Playing the Percentages: A Re-Examination of Recovery for Loss of Chance

Jonathan D. Wolf

Follow this and additional works at: http://digitalcommons.law.scu.edu/lawreview

Part of the Law Commons

Recommended Citation
Available at: http://digitalcommons.law.scu.edu/lawreview/vol26/iss2/5
PLAYING THE PERCENTAGES: A RE-EXAMINATION OF RECOVERY FOR LOSS OF CHANCE

I. INTRODUCTION

Mrs. Olsen, a forty-five year old attorney, was experiencing some urinary problems and physical discomfort. When she visited her physician, Dr. Slack, he examined her, ran a few tests, and told her not to worry. Her discomfort continued so she later returned to the doctor, who repeated the same procedure. Finally, nine months after her initial visit, her condition had not improved and she consulted another physician, Dr. Doktor. He found that she had a form of bladder cancer, that her cancer had advanced to the Stage Two type and that it was well on its way to Stage Three. He told her that cancer is often fatal and that currently only eighteen percent of those with Stage Three tumors recover. He also told her that had her condition been diagnosed six months earlier, it would only have been a Stage One tumor and her chance of recovery at that stage would have been thirty-seven percent. This information caused Mrs. Olsen severe emotional distress for the rest of her life. In addition, because of the advanced stage of her cancer, she required a more extensive and painful treatment than that applied to Stage One patients. Mrs. Olsen eventually succumbed to the cancer.

Can Mrs. Olsen’s estate recover for the nineteen percent chance of recovery she lost as a result of Dr. Slack’s negligence or for the additional mental anguish she suffered? Can the estate recover for the additional pain and suffering she experienced, for unnecessary medical expenses, or for her lost earnings? In most jurisdictions the answer to these questions is “no.” Despite Dr. Slack’s malpractice, Mrs. Olsen’s estate cannot recover damages relating to her lost chance and additional injuries.

Courts have traditionally viewed loss of chance as an aspect of wrongful death. In a wrongful death action, the death itself is

1. Currently no jurisdictions recognize a separate and independent cause of action for loss of chance. However, a number of courts have relaxed the traditional causation requirements in order to allow plaintiffs suffering injuries connected with loss of chance to reach the jury. For an explanation of these and other loss of chance cases, see infra note 95.

viewed as the injury.\(^9\) Compensation for loss of chance is allowed only if the plaintiff proves that the lost chance of recovery proximately caused the victim’s death.\(^4\)

The major hurdle for the plaintiff in these cases is establishing the causation element.\(^6\) In order to recover any damages, the plaintiff must prove that the doctor’s negligence was the actual cause of the patient’s death.\(^6\) Thus, if the patient would have died as a result of the illness despite the negligence, wrongful death, and hence loss of chance recovery, is generally denied.\(^7\)

However, a few commentators\(^8\) have advocated adopting a separate cause of action for negligent deprivation of a chance of recovery. This new tort, called loss of chance, would compensate the victim or his estate for the loss of a statistically verifiable opportunity to recover from illness. The loss of chance tort defines the injury as the lost chance of recovery.\(^9\) The lost chance is considered a separate injury from the death.\(^10\)

If a cause of action for loss of chance existed, Mrs. Olsen’s estate could bring suit for compensation for the nineteen percent chance of recovery she lost as a result of Dr. Slack’s malpractice. This figure is obtained by determining what her chance of recovery would have been had the initial diagnosis been made correctly (thirty-seven percent), and subtracting from that figure the chance of recovery that existed when the illness was properly diagnosed (eighteen percent).\(^11\)

A lost chance of recovery arises in many contexts of the medical

---

5. See King, supra note 2, at 1363-64.
8. C. McCormick, Handbook on the Law of Damages 117-23 (1935); King, supra note 2; Wolfstone & Wolfstone, supra note 4.
10. See King, supra note 2, at 1363-64.
11. A major hurdle for the plaintiff in a loss of chance case is valuing the chance that was lost. Plaintiffs usually place a value on loss of chance through the aid of economic experts, medical experts, and the jury’s conscience.
LOSS OF CHANCE

malpractice field. This comment focuses on loss of chance cases that arise from a doctor's misdiagnosis or failure to diagnose the illness of a patient who eventually dies from that illness. After a brief discussion of causation, this comment then examines three current approaches to the loss of chance actions. The policies and legal principles behind each approach are presented. The inadequacies of each are analyzed and finally, a different, pragmatic method to handle these situations is offered for consideration.


13. A victim should be entitled to compensation regardless of whether he or she is living or deceased, and regardless of whether the defendant's negligence caused the victim's death. The loss of chance should be a compensable cause of action in its own right, available to either the victim or his estate. It seems blatantly unfair to require that the victim pursue a cause of action while he is alive, and yet bar his estate from seeking compensation if the victim's biological clock (which is shortened by the doctor's malpractice) runs out before the slow and cumbersome legal process is completed. This will encourage defendants to pursue the morbid strategy of delaying the trial until the victim dies in order to escape loss of chance liability.

But see Evers v. Dollinger, 95 N.J. 399, 471 A.2d 405 (1984) (Handler, J., concurring). Evers involved a related concept called increased risk of recurrence. In a case involving increased risk, the physician's negligence causes the patient an increased risk that the illness will recur sometime in the future. The Evers majority held that

A plaintiff should be permitted to demonstrate, within a reasonable degree of medical probability, that the . . . delay resulting from defendant's failure to have made an accurate diagnosis and to have rendered proper treatment increased the risk of recurrence or of distant spread of plaintiff's cancer, and that such increased risk was a substantial factor in producing the condition from which plaintiff currently suffers.

Id. at 417, 471 A.2d at 415.

Justice Handler concurred specially to address the issue of whether such an increased risk of recurrence can constitute a compensable injury even though the harm was not manifested. After endorsing most of the majority's holding, Justice Handler criticized the majority for requiring an actual manifestation of harm in addition to the increased risk caused by the defendant:

I do not believe, however, that [actual recurrence of] harm constitutes a "sine qua non," a condition precedent before there can be recovery for an actual albeit unquantified increase in the risk of such harm. The court is here troubled by a seeming inability to quantify the risk of future cancer. But, adding the occurrence of future harm as a requirement for the recovery for such increased risk does not resolve the dilemma since the risk remains unquantified. Yet, insistence that the harm occur as a condition for recovery does unfortunately add greatly to the legal burden of cancer victims. The inadvertent effect of such a court rule is that those victims, who undeservedly have been put in greater peril in terms of their survival, are not permitted to be compensated for this peril unless they have suffered a resurgence of their cancer.

Id. at 421, 471 A.2d at 417.
II. CAUSATION

Generally, causation refers to the connection between the defendant's alleged conduct and the plaintiff's alleged injuries. The mere occurrence of an injury is insufficient to establish the defendant's liability. Rather, a close relationship between the defendant's conduct and the plaintiff's injuries must be shown in order to hold the defendant liable for those injuries. This close relationship, or causation, is an expression of both the requirements and limits that society and the courts place on the consequences arising from a defