger liability.[52] Recovery for the loss of chance is contingent upon either

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45 LeBlanc v. Barry, 790 So. 2d 75, 80-81 (La. Ct. App. 2001) (holding that, where a patient had 90-100% chance of survival, the trial court in fact considered the patient's chance of survival, even if the trial court spoke in terms of an award for wrongful death).

46 Hamil v. Bashline, 392 A.2d 1280, 1288 (Pa. 1978).

47 *See id.*

48 Hicks v. United States, 368 F.2d 626 (4th Cir. 1966)

49 *Id*. at 632.

50 *Id.*

51 Smith v. State, 523 So. 2d 815, 822 (La. 1988).

52 Falcon v. Mem'l Hosp., 462 N.W.2d 44, 56-57 n. 43 (Mich. 1990) (holding that a cause of action for loss of an opportunity of achieving a better result accrues when harm and damages

the realization of the unfavorable outcome or the certainty that the unfavorable outcome will occur in the future.[53] For purposes of illustration, if a physician fails to treat a patient who was in critical condition upon his arrival in the hospital, there are only two possible outcomes: either the patient will live or he will die. Assuming that the patient had a 40% chance of survival upon his arrival and lost a 20% chance of survival as a result of the delayed treatment, the patient still has a 20% chance of survival after the negligence. The loss of chance occurred at the time of the negligence; it is abstract. It is distinct from the ultimate outcome, which is future and concrete: this is the death or the survival of the patient. The patient, however, will only recover for his loss of chance if he both lost chance of survival and ultimately dies or is terminally ill.[54] The unfavorable outcome may take many different forms: it might be the death of the patient,[55] aggravated symptoms,[56] or a lack of improvement of the condition of the patient.[57]

The loss of chance is an injury that also should be distinguished from other damages resulting from the negligence. These derivative injuries may include physical pain and suffering, mental anguish resulting from the patient's awareness that chances of survival were lost, worsening of the patient's condition, a longer or more invasive medical treatment, disfigurement, medical expenses, loss of consortium, society and companionship in a marital relationship, and the shortening of life. In *Alexander v. Scheid*,[58] the plaintiff brought a medical malpractice action against a physician who had failed to diagnose his lung cancer. At the time of the suit, the cancer was in remission after aggressive treatment.[59] The Supreme Court of Indiana held that the worsening of the patient's condition was a compensable injury because, during the time the patient's cancer remained undiagnosed, she

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result from the loss of a substantial opportunity, but noting that the harm, or ultimate outcome, is not necessarily the death of the patient but could also be the worsening of the patient's condition before remission).

53 DeBurkarte v. Louvar, 393 N.W.2d 131, 139 (Iowa 1986) (allowing recovery for a loss of chance even though the ultimate outcome had yet to pass because the patient's breast cancer had spread to her bones and had become incurable); *Falcon*, 462 N.W.2d at 46 (holding that plaintiff's loss of chance action accrued at the time the medical accident occurred because, at that moment, the patient's death had become ineluctable).

54 *Id*.

55 Matsuyama v. Birnbaum, 890 N.E.2d 819, 823 (Mass. 2008) (where the patient died of cancer after his physician failed to timely diagnose his condition).

56 Alexander v. Scheid, 726 N.E.2d 272, 281 (Ind. 2000) (where the patient's condition worsened during the time the physician failed to diagnose a lung cancer).

57 Harris v. Kissling, 721 P.2d 838, 839-40 (Or. Ct. App. 1986) (where the hospital's failure to inoculate the patient deprived her of a chance to have future healthy children).

58 *Alexander*, 726 N.E.2d at 272.

59 *Id.* at 273.

suffered the destruction of healthy lung tissue, the growth of a cancerous tumor, and the collapse of a lung.[60]

In *DeBurkarte v. Louvar*,[61] where the plaintiff's physician failed to timely diagnose breast lumps as cancerous resulting in the loss of any chance of survival, the Supreme Court of Iowa recognized that past and future pain and suffering included not only physical pain but also mental anguish because the patient "knew her cancer was incurable and her days were numbered."[62] The Court also found that the patient's husband was entitled to recovery for lost consortium.[63] The Court, however, found that the plaintiff had failed to produce substantial evidence on the shortening of her life, which did not prevent recovery for her loss of chance.[64] By finding that the plaintiff had a claim for loss of chance independent of a claim for the shortening of her life, the Court's holding supports the argument that the two injuries were distinct.

Once the injury is established, the plaintiff must prove the second element of negligence, *i.e.*, that the physician breached a duty of care.

2. The Breach of a Duty of Care

The defendant must conform to a standard of care. Typical examples of breach include the late or lack of diagnosis of a medical condition[65] or delayed treatment.[66]

The defendant may not be the only person who breached a duty of care. There might be several tortfeasors who contributed jointly and severally to the loss of chance, or several tortfeasors who each contributed to a distinct loss of a percentage of chance. For example, tortfeasor A may cause the loss of 10% of chance, and tortfeasor B may cause the loss of another 10% of chance, or tortfeasors A and B jointly may cause the loss of 20% of chance.[67] In fact, plaintiffs in loss of chance cases routinely sue multiple defendants.[68] As the Supreme Court of New Jersey emphasized in *Scafidi v. Seiler*,[69] the theory of loss

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60 *Id.* at 281.

61 DeBurkarte v. Louvar, 393 N.W.2d 131 (Iowa 1986).

62 *Id.* at 139.

63 *Id.*

64 *Id.* at 135.

65 *See, e.g.*, Herskovits v. Grp. Health Coop. of Puget Sound, 664 P.2d 474 (Wash.1983) (late diagnosis of lung cancer); *DeBurkarte*, 393 N.W.2d at 139 (late diagnosis of breast cancer).

66 Broussard v. United States, 989 F.2d 171, 173 (5th Cir. 1993) (delayed treatment upon arrival in the emergency room).

67 *See, e.g.*, Falcon v. Mem'l Hosp., 462 N.W.2d 44, 44 (1990) (where plaintiff sued her physician, the hospital, and the Nurse anesthetist was named a third-party defendant).

68 *See id.*

69 Scafidi v. Seiler, 574 A.2d 398 (1990).

of chance is consistent with the principles of comparative negligence as well as the principles of joint-tortfeasor contribution.[70]

Once both the injury and the breach of a duty of care are established, the plaintiff must prove the last element of negligence, *i.e.*, causation.

3. The Causation

The theory of loss of chance, as a theory of injury, is consistent with the traditional notion of causation. To have a claim for loss of chance, the plaintiff must prove that the tortfeasor's negligence caused the plaintiff's injury, where the plaintiff's injury consists of the diminished likelihood of achieving a favorable outcome.[71]

Causation consists of two elements: causation in fact and legal causation.[72] Causation in fact is the application of the "but for" rule. There is causation if the event would not have occurred but for the defendant's conduct.[73] Generally, causation in fact is an issue for the jury.[74] The issue of causation in fact only becomes a question of law for the court if the plaintiff presented no evidence from which the jury could reasonably find a causal nexus between the negligent act and the resulting injury.[75]

Legal causation, or proximate cause, determines whether legal liability should be imposed as a matter of law where causation in fact is established.[76] It generally depends upon considerations of common sense and policy.[77] To be the cause of an injury, the negligent act must occur through "a natural and continuous sequence of events that is unbroken by any effective intervening cause."[78] If the chain of causation is broken, the tortfeasor is relieved from liability.[79]

B. The False Barriers to the Application of the Theory

Although the theory of loss of chance is consistent with all the traditional rules of negligence, it does not necessarily appear to be so. Some obstacles to the recognition of the theory of loss of chance include: (1) the argument that an injury only can be compensated if it is

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70 *Id.* at 408.
71 Matsuyama v. Birnbaum, 890 N.E.2d 819, 832 (Mass. 2008).
72 Crosby v. United States, 48 F. Supp. 2d 924, 926 (D. Alaska 1999).
73 McKellips v. Saint Francis Hosp., Inc., 741 P.2d 467, 470-71 (Ok. 1987).
74 *Id.*
75 *Id.*
76 *Id.*
77 *Id.*
78 65 C.J.S. Negligence § 203 (2013).
79 *Id.*

certain and not speculative; (2) the apparent impossibility of reconciling the theory with the traditional notions of causation; (3) the difficulty in proving a loss of chance; (4) the difficulty in assessing the amount of the damages; and (5) the creation of a new cause of action in the area of medical malpractice.

1. The Certainty of the Injury

A plaintiff can recover only for injuries that are certain, not speculative.[80] The loss of chance, as an injury, is often criticized for being no more than a speculative harm.[81] The identification of the injury requires the use of statistical evidence.[82] It requires making assumptions about what should have been the course of events in the absence of the tortious act. The theory relies on the principle that there is an inevitable evolution of the medical condition. It introduces the idea of fate into individual cases and does not take into account the potential for the patient's medical condition to have an unusual path.

Ascertaining the plaintiff's injury is further complicated by the fact that statistical evidence may be used in a number of different ways. For example, when a plaintiff lost his or her chance of survival and ultimately died, statistics may give information regarding the chance of survival the plaintiff would have had with proper treatment.[83] In some instances, when the plaintiff cannot prove that she would have survived with proper treatment, she may still use statistics on the rate of survival within a specified period of time after the diagnosis, *e.g.*, the survival rate for the five years following the diagnosis.[84] This type of evidence is relevant because the shortening of a life gives rise to a wrongful death action, and similarly, losing the opportunity to

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80 Mohr v. Grantham, 262 P.3d 490, 496 (Wash. 2011) (considering the argument that the loss of chance is too speculative and holding that this concern is not dissuasive).

81 *See id.*

82 Herskovits v. Grp. Health Coop. of Puget Sound, 664 P.2d 474, 475 (Wash. 1983) (using statistical evidence to assess the reduction of chances of survival).

83 *See id.* (where the estate proved that the hospital and physician's negligence *proximately* caused at 14% reduction in his chances of survival).

84 In *Kramer v. Lewisville Memorial Hospital*, the plaintiff offered undisputed evidence regarding the International Federation of Gynecology and Obstetrics' five-stage classification system for cervical cancer: Cancer diagnosed at "Stage 0" has a 100% five-year survival rate, diagnosed at "Stage I" has a 95% survival rate, diagnosed at "Stage II" has a 70% to 80% survival rate, diagnosed at "Stage III has slightly less than a 50% survival rate, and finally, cancer diagnosed at "Stage IV" has only a 0% to 5% survival rate. Kramer v. Lewisville Mem'l Hosp., 858 S.W.2d 397, 399 (Tex. 1993).

live through a determined period of time gives rise to an action for loss of chance of survival.[85]

As the Supreme Court of Washington emphasized in *Herkovits v. Group Health Cooperative of Puget Sound*,[86] the statistical data relating to the extent of the patient's chance of a better outcome are often only considered to evaluate the amount of damages, rather than to establish proximate cause.[87] The existence of the injury is often readily ascertainable by a fact-finder without expert testimony or is not disputed by the parties.[88] The disputed issue is the percentage lost.

The Supreme Court of Massachusetts addressed the issue of statistics in *Matsuyama v. Birnbaum*,[89] where the defendants urged the Court to reject the theory of loss of chance because "a statistical likelihood of survival is a 'mere possibility' and therefore 'speculative.'"[90] The Court disagreed with the defendants' contention by reminding them that "the magnitude of a probability is distinct from the degree of confidence with which it can be estimated."[91] The Court recognized that "[a] statistical survival rate cannot conclusively determine whether a particular patient will survive a medical condition."[92] The Court, however, stressed that survival rates are not random guesses.[93] Instead, "[t]hey are estimates based on data obtained and analyzed scientifically and accepted by the relevant medical community as part of the repertoire of diagnosis and treatment, as applied to the specific facts of the plaintiff's case."[94] There is an increasing use of probabilistic evidence in tort cases and, as a result, in medical malpractice cases. This type of evidence includes "actuarial tables, assumptions about present value and future interest rates, statistical measures of future

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85 As the Supreme Court of South Dakota stresses,"[I]n all cases death is even more certain than taxes. Only the time and cause of death may be in doubt. If evidence supports a finding that, more probably than not, negligence hastened death, ordinarily a wrongful death action lies. Should an action lie, also, when evidence supports a finding that, more probably than not, negligence reduced the patient's chance of survival?" Jorgenson v. Vener, 616 N.W.2d 366, 370 (citing W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 41, at 272 (5th ed. 1984)). The Supreme Court answered the question in the affirmative. *Jorgenson*, 616 N.W.2d at 371 ("A review of the cases and commentary on the subject persuades us to conclude that a loss of chance is an actionable injury in our state.").

86 *Herskovits*, 664 P.2d at 474.

87 *Id.* at 487 (Pearson, J., concurring).

88 *Id.* at 475.

89 Matsuyama v. Birnbaum, 890 N.E.2d 819, 819 (Mass. 2008).

90 *Id.* at 833.

91 *Id.*

92 *Id.*

93 *Id.*

94 *Id.*

harm, and the like."[95] As the Court pointed out, all these methods of valuation are the "stock-in-trade of tort valuation."[96]

Even though statistics have become increasingly reliable, they cannot define with absolute certainty what would have been the outcome of the patient's condition in the absence of the tortious act. As a result, compensating on the basis of a statistical proposition either will overcompensate or undercompensate, depending on how the plaintiff's medical condition would have evolved in the absence of the tortious conduct.[97] In that respect, loss of chance cases "elude the degree of certainty one would prefer and upon which the law normally insists before a person may be held liable."[98]

Allowing recovery for the lost chance, however, is the most equitable approach because "[b]ut for the defendant's tortious conduct, it would not have been necessary to grapple with the imponderables of chance."[99] The defendant, having created this uncertainty, should bear the burden of possibly overcompensating the patient.

2. Reconciliation of the Theory with the Traditional Notions of Causation

Some courts interpret the loss of chance as a theory allowing partial compensation for an injury when the causation with respect to the tortious act is weak or uncertain.[100] The theory of loss of chance, however, is compatible with and, in fact, requires the application of, the "but-for" rule.[101] But for the negligence of the physician, the loss of chance would not have happened.[102] The theory is not an alternative to a weak causality with the ultimate outcome. The loss of chance is a *sui generis* injury, not a fraction of the ultimate outcome. The traditional rules of causation apply.

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95 *Id.* at 841.

96 *Id.*

97 Alexander v. Scheid, 726 N.E.2d 272, 282 (Ind. 2000).

98 Hamil v. Bashline, 392 A.2d 1280, 1287 (Pa. 1978).

99 DeBurkarte v. Louvar, 393 N.W.2d 131, 137 (Iowa 1986).

100 *See, e.g.*, Mandros v. Prescod, 948 A.2d 304, 310 (R.I. 2008) (holding that the loss of chance is an alternative to conventional notions of causation, and requires a more expansive interpretation of causation); Gooding v. Univ. Hosp. Bldg., Inc., 445 So. 2d 1015, 1019 (Fla. 1984) (finding that the theory is a relaxation of the causation requirement).

101 Matsuyama v. Birnbaum, 890 N.E.2d 819, 843 (Mass. 2008) (holding that a proper instruction to the jury must be that but for the negligence of the defendant, the patient lost a fair chance of survival).

102 *See id.*

3. The Burden of Proof

In order to prove loss of chance, the plaintiff has the burden of proving each element of negligence by the preponderance of the evidence.[103] The plaintiff must show that the tortfeasor's negligence caused "the plaintiff's likelihood of achieving a more favorable outcome to be diminished."[104] In other words, the plaintiff must prove by a preponderance of the evidence that "the physician's negligence caused the plaintiff's injury, where the injury consists of the diminished likelihood of achieving a more favorable medical outcome."[105] Accordingly, a mere possibility of causation will not be enough for the plaintiff to meet his or her burden.[106] This is where the confusion arises.[107] In a loss of chance case, the plaintiff has the burden of proving that the negligence caused the loss of chance, but not that the negligence caused the final outcome.[108] It is possible that the negligence caused the final outcome, but this is irrelevant because the plaintiff wants to recover for the loss of chance only.

4. The Evaluation of Damages

Another obstacle to the theory of loss of chance is that a lost chance cannot be quantified.[109] A wrongdoer, however, is not relieved of the necessity of paying damages merely because damages cannot be assessed with certainty.[110] In many areas of the law, juries are entrusted with the task of awarding damages for injuries that are not readily calculable.[111] Assessing the value of the loss of chance is not an impossible task.

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103 *Hamil*, 392 A.2d at 1284 (holding that, as in many other areas of the law, it is the plaintiff's burden to prove by a preponderance of the evidence that the harm suffered was due to the conduct of the defendant).

104 *Matsuyama*, 890 N.E.2d at 832.

105 *Id*.

106 Gooding v. Univ. Hosp. Bldg., Inc., 445 So. 2d 1015, 1018 (Fla. 1984).

107 *See, e.g.*, Falcon v. Mem'l Hosp., 462 N.W.2d 44, 47-48 (1990) (holding that "the more probable than not standard, as well as other standards of causation, are analytic devices-tools to be used in making causation judgments," whereas the more probable than not is a burden of proof, not a standard of causation).

108 King, *supra* note 20, at 1363 ("A plaintiff ordinarily should be required to prove by the applicable standard of proof that the defendant caused the loss in question.").

109 LeBlanc v. Barry, 790 So. 2d 75, 81 (La. Ct. App. 2001) (admitting that a loss of chance cannot be calculated with mathematical certainty).

110 Story Parchment Co. v. Paterson Parchment Paper Co., 282 U.S. 555, 563 (1931) (holding that "[w]here the tort itself is of such a nature as to preclude the ascertainment of the amount of damages with certainty, it would be a perversion of fundamental principles of justice to deny all relief to the injured person, and thereby relieve the wrongdoer.").

111 Alexander v. Scheid, 726 N.E.2d 272, 283 (Ind. 2000).

Generally, the damages are measured with the following method. First, the percentages of a chance of a favorable outcome pre-negligence and post-negligence are assessed.[112] Second, the post-negligence percentage of a favorable outcome is subtracted from pre-negligence percentage of a favorable outcome.[113] The resulting amount is the percentage of the chance lost. Third, this net percentage of chance obtained is multiplied by the total amount of damages that ordinarily are allowed for the unfavorable outcome.[114] This is the amount that plaintiff will recover.[115] This is the "proportional award method."[116] The award is proportional to the value of the ultimate outcome.[117]

In the example presented earlier in this comment, where a patient had 40% chance of survival and lost 20% chance as a result of the negligence, the calculation would be done using the following method. The post-negligence percentage of a favorable outcome, *i.e.*, 20% is subtracted from pre-negligence percentage of a favorable outcome, *i.e.*, 40%. The percentage of chance lost is 20%. Then, the jury will determine the amount of recovery for a wrongful death. Assuming that the jury estimated this amount to $1 million, this amount shall be multiplied with the percentage of chance lost. The resulting amount is $200,000. This is what the plaintiff or his estate will recover.

This method of evaluation has been criticized, mostly for routinely over or undercompensating the patients.[118] However, most courts have determined that the so-called "proportional award method" is the most appropriate method to assess the value of the loss of chance for a more favorable outcome because "it is an easily applied calculation that fairly ensures that a defendant is not assessed damages for harm that he did not cause."[119]

The Supreme Court of Michigan adopted "the substantial possibility approach," which is a variation of the proportional award method.[120] Under this approach, the plaintiff will recover the same amount as under the proportional award method but only if the plaintiff can show that the chances lost were substantial.[121] If the chances

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112 Atterholt v. Herbst, 879 N.E.2d 1221, 1226 (Ind. Ct. App. 2008).

113 *Id.*

114 *Id.*

115 *Id.*

116 Matsuyama v. Birnbaum, 890 N.E.2d 819, 840 (Mass. 2008).

117 *Atterholt*, 879 N.E.2d at 1226.

118 *See, e.g.*, David A. Fischer, *Tort Recovery for Loss of a Chance*, 36 WAKE FOREST L. REV. 605, 631-633 (2001).

119 *Matsuyama*, 890 N.E.2d at 840.

120 Falcon v. Mem'l Hosp., 462 N.W.2d 44, 56 (Mich. 1990).

121 *Id.*

lost were not substantial, the plaintiff recovers nothing under the loss of chance theory.[122] In *Falcon v. Memorial Hospital*,[123] the Court refused to state what constitutes a threshold showing of substantial chances but it does not have to be more than 50%.[124] Even though the Court did not clearly explain its rationale,[125] a possible explanation may be that below a certain threshold, e.g., 1 or 2%, the calculation of damages becomes too speculative. It seems, however, that the Supreme Court of Michigan could have framed this threshold requirement in terms of causation rather than calculation of damages. As Professor King noted in his seminal article, "[i]t is not uncommon for courts to apply the concept of causation to matters of valuation as well as causation."[126] Professor King believed that this practice, that he refers to as a "melding of concepts," is more than a "matter of style or nomenclature;" it has often affected the courts decisions.[127] The Supreme Court of Michigan should have found that in absence of evidence of a loss of "substantial chance," the injury was too speculative to trigger the defendant's liability.

Alternatively, the evaluation of damages can be left for the jury to decide. In *LeBlanc v. Barry*,[128] the Louisiana Third District Court of Appeal recognized that a loss of chance was a "particular cognizable loss" that cannot be calculated with mathematical certainty.[129] The Court held that the fact finder should make a "subjective determination of the value of that loss."[130]

It should be noted that an author offered yet another way to calculate damages in loss of chance cases.[131] In a law review article, Zaven T. Saroyan advocated a new approach to damages: the relative proportionality approach.[132] The author rejected the proportional approach because of its "unfairness" in calculating damages.[133] The author criticized the fact that the traditional approach only takes into account the absolute percentage of the chances lost, and not the proportion of chances that have been affected by the defendant's tortious conduct.[134] Going to the example used earlier, where the patient had a 40%

122 *Id.*
123 *Id*. at 44.
124 *Id.* at 56-57 (holding that a 37.5% chance of survival was substantial).
125 *Id.*
126 King, *supra* note 20, at 1355.
127 *Id.*
128 LeBlanc v. Barry, 790 So. 2d 75, 81 (La. Ct. App. 2001).
129 *Id*.
130 *Id.*
131 Saroyan, *supra* note 12, at 15.
132 *Id.* at 16-17.
133 *Id.* at 36.
134 *Id.* at 38.

chance of survival and lost 20% due to the defendant's negligence, the proportional approach will take into account the loss of 20% chance, whereas the relative proportionality approach will take into account the percentage of chance lost relative to the percentage of chance the patient initially had, *i.e.*, 50%. The author proposed the following formula: (.5) x [(the proportion of loss) x (the remaining value of the injured person's life)].[135] The author assumed that plaintiffs who lost more than 50% chance of recovery will be able to prove by a preponderance of the evidence that the defendant, more likely than not, caused the unfavorable outcome.[136] Since the patient losing more than 50% chance will be compensated for the value of the unfavorable outcome, the author arbitrarily assigned a multiplier of .5 to calculate the damages of those who lost less than 50% chance of chances.[137]

In the example used earlier, the patient had a 40% chance of survival and lost 20% of it as a result of the negligence of the defendant. The damages for death are valued at $1 million. Under the proportional approach, the patient would recover 20% of 1 million, *i.e.*, $200,000. Under the relative proportionality approach, the patient would recover $250,000: .5 x 50% x $1 million.

This approach is interesting but not compelling.[138] It offers the advantage of deterring tortious conduct even when a patient had very few chances of a favorable outcome to begin with. For example, a plaintiff who had a 2% chance of survival and lost 2% of it will recover $500,000 under the relative proportionality approach instead of $20,000 under the proportional approach. The multiplier .5, however, is arbitrary. Additionally, it tends to both overcompensate and undercompensate a plaintiff. A plaintiff who had few chances of a favorable outcome and lost them all will be overcompensated, while a plaintiff who had initially a lot of chance but lost a small percentage relative to his initial chance will be undercompensated. For example, under the relative proportionality approach, a plaintiff who had 3% chance of survival and lost only 2% of it will recover $333,300, while a plaintiff who had a 30% chance of survival and lost 10% of it will only recover $166,650. To this day, no court has endorsed this theory.[139]

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135 *Id.*

136 *Id.* at 37-38.

137 *Id.*

138 Brief for Virginia P. Foley, Appellant, Foley v. St. Joseph Health Servs. of R.I., 899 A.2d 1271 (R.I. 2006) (No. 05-90), 2005 WL 5903753, at *23 (finding the theory uncompelling).

139 Some litigants have mentioned the theory but to dismiss it. *Id.*; Foley v. St. Joseph Health Servs. of R.I., 899 A.2d 1271, 1281 (R.I. 2006) (affirming judgment as a matter of law against the plaintiff).

Finally, the calculation of damages for loss of chance does not exclude the availability of punitive damages.[140] As the Supreme Court of Massachusetts pointed out in *Matsuyama*, "[w]here gross negligence is found in a loss of chance case, the fact finder will determine an amount of punitive damages exactly as in any other gross negligence case: according to the fact finder's determination of the egregiousness of the tortious conduct or in accordance with any statutorily prescribed amount."[141]

5. Tort Reform Considerations

Another criticism of the theory is that it creates a new cause of action in medical malpractice, an area that already is plagued with an unsustainable degree of litigation.[142] The American Medical Association estimates the annual cost of defensive medicine to be over $200 billion in healthcare costs.[143] Since the mid-1970s, in the wake of rising premiums and a reduction in the number of firms offering coverage to health care providers, many states adopted new regulations to reduce medical tort litigation.[144] These reforms have included damage caps on economic and non-economic damages, limitation on joint and several liability of health care providers, statutory caps on attorney's fees, as well as offset rules that reduce the award by the amount the plaintiff will receive from other sources.[145] The recognition of the theory of loss of chance, therefore, seems to go against the tide of the states' continued efforts to reduce medical malpractice litigation.

The theory was born in the United States out of the dissatisfaction with the "all or nothing" rule of tort.[146] According to this rule, a plaintiff who is able to prove that the defendant's negligence more likely than not caused the ultimate outcome will recover damages for the ultimate outcome.[147] On the contrary, the plaintiff who is not able

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140 Matsuyama v. Birnbaum, 890 N.E.2d 819, 847 n.61 (Mass. 2008) ("Our decision today should not be construed to suggest that a finding of gross negligence and an award of punitive damages cannot be secured in a loss of chance case.")

141 *Id.*

142 *See* Bernie Monegain, *AMA Asserts Insurers Waste $200 Billion a Year on Inefficiencies*, HEALTHCARE FIN. NEWS (July 21, 2009), http://www.healthcarefinancenews.com/news/ama-asserts-insurers-waste-200-billion-year-inefficiencies.

143 *See* Philip K. Howard, *Why Medical Malpractice Is Off Limits*, WALL ST. J. (Oct. 15, 2009), http://online.wsj.com/article/SB10001424052970204488304574432853190155972.html; *see also* Monegain, *supra* note 142.

144 Kenneth E. Thorpe, *The Medical Malpractice 'Crisis': Recent Trends and the Impact of State Tort Reform*, HEALTH AFF. (Jan. 21, 2004), http://content.healthaffairs.org/content/suppl/2004/01/21/hlthaff.w4.20v1.DC1.

145 *Id.*

146 *Matsuyama*, 890 N.E.2d at 829-30.

147 *Id.*

to prove that the defendant's negligence more likely than not caused the ultimate outcome will recover nothing.[148] Thus, courts often have held that when tortious conduct caused a plaintiff to lose 51% chance of a favorable outcome, this plaintiff could recover the damages equivalent to the entire outcome.[149] In contrast, if the plaintiff had lost only 49% chance of a favorable outcome, he would recover nothing.[150] The "all or nothing" rule precludes recovery for the loss of chance and overcompensates the victim who lost 51% or more chance of a better outcome.

The loss of chance theory, on the other hand, allows recovery for the loss of chance but it also extinguishes the possibility of recovery for the final outcome.[151] In our prior example, the patient had 40% chance of recovery. Let us assume that he had a 51% chance of survival instead and that the negligence caused this chance to be lost. Under the traditional rule of tort, the patient will be able to prove that the negligence, more likely than not, caused the final outcome. Accordingly, the patient will recover the full amount, *i.e.*, $1 million. Under the theory of loss of chance, however, assuming that the proportional award method applies, the plaintiff would recover only for the 51% chance lost. Accordingly, his award will be limited to $510,000. There, in the situations where the patients had more than an even chance of a better outcome, the theory of loss of chance limits the amount of the award available. In *Scafidi v. Seiler*, the Supreme Court of New Jersey remanded a case for new trial because the jury received no instruction regarding the fact that plaintiffs' damages should have been limited to the value of the lost chance for recovery attributable to defendant's negligence.[152]

The theory of loss of chance also fulfills a very important objective of negligence law: deterring wrongful actions that have caused harm. Otherwise, the "all or nothing" rule provides a "blanket release from liability" for doctors and hospitals any time there is less than a 50% chance of survival, "regardless of how flagrant the negligence."[153]

Despite these arguments, legislatures have on two occasions enacted statutes specifically repudiating state supreme court decisions

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148 *Id.*
149 *Id.*
150 *Id.*
151 *Id.* at 838-41 (compensating the plaintiff for the loss of chance and not the death).
152 Scafidi v. Seiler, 574 A.2d 398, 406-07 (N.J. 1990).
153 Herskovits v. Grp. Health Coop. of Puget Sound, 664 P.2d 474, 477 (Wash. 1983).

allowing recovery for a loss of chance. This happened in Michigan[154] and in South Dakota.[155]

The theory of loss of chance, nonetheless, slowly has gained acceptance, even though the states remain divided on the issue.

II. AN UNEVEN IMPLEMENTATION AMONG THE FIFTY STATES

Despite a heterogeneous implementation of the theory, several trends can be identified in the United States.[156] In some instances, the courts have distorted the traditional principles of tort law.[157]

A. The Trends Across the United States

Three trends can be identified across the United States.[158] Some states deny recovery for the loss of chance, which is the "traditional approach."[159] Some states refuse to recognize the theory and instead indemnify the loss of the favorable outcome through the use of a relaxed causation requirement, which is the "relaxed causation approach."[160] Some states endorse the theory, which is the "proportional approach."[161] There are, however, a few states that have yet to address the theory of loss of chance.[162]

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154 MICH. COMP. LAWS § 600.2912a (2012) (repudiating O'Neal v. St. John Hosp. & Med. Ctr., 791 N.W.2d 853, 857 (Mich. 2010)).

155 S.D. CODIFIED LAWS § 20-9-1.1 (2012) (repudiating Jorgenson v. Vener, 616 N.W.2d 366 (S.D. 2000)).

156 SCHWARTZ, *supra* note 27, at 272-73.

157 *See, e.g.*, Delaney v. Cade, 873 P.2d 175 (Kan. 1994); McKellips v. Saint Francis Hosp., Inc., 741 P.2d 467 (Okla. 1987); Hamil v. Bashline, 392 A.2d 1280, 1286 (Pa. 1978); *Herskovits*, 664 P.2d at 474.

158 SCHWARTZ, *supra* note 27, at 272-73.

159 *See, e.g.*, United States v. Cumberbatch, 647 A.2d 1098, 1100 (Del. 1994) (holding that the first approach, the "traditional approach," is to reject the theory as being contrary to traditional principles of tort causation); *see also* Peterson v. Ocean Radiology Assocs., P.C., 951 A.2d 606, 609 (Conn. 2008); Contois v. Town of W. Warwick, 865 A.2d 1019, 1023 (R.I. 2004).

160 *See, e.g.*, *Cumberbatch*, 647 A.2d at 1100 (holding that the second approach, the "relaxed causation approach," is to adopt the theory as an exception to traditional causation standards); *see also Peterson*, 951 A.2d at 609; *Contois*, 865 A.2d at 1023.

161 *See, e.g.*, Cumberbatch, 647 A.2d at 1100 (holding that the third approach, the "proportional approach," is to adopt the theory as a method of compensating the lost chance of survival, rather than the death itself); *see also Peterson*, 951 A.2d at 609; *Contois*, 865 A.2d at 1023.

162 For example, North Dakota, Oregon, Utah and Rhode Island have yet to address the theory.

1. The Adoption of the Theory

A minority of the states has adopted the theory of loss of chance, including Arizona,[163] Colorado,[164] Delaware,[165] Georgia,[166] Hawaii,[167] Illinois,[168] Indiana,[169] Iowa,[170] Louisiana,[171] Massachusetts,[172] Missouri,[173] Montana,[174] Nevada,[175] New Jersey,[176] New Mexico,[177] New York,[178] Ohio,[179] Virginia,[180] West Virginia,[181] Wisconsin,[182] and Wyoming.[183]

Delaware has adopted the theory but through a tortuous path. First, in *United States v. Cumberbatch*,[184] where the family of a patient who died from pneumococcal meningitis sued to recover under the state wrongful death statute, the Supreme Court of Delaware held that the theory of loss of chance was incompatible with the wrongful death statute because the statute created a cause of action only when the negligence caused the death.[185] This holding is consistent with the argument that a tortfeasor who only caused a loss of chance cannot be liable for the ultimate outcome. Soon after *Cumberbatch*, the Supreme Court of Delaware was faced with the issue of increased risk of

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163 *See* Thompson v. Sun City Cmty. Hosp., Inc., 688 P.2d 605, 616 (Ariz. 1984) (finding that a possible increase in chance of harm was an issue of causation and therefore a question for the jury).

164 Sharp v. Kaiser Found. Health Plan of Colo., 710 P.2d 1153, 1156 (Colo. App. 1985), *aff'd*, 741 P.2d 714 (Colo. 1987) (finding that a possible increase in chance of harm was an issue of causation and therefore a question for the jury). *But see* Reigel v. SavaSeniorCare L.L.C., 292 P.3d 977, 987 (Colo. App. 2011), (finding that the analysis in *Sharp* was inconsistent with the traditional but-for test), *reh'g denied* (Jan. 26, 2012), *cert. denied*, No. 12SC134, 2012 WL 5835530 (Colo. 2012).

165 *See* United States v. Anderson, 669 A.2d 73, 75 (Del. 1995).

166 *See* Richmond Cmty. Hosp. Auth. Operating Univ. Hosp. v. Dickerson, 356 S.E.2d 548, 550 (Ga. Ct. App. 1987).

167 *See* McBride v. United States, 462 F.2d 72, 75 (9th Cir. 1972).

168 *See* Holton v. Mem'l Hosp., 679 N.E.2d 1202, 1208 (Ill. 1997).

169 *See* Cahoon v. Cummings, 734 N.E.2d 535, 541 (Ind. 2000).

170 *See* DeBurkarte v. Louvar, 393 N.W.2d 131, 137 (Iowa 1986).

171 *See* Hastings v. Baton Rouge Gen. Hosp., 498 So. 2d 713, 722 (La. 1986).

172 *See* Matsuyama v. Birnbaum, 890 N.E.2d 819, 823 (Mass. 2008).

173 *See* Wollen v. DePaul Health Ctr., 828 S.W.2d 681, 685 (Mo. 1992).

174 *See* Aasheim v. Humberger, 695 P.2d 824, 827-28 (Mont. 1985).

175 *See* Perez v. Las Vegas Med. Ctr., 805 P.2d 589, 592 (Nev. 1991).

176 *See* Evers v. Dollinger, 471 A.2d 405, 410 (N.J. 1984).

177 *See* Alberts v. Schultz, 975 P.2d 1279, 1282 (N.M. 1999).

178 *See* Kallenberg v. Beth Israel Hosp., 357 N.Y.S.2d 508, 508 (N.Y. App. Div. 1974), *aff'd*, 374 N.Y.S.2d 615 (N.Y. 1975).

179 *See* Roberts v. Ohio Permanente Med. Grp., Inc., 668 N.E.2d 480, 484 (Ohio 1996).

180 *See* Brown v. Koulizakis, 331 S.E.2d 440, 446 (Va. 1985).

181 *See* Thornton v. CAMC, 305 S.E.2d 316, 324-25 (W. Va. 1983).

182 *See* Ehlinger v. Sipes, 454 N.W.2d 754, 762 (Wis. 1990).

183 *See* McMackin v. Johnson Cnty. Healthcare Ctr., 73 P.3d 1094, 1100 (Wyo. 2003).

184 United States v. Cumberbatch, 647 A.2d 1098, 1100 (Del. 1994).

185 *Id.* at 1099.

harm.[186] In United States v. Anderson,[187] the late diagnosis of testicular cancer had exposed the patient to a risk of recurrence of this cancer, a risk that would have been avoided with a timely diagnosis.[188] The Supreme Court of Delaware held that the "loss of chance and increased risk of harm both rely on similar theoretical underpinnings," concluded it was necessary to consider them together, and recognized they were recoverable injuries.[189]

2. The Rejection of the Theory

Most states and the District of Columbia[190] have chosen the "all or nothing approach." They include Alabama,[191] Alaska,[192] Arkansas,[193] California,[194] Connecticut,[195] Florida,[196] Idaho,[197] Kentucky,[198] Maryland,[199] Michigan,[200] Minnesota,[201] Mississippi,[202] Nebraska,[203] North Carolina,[204] New Hampshire,[205] Oregon,[206] South Carolina,[207] South Dakota,[208] Tennessee,[209] Texas,[210] and Vermont.[211]

Connecticut seems to allow recovery for loss of chance, but in fact requires that the plaintiff originally have more than a fifty percent

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186 United States v. Anderson, 669 A.2d 73, 75 (Del. 1995).

187 *See id.*

188 *Id.* at 75.

189 *Id.*

190 The District of Columbia seemed to have adopted the theory in *Ferrell v. Rosenbaum*, but went back to the traditional torts principles in *Grant v. American National Red Cross*. *See* Ferrell v. Rosenbaum, 691 A.2d 641, 650 (D.C. 1997); *see also* Grant v. Am. Nat'l Red Cross, 745 A.2d 316, 321-22 (D.C. 2000).

191 *See* McAfee v. Baptist Med. Ctr., 641 So. 2d 265, 267 (Ala. 1994).

192 *See* Crosby v. United States, 48 F. Supp. 2d 924, 930 (D. Alaska 1999).

193 *See* Holt *ex rel.* Estate of Holt v. Wagner, 43 S.W.3d 128, 131 (Ark. 2001).

194 *See* Williams v. Wraxall, 39 Cal. Rptr. 2d 658, 666 (Ct. App. 1995).

195 *See* Boone v. William W. Backus Hosp., 864 A.2d 1, 18 (Conn. 2005).

196 *See* Gooding v. Univ. Hosp. Bldg., Inc., 445 So. 2d 1015, 1017 (Fla. 1984).

197 *See* Manning v. Twin Falls Clinic & Hosp., Inc., 830 P.2d 1185, 1189 (Idaho 1992).

198 *See* Kemper v. Gordon, 272 S.W.3d 146, 152-53 (Ky. 2008).

199 *See* Fennell v. S. Md. Hosp. Ctr., Inc., 580 A.2d 206, 215 (Md. 1990).

200 *See* MICH. COMP. LAWS ANN. § 600.2912a (West 2012); O'Neal v. St. John Hosp. & Med. Ctr., 791 N.W.2d 853, 857 (Mich. 2010).

201 *See* Fabio v. Bellomo, 504 N.W.2d 758, 762 (Minn. 1993).

202 *See* Ladner v. Campbell, 515 So. 2d 882, 888 (Miss. 1987).

203 *See* Rankin v. Stetson, 749 N.W.2d 460, 469 (Neb. 2008).

204 *See* Day v. Brant, 697 S.E.2d 345, 356 (N.C. Ct. App. 2010); Day v. Brant, 721 S.E.2d 238, 251 (N.C. Ct. App. 2012), *review denied*, 726 S.E.2d 179 (N.C. 2012).

205 *See* Pillsbury-Flood v. Portsmouth Hosp., 512 A.2d 1126, 1130 (N.H. 1986).

206 *See* Drollinger v. Mallon, 260 P.3d 482, 491 (Or. 2011).

207 *See* Jones v. Owings, 456 S.E.2d 371, 373 (S.C. 1995).

208 *See* S.D. CODIFIED LAWS § 20-9-1.1 (2012).

209 *See* Kilpatrick v. Bryant, 868 S.W.2d 594, 600 (Tenn. 1993).

210 *See* Kramer v. Lewisville Mem'l Hosp., 858 S.W.2d 397, 404 (Tex. 1993).

211 *See* Smith v. Parrott, 833 A.2d 843, 848 (Vt. 2003).

chance of a favorable outcome.[212] In *Boone v. William W. Backus Hospital*, the Supreme Court of Connecticut held that "it is not sufficient for a lost chance plaintiff to prove merely that a defendant's negligent conduct has deprived him or her of *some* chance; in Connecticut, such plaintiff must prove that the negligent conduct *more likely than not* affected the actual outcome."[213]

Mississippi follows a similar approach. In *Ladner v. Campbell*,[214] the Supreme Court of Mississippi held that "Mississippi law does not permit recovery of damages because of mere diminishment of the 'chance of recovery.'"[215] Instead, the Court added, "[r]ecovery is allowed only when the failure of the physician to render the required level of care results in the loss of a reasonable probability of substantial improvement of the plaintiff's condition."[216] In *Phillips v. Eastern Maine Medical Center*,[217] where a personal representative of the estate of a deceased patient of a hospital filed a medical malpractice action against the hospital for failure to detect and repair an esophageal tear, the Supreme Court of Maine recognized that some jurisdictions require the plaintiff to show a better than even chance of avoiding harm in the absence of medical negligence and some do not.[218] The Court concluded that the plaintiff had proven that without the defendant's negligence the patient would have had a better than even chance of survival.[219] Therefore, the plaintiff satisfied the more stringent requirement, and the Court did not rule on whether a less than even chance would be a cognizable claim under Maine common law.[220]

In North Carolina, the Supreme Court has not yet addressed the issue of loss of chance, but the Court of Appeals recognized a claim for loss of chance, as long as the patient would have had a better than 51% chance of a favorable outcome.[221]

Michigan adopted the theory of loss of chance but for only a brief period of time. In 1990, in *Falcon v. Memorial Hospital*, the Supreme Court recognized that "the loss of opportunity of avoiding physical harm" is a compensable injury.[222] In *Falcon*, a nineteen year-old woman suffered a complete respiratory and cardiac collapse moments

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212 Boone v. William W. Backus Hosp., 864 A.2d 1, 18 (Conn. 2005).
213 *Id.* (emphasis in original).
214 Ladner v. Campbell, 515 So. 2d 882 (Miss. 1987).
215 *Id.* at 888.
216 *Id.* at 888-89.
217 Phillips v. E. Me. Med. Ctr., 565 A.2d 306 (Me. 1989).
218 *Id.* at 308.
219 *Id.*
220 *Id.*
221 *See* Day v. Brant, 697 S.E.2d 345, 356 (N.C. Ct. App. 2010).
222 Falcon v. Mem'l Hosp., 462 N.W.2d 44, 52 (Mich. 1990).

after delivering a healthy baby and suddenly died.[223] The autopsy report confirmed that an amniotic fluid embolism had caused the death.[224] The health care providers attending the patient had failed to insert, before the delivery, an intravenous line, which could have been used to infuse life-saving fluids into the patient's circulatory system.[225] As a result, the patient lost a 37.5% opportunity of surviving.[226] The Michigan Supreme Court acknowledged that the question whether the defendants had caused the death could not be readily answered,[227] but also that the defendant had created this uncertainty. The Supreme Court reasoned:

> Had the defendants in the instant case inserted an intravenous line, one of two things would have happened, Nena Falcon would have lived, or she would have died. There would be no uncertainty whether the omissions of the defendants caused her death. Falcon's destiny would have been decided by fate and not possibly by her health care providers.[228]

Accordingly, the Court concluded that by reducing the patient's opportunity of living, the defendants caused harm to the patient, although it could not have been said with certainty that the defendants caused the patient's death.[229] This harm should subject the defendants to liability.[230]

Three years later, the Michigan Legislature amended its medical malpractice statute to repudiate *Falcon* and prohibit the recovery of "a loss of an opportunity to survive or an opportunity to achieve a better result unless the opportunity was greater than 50%."[231] In 1997, in *Weymers v. Khera*,[232] the Supreme Court of Michigan had to rule on a medical malpractice case that had accrued before the effective date of the statute.[233] The plaintiff presented evidence that the defendants' negligence caused her to lose a 30 to 40% chance to retain the functioning of her kidneys.[234] The Supreme Court held[235] that *Falcon* had

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223 *Id.* at 49.
224 *Id.*
225 *Id.*
226 *Id.*
227 *Id.*
228 *Id.* at 49-50.
229 *Id*. at 52.
230 *Id*.
231 Mich. Comp. Laws § 600.2912a (2012); O'Neal v. St. John Hosp. & Med. Ctr., 791 N.W.2d 853, 857 (Mich. 2010) (quoting Mich. Comp. Laws § 600.2912a(2) (2012)).
232 Weymers v. Khera, 563 N.W.2d 647 (Mich. 1997).
233 *See id.* at 652-53.
234 *Id.* at 651-53.

recognized that only a loss of chance of *survival* was a compensable injury.[236] Accordingly, the Court refused to extend *Falcon* to a loss of chance to achieve a better result and reasoned that no cause of action existed for the loss of an opportunity to avoid physical harm less than death.[237] Later on, applying the statute, the Michigan Supreme Court systemically rejected loss of chance claims, compensating only patients that could prove that the defendant, more likely than not, caused the patient's injury.[238]

South Dakota followed the same path. In 2000, the South Dakota Supreme Court held, in *Jorgenson v. Vener*,[239] that the loss of chance doctrine was recognized at common law in that state.[240] In *Jorgenson*, contrary to *Falcon*, the plaintiff sued not for a loss of chance of survival, but for the loss of chance of a better outcome.[241] The plaintiff had injured his leg and alleged that his physician, by failing to diagnose a chronic infection, had caused him to lose a chance to save his limb.[242] The Supreme Court of South Dakota, after reviewing the pros and cons of the theory, held that a loss of chance was an actionable injury.[243] The adoption of the loss of chance doctrine, wrote Chief Justice Miller on behalf of the court, "properly balances the competing concerns of a patient who receives negligent treatment, against those of the doctor who practices in the inherently inexact science of medicine."[244]

Following *Jorgenson*, the legislature expressly abrogated *Jorgenson* because the legislature found that the theory improperly altered or eliminated the requirement of proximate causation.[245] Ac-

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235 Not surprisingly, the opinion of the Michigan Supreme Court was written by a dissenter of the Falcon decision, Chief Justice Riley. *See* Falcon v. Mem'l Hosp., 462 N.W.2d 44, 58 (Mich. 1990); *Weymers*, 563 N.W.2d at 652.

236 *Weymers*, 563 N.W.2d at 652. *But see Falcon*, 462 N.W.2d at 52 (holding that "the loss of opportunity of avoiding *physical harm*" is an injury) (emphasis added).

237 *See Weymers*, 563 N.W.2d at 652.

238 O'Neal v. St. John Hosp. & Med. Ctr., 791 N.W.2d 853, 855 (Mich. 2010) (reversing a decision of the Court of Appeals because the decision treated the plaintiff's claim as a loss-of-opportunity claim instead of a traditional medical malpractice claim).

239 Jorgenson v. Vener, 616 N.W.2d 366 (S.D. 2000).

240 *Id.* at 366.

241 *Id.* at 367.

242 *Id.*

243 *Id.* at 371.

244 *Id.*

245 The language of the statute was the following: "[t]he Legislature finds that in those actions founded upon an alleged want of ordinary care or skill the conduct of the responsible party must be shown to have been the proximate cause of the injury complained of. The Legislature also finds that the application of the so called loss-of-chance doctrine in such cases improperly alters or eliminates the requirement of proximate causation. Therefore, the rule in Jorgenson v. Vener, 2000 SD 87, 616 N.W. 2d 366 (2000) is hereby abrogated." S.D. Codified Laws § 20-9-1.1 (2012).

cordingly, the courts of South Dakota subsequently rejected claims based on the theory of loss of chance.[246]

The arguments supporting the rejection of the theory are not always convincing though. In *Gooding v. University Hospital Building Inc.*,[247] the Supreme Court of Florida answered the certified question of "whether a theory of recovery for loss of a chance to survive predicated upon alleged medical malpractice is actionable in Florida."[248] The court rejected the theory and refused to allow recovery for a loss of less than even chances of a favorable outcome.[249] The court held that relaxing the causation requirement could create an injustice.[250] The court further explained that "[h]ealth care providers could find themselves defending cases simply because a patient fails to improve or where serious disease processes are not arrested because another course of action could possibly bring a better result."[251] This argument is a distorted view of the theory of loss of chance. The theory only requires that healthcare providers be answerable for a patient's loss of chance of recovery caused by their negligence. The theory does not create a heightened duty to cure or save patients.

3. The Distortion of the Theory Through the Use of a Relaxed Causation Requirement

Some states, including Kansas,[252] Oklahoma,[253] Pennsylvania,[254] and Washington,[255] have adopted the theory of loss of chance, but with the qualifier that the theory is a relaxation of the traditional causation requirement. The Supreme Court of Kansas held that "the loss of chance of recovery theory basically entails the adoption of a different standard of causation than usually applies in negligence cases."[256] Similarly, the Supreme Court of Oklahoma held that the theory of loss of chance was developed to "relax the standard for sufficiency of proof of causation ordinarily required of a plaintiff."[257]

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246 *See, e.g.*, Smith v. Bubak, 643 F.3d 1137, 1141-42 (8th Cir. 2011) (excluding expert testimony showing that the plaintiff had approximately a fifty-eight percent chance of at least a partial recovery because the testimony had become irrelevant under South Dakota's proximate cause statute, and thus was not admissible).

247 Gooding v. Univ. Hosp. Bldg., Inc., 445 So. 2d 1015 (Fla. 1984).

248 *Id.* at 1017.

249 *Id.*

250 *Id.* at 1019.

251 *Id.* at 1019-20.

252 *See* Delaney v. Cade, 873 P.2d 175, 183 (Kan. 1994).

253 *See* McKellips v. Saint Francis Hosp., Inc., 741 P.2d 467, 469 (Okla. 1987).

254 *See* Hamil v. Bashline, 392 A.2d 1280, 1288 (Pa. 1978).

255 *See* Herskovits v. Grp. Health Coop. of Puget Sound, 664 P.2d 474, 476-77 (Wash. 1983).

256 *Delaney*, 873 P.2d at 182.

257 *McKellips*, 741 P.2d at 471.

By asserting that the theory is a relaxation of the traditional causation requirement, these courts suggest that there should be a causal link, even weak, between the wrongful act and the ultimate outcome. This should not be the case. The injury at issue is the loss of chance and, therefore, the inquiry into whether there is causation between the wrongful act and the ultimate outcome is irrelevant.[258]

4. The States That Have Yet to Address the Theory of Loss of Chance

The states of North Dakota, Oregon, and Utah have yet to address the theory of loss of chance. In *Joshi v. Providence Health System of Oregon Corporation*,[259] the Supreme Court of Oregon declared that loss of chance claims are incompatible with the Oregon wrongful death statute.[260] This decision is, therefore, similar to the decision of the Supreme Court of Delaware in *Cumberbatch.*[261] It recognizes that a tortfeasor who only caused a loss of chance cannot be liable for the ultimate outcome.[262] It does not indicate, however, how the Supreme Court of Oregon would rule on a claim seeking only the recovery of a loss of chance.

Similarly, the Supreme Court of Utah has not addressed directly the issue of a loss of chance. In *Seale v. Gowans*,[263] where the defendants had failed to diagnose the patient's breast cancer, the plaintiff appealed a directed verdict in favor of the defendants, who had successfully argued that the action was time-barred. The Supreme Court of Utah held that a decrease in a patient's chance of survival, without proof of actual damages, was not adequate to sustain a cause of action for negligence damages.[264] By this statement, the Court meant that the decrease of the patient's chance of survival did not trigger the running of the statute of limitations. The Court did not recognize or reject the theory of loss of chance.

Finally, in Rhode Island, the Supreme Court declined to adopt or reject the theory.[265] The Supreme Court did not deem the facts in previous Rhode Island cases to be appropriate for the application of the

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258 *See* Matsuyama v. Birnbaum, 890 N.E.2d 819, 832 (Mass. 2008).

259 Joshi v. Providence Health Sys. of Or. Corp., 149 P.3d 1164, 1170 (Or. 2006).

260 *Id.* at 1170; *see* Or. Rev. Stat. § 30.020 (2012).

261 *See* U. S. v. Cumberbatch, 647 A.2d 1098, 1099 (Del. 1994).

262 *See Joshi*, 149 P.3d at 1170.

263 Seale v. Gowans, 923 P.2d 1361 (Utah 1996).

264 *Id.* at 1365.

265 Almonte v. Kurl, 46 A.3d 1, 24 (R.I. 2012) (citing Contois v. W. Warwick, 865 A.2d 1019, 1025 (R.I. 2004)).

loss of chance doctrine, but acknowledged that the theory could be revisited under the appropriate fact scenario.[266]

B. Towards Better Practices

While many state courts apply the loss of chance theory correctly, many others have relied on arguments that reveal either a misunderstanding of the theory or a distortion of the traditional principles of tort. It is important to (1) maintain the well-established principles of negligence and (2) avoid arbitrary distinctions between the patients who have more than even chances and patients who have less than even chances of a favorable outcome.

1. The Importance of Maintaining the Well-Established Principles of Negligence

There is a contradiction between: (1) relaxing the requirements of causation between the wrongful act and the unfavorable outcome; and (2) indemnifying the loss of chance not the unfavorable outcome. It violates two basic principles of negligence: the requirement of proof of causation and the plaintiff's entitlement to a full recovery.[267]

In *Herskovits v. Group Health Cooperative of Puget Sound*, an estate sued a hospital and a physician for failure to timely diagnose the decedent's lung cancer on his first visit to the hospital.[268] The estate proved that the hospital's and physician's negligence *proximately* caused a 14% reduction in the decedent's chances of survival.[269] The Supreme Court of Washington held en banc that a patient with less than a 50% chance of survival could recover under the wrongful death statute because a reduction of chance of survival from 39 to 25% is sufficient evidence to allow the proximate cause issue to go to the jury.[270]

This approach is problematic because the court recognized that the defendants were liable only for a loss of chance and not for the death of the plaintiff, yet the defendants were held accountable under the wrongful *death* statute.[271] Pursuant to the Washington statute, "[w]hen the *death* of a person is caused by the wrongful act, neglect, or default of another his or her personal representative may maintain an action for damages against the person causing the death; and although

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266 *Id.*

267 King, *supra* note 20, at 1370.

268 Herskovits v. Grp. Health Coop. of Puget Sound, 664 P.2d 474, 474 (Wash. 1983).

269 *Id.* at 475.

270 *Id.* at 476-77.

271 Wash. Rev. Code § 4.20.010 (2011).

the death shall have been caused under such circumstances as amount, in law, to a felony."[272]

In his concurrence, Justice Pearson stated:

> The wrongful death statute is probably the principal reason the parties focused on the death of Mr. Herskovits rather than his diminished chance of survival. As I have endeavored to demonstrate, this approach leads either to harsh and arbitrary results, or to distortions of existing tort principles and the potential for confusion. A liberal construction of the statute appears a more effective method of achieving the most desirable end. The word "cause" has a notoriously elusive meaning (as the writings on legal causation all agree) and it is certainly sufficiently flexible to bear the interpretation I give it in the context of [the wrongful death statute].[273]

This interpretation reveals that the court relaxed the causation standard, thus deviating from the traditional notions of tort. This analysis suggests that when the plaintiff has met his burden of proving proximate cause with respect to the loss of chance, the plaintiff has somewhat also met his burden of proving proximate cause with respect to the death of the patient.

Further, by allowing the case to go to the jury, the Washington Supreme Court entrusted the trier of fact with the difficult task of assessing the damages for the loss of chance. Traditionally, damages awards consist of a single lump sum that is intended to fully compensate the plaintiff for all past and future consequences of the tort.[274] In this case, if the jury awards damages for the wrongful death, the defendants will be liable for damages they did not cause. On the other hand, if the jury awards damages for the loss of chance, the defendants will be liable for the damages they caused but the plaintiff will not recover fully for the wrongful death, as per the statute.

Relaxing the causation requirement and indemnifying the loss of chance instead of the ultimate outcome is a convoluted way of recognizing the theory. This method does not comport with the traditional rules of negligence. Departing from well-established principles of torts is a dangerous path that could be avoided easily by simply recognizing that the loss of chance is a type of injury.

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272 *Id.* (emphasis added)

273 *Herskovits*, 664 P.2d at 487 n.1635.

274 King, *supra* note 20, at 1370.

2. The Arbitrary Distinction Between More Than Even Chances and Less Than Even Chances of a Favorable Outcome

Many courts, whether they recognize the theory of loss of chance or reject it, recognize that a plaintiff has a cause of action only if the chances he lost were more than even.[275]

This distinction is arbitrary. As the Supreme Court of Massachusetts noted in *Matsuyama v. Birnbaum*, "[w]here credible evidence establishes that the plaintiff's or decedent's probability of survival is 49%, that conclusion is no more speculative than a conclusion, based on similarly credible evidence, that the probability of survival is 51%."[276]

The Arizona Supreme Court recognized the perverse practical effect of the distinction in *Thompson v. Sun City Community Hospital*:

> It puts a premium on each party's search for the willing witness. Human nature being what it is, and the difference between scientific and legal tests for "probability" often creating confusion, for every expert witness who evaluates the lost chance at 49% there is another who estimates it at closer to 51%. Also, the rule tends to defeat one of the primary functions of the tort system – deterrence of negligent conduct because cases based on statistical possibilities the rule prevents any individual in a group from recovering, even though it may be statistically irrefutable that some have been injured.[277]

The Supreme Court of Kansas also acknowledged that there are sound reasons of public policy for not drawing a distinction between the more than even and the less than even chances of recovery.[278] The court explained that the distinction, in essence, "declares open season on critically ill or injured persons as care providers would be free of liability for even the grossest malpractice if the patient had only a fifty-fifty chance [or less] of surviving the disease or injury even with proper treatment."[279] Accordingly, the segment of society often least able to exercise independent judgment is at the mercy of those professionals who provide them with life-saving health care.[280] Patients with

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275 *See* Gooding v. Univ. Hosp. Bldg., Inc., 445 So. 2d 1015, 1020 (Fla. 1984) (rejecting the theory); Grant v. Am. Nat. Red Cross, 745 A.2d 316, 317 (D.C. 2000) (rejecting the theory); Boone v. William W. Backus Hosp., 864 A.2d 1, 18 (Conn. 2005) (recognizing the theory).

276 Matsuyama v. Birnbaum, 890 N.E.2d 819, 833 (Mass. 2008).

277 *Thompson*, 688 P.2d at 615.

278 Roberson v. Counselman, 686 P.2d 149, 160 (Kan. 1984).

279 *Id.*

280 *Id.*

poor prospects of recovery or survival are the most in need of protection against medical malpractice.

This distinction may be drawn because courts routinely confuse causation and the burden of proof required to show causation.[281] The plaintiff must prove causation by preponderance of the evidence: the defendant's conduct, more likely than not, must have caused the injury.[282] In many of the loss of chances cases, however, the fact that the defendant caused a loss of chance is not even at issue nor is the amount of chance lost.[283] In those cases, the plaintiff proved the loss of chance to a certainty.[284] Whether the percentage of chances lost is above or below 50%, therefore, should not matter. In fact, when a plaintiff proves to a certainty that the tortfeasor caused the plaintiff to lose 51% of the chance of survival, the plaintiff actually showed to a certainty that the causation in fact, *i.e.*, the causal link between the tortfeasor and the unfavorable outcome, cannot be proven. The Supreme Court of Michigan demonstrated this idea through the following examples:

> To say that a patient would have had a ninety-nine percent opportunity of survival if given proper treatment, does not mean that the physician's negligence was the cause in fact if the patient would have been among the unfortunate one percent who would have died. A physician's carelessness may, similarly, be the actual cause of physical harm although the patient had only a one percent opportunity of surviving even with flawless medical attention.[285]

The source of the confusion between burden of proof and percentage of chance may come from the fact that, in the United States, the burden of proof is probabilistic and thus is explained in terms of percentage.[286] The burden of proof for civil cases, the preponderance of the evidence, requires that more than 50% of the evidence points to

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281 *See, e.g.*, Falcon v. Mem'l Hosp., 462 N.W.2d 44, 47-48 (Mich. 1990) (holding that "the more probable than not standard, as well as other standards of causation, are analytic devices-tools to be used in making causation judgments," whereas the more probable than not standard is a burden of proof, not a standard of causation).

282 Matsuyama v. Birnbaum, 890 N.E.2d 819, 832 (Mass. 2008).

283 *See, e.g.*, Herskovits v. Grp. Health Coop. of Puget Sound, 664 P.2d 474, 474-75 (Wash. 1983) ("It is undisputed that [the plaintiff] had less than a fifty percent chance of survival at all times herein"); *see also* Kramer v. Lewisville Mem'l Hosp., 858 S.W.2d 397, 399 (Tex. 1993) (where plaintiff offered undisputed evidence regarding the five-year survival rate of cervical cancer).

284 *Herskovits*, 664 P.2d at 480; *Kramer*, 858 S.W.2d at 399.

285 *Falcon*, 462 N.W.2d at 47.

286 *Preponderance of the Evidence*, LEGAL INFO. INST. (Aug. 19, 2010, 5:22 PM), http://www.law.cornell.edu/wex/preponderance_of_the_evidence.

plaintiff's allegations.[287] This is a low threshold. In civil law countries, the threshold is often much higher and requires that a plaintiff prove the *truth* of his or her allegations.[288] A civil law plaintiff must prove each element of a claim to a certainty.[289] Accordingly, in a civil law country, a loss of chance, whether greater or lesser than 50%, can never give rise to a cause of action for the compensation of the ultimate outcome. The theory of loss of chance, therefore, comes to fill the gap and indemnify the loss of a favorable outcome. In the United States, on the contrary, the theory of loss of chance interferes with the probabilistic approach to causation.[290] In cases where the plaintiff lost more than 50% chance of a favorable outcome, the theory of loss of chance allows the plaintiff to recover damages for the loss of chance, whereas the probabilistic approach to causation allows the plaintiff to recover damages for the ultimate outcome, not just the loss of chance. The stark contrast between civil and common law countries may explain the U.S. courts' reticence to adopt the theory and the persisting confusion surrounding its application.

3. The Legislative Option

Considering the obstacles to the implementation of the theory of loss of chance, the most appropriate way to recognize or reject the theory may be through the enactment of a statute. So far, state legislatures have intervened only to reject the theory of loss of chance once courts had recognized its application.[291] In none of the fifty states has a legislature taken the initiative to enact a statute expressly allowing recovery for loss of chance. Implementing the theory through legislation, however, may be a more democratic and systematic way of recognizing it. A public debate involving all the actors affected by the proposed legislation would be beneficial both to determining the financial implications of implementing the theory and to evaluating the constituents' positions on the issue. The legislature could consider imposing limits to the application of the theory, *i.e.*, prohibiting punitive damages, defining the method of evaluation of the injury, and deciding if the injury of loss of chance should be indemnified when the ultimate outcome is certain but has not yet come to pass.

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287 *Id.*

288 Kevin M. Clermont & Emily Sherwin, *A Comparative View of Standards of Proof*, 50 AM. J. COMP. L. 243, 243 (2002).

289 *See id.*

290 *See id.*

291 *See, e.g.*, Mich. Comp. Laws § 600.2912a (2012) (abrogating Falcon v. Mem'l Hosp., 462 N.W.2d 44 (Mich. 1990)); S.D. Codified Laws § 20-9-1.1 (2012) (abrogating Jorgenson v. Vener, 616 N.W.2d 366, 366 (S.D. 2000)).

More importantly, legislatures would have the opportunity of considering whether the loss of chance should be limited to the medical malpractice area and why it should be so. Many jurisdictions have expressed why the loss of chance is particularly suited to the medical malpractice area. In *Cooper v. Sisters of Charity of Cincinnati, Inc.*,[292] the Ohio Supreme Court explained:

> Lesser standards of proof are understandably attractive in malpractice cases where physical well being, and life itself, are the subject of litigation. The strong intuitive sense of humanity tends to emotionally direct us toward a conclusion that in an action for wrongful death an injured person should be compensated for the loss of any chance for survival, regardless of its remoteness.[293]

In *Matsuyama*, the Supreme Court of Massachusetts recognized that medical malpractice cases are "particularly well suited" to application of the loss of chance theory for several reasons.[294] First, reliable expert evidence documenting situations of loss of chance are more likely to occur in the area of medical malpractice than in other areas of negligence.[295] Second, in a doctor-patient relationship, there is an expectation that "the physician will take every reasonable measure to obtain an optimal outcome for the patient."[296] Third, many patients find themselves in a situation where they have a less than even chance of survival or of achieving a better outcome at the time of diagnosis, and therefore are faced with the shortcomings of the all or nothing rule.[297] Finally, "failure to recognize loss of chance in medical malpractice actions forces the party who is the least capable of preventing the

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[292] Cooper v. Sisters of Charity of Cincinnati, Inc., 272 N.E.2d 97 (Ohio 1971), *overruled by* Roberts v. Ohio Permanente Med. Group, Inc., 668 N.E.2d 480 (Ohio 1996).

[293] *Id.* at 103-04 (holding that a plaintiff could maintain action for loss of less than even chance of recovery or survival by presenting expert medical testimony showing that health care provider's negligent act or omission increased risk of harm to plaintiff); *see also* Herskovits v. Grp. Health Coop. of Puget Sound, 664 P.2d 474, 491 (Wash. 1983) (Dolliver, J., dissenting).

[294] Matsuyama v. Birnbaum, 890 N.E.2d 819, 834-35 (Mass. 2008). The court relied on Restatement (Third) of Torts: Liability for Physical Harm § 26 comment that addressed the theory of loss of chance. Current versions of the third restatement do not address the theory.

[295] *Id.*; *see also* Jorgenson v. Vener, 616 N.W.2d 366, 371 (S.D. 2000) (citing King, *supra* note 20, at 1386 n.111) ("The fact that the doctrine has thus far only been applied in a medical malpractice context in all likelihood derives from the availability of statistical probabilities in the field of medical science; such information is not widely available in other malpractice contexts.").

[296] *Matsuyama*, 890 N.E.2d at 835 (quoting K.S. ABRAHAM, FORMS AND FUNCTIONS OF TORT LAW 117–18 (3d ed. 2007) (arguing that "health care providers undertake to maximize a patient's chances of survival, [and so] their failure to do so should be actionable. Ordinary actors who negligently risk causing harm have not undertaken such a duty")).

[297] *Id.*

harm to bear the consequences of the more capable party's negligence."[298]

Very few courts, however, have addressed the issue of loss of chance in other contexts.[299] In *Doll v. Brown*,[300] a federal employee brought action under the Rehabilitation Act alleging that he was discriminated against by reason of a medical condition.[301] The complications of his throat cancer prevented him temporarily from working around heavy dust.[302] Over time, although he had recovered his ability to work around heavy dust, his superiors refused to reinstate him to his prior position.[303] The United States Court of Appeals for the Seventh Circuit held that the theory of loss of chance is "peculiarly appropriate in employment cases involving competitive promotion,"[304] but denied to hold that the theory was applicable to the case because the issue had not been briefed by the parties.[305]

In *Gardner v. National Bulk Carriers, Inc.*,[306] the widow of a seaman sued a vessel owner and the vessel because the master of the vessel made no attempt to search the sea to rescue the seaman in the hours after the seaman was reported missing.[307] The parties presented evidence that if the seaman had gone overboard not long before he was reported missing, a search would have had a "reasonable expectation of success."[308] In other words, because there was some range of time and distance in which rescue would have been possible if attempted, the inaction of the master of the vessel caused the seaman to lose a chance of being rescued.[309] The United States District Court for the Eastern District of Virginia rendered a judgment for the defendants.[310] On appeal, the representative of the vessel argued that the plaintiff had not proved proximate cause, since the plaintiff could not definitely show that the seaman was alive when he went missing and could have been saved.[311]

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298 *Id.*

299 *See* David Ballard, *Pursuing "Loss of a Chance" Damages in a Commercial Dispute*, BARNES & THORNBURG COM. LITIG. UPDATE (Jan. 2011), http://btlaw.com/files/Uploads/Documents/Publications/Comm%20Lit%20Update%20Jan.%202011_D%20Ballard.pdf.

300 Doll v. Brown, 75 F.3d 1200 (7th Cir. 1996).

301 *Id.* at 1202.

302 *Id.* at 1201-02.

303 *Id.*

304 *Id.* at 1206.

305 *Id.*

306 Gardner v. Nat'l Bulk Carriers, Inc., 310 F.2d 284 (4th Cir. 1962).

307 *Id.* at 285.

308 *Id.*

309 *See id.*

310 *Id*.

311 *Id.* at 287.

The Fourth Circuit Court of Appeals reversed the district court judgment and held that the defendants were liable for the loss of the seaman.[312] The court found that under the universal custom of the sea, as well as under the seaman's contract, the master had an obligation to search in good faith for the lost crew member.[313] The court further determined that this duty was "of such nature that its omission will contribute to cause the seaman's death."[314] The court, therefore, did not frame the issue in terms of loss of chance but in terms of contributory negligence.[315] In *Hicks*, however, where the Fourth Circuit Court of Appeals addressed the theory of chance for the first time,[316] the court referred to the *Gardner* case to support its argument that a plaintiff cannot be required to prove to an "absolute certainty what would have happened in circumstances that the wrongdoer did not allow to come to pass."[317]

Arguably, the idea of loss of chance, or rather loss of opportunity, has been addressed in a few instances in the area of contracts.[318] For example, in *Miller v. Allstate Insurance*,[319] an insurer breached a promise to return a wrecked automobile, which the insured needed as evidence in a planned products liability suit against a manufacturer.[320] The Florida Third District Court of Appeal held that the insured could recover against the insurer for the lost chance of winning the product liability case.[321] The court found that it is now an "accepted principle of contract law . . . that recovery will be allowed where a plaintiff has been deprived of an opportunity or chance to gain an award or profit even where damages are uncertain."[322]

These few and isolated references to loss of chance or opportunity, however, are insufficient to conclude that the theory has been accepted in areas other than medical malpractice. These cases, nonetheless, present situations where the theory would be well-suited and would deserve more attention on the part of the legislatures.

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312 *Id.* at 288.

313 *Id.* at 286.

314 *Id.*; *see id.* at 287. ("Once the evidence sustains the reasonable possibility of rescue, ample or narrow, according to the circumstances, total disregard of the duty, refusal to make even a try, as was the case here, imposes liability.").

315 *Id.*

316 *See* Hicks v. United States, 368 F.2d 626, 632-33 (4th Cir. 1966).

317 *Id.*

318 Ballard, *supra* note 299; *see also* Sturgess, *supra* note 12, at 29.

319 *See* Miller v. Allstate Ins. Co., 573 So. 2d 24 (Fla. Dist. Ct. App. 1990).

320 *Id.* at 25.

321 *See id.* at 29.

322 *Id.*

The theory of loss of chance has gained in understanding since it first appeared in the United States almost half a century ago.[323] Yet, the majority of the states continues to reject it, sometimes based on flawed arguments.[324] The American probabilistic approach to causation has been an undeniable obstacle to the theory's broader acceptance among the states.[325] Some states, nonetheless, have chosen to disregard the imperfection inherent in the theory and acknowledge that the recognition of a loss of chance as a cognizable injury better achieves the two ultimate goals of the civil justice system: deterrence and compensation.

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323 *See* Hicks v. United States, 368 F.2d 626, 629-30 (4th Cir. 1966).

324 *See, e.g.*, McAfee v. Baptist Med. Ctr., 641 So. 2d 265, 267 (Ala. 1994); Crosby v. United States, 48 F. Supp. 2d 924, 930 (Alaska 1999); Holt ex rel. Estate of Holt v. Wagner, 43 S.W.3d 128, 131 (Ark. 2001); Williams v. Wraxall, 39 Cal. Rptr. 2d 658, 666 (1995); Mich. Comp. Laws § 600.2912a (2012) (abrogating Falcon v. Mem'l Hosp., 462 N.W.2d 44 (Mich. 1990)); S.D. Codified Laws § 20-9-1.1 (2012) (abrogating Jorgenson v. Vener, 616 N.W.2d 366, 366 (S.D.2000)).

325 *See, e.g.*, Gooding v. Univ. Hosp. Bldg., Inc., 445 So. 2d 1015, 1018 (Fla. 1984).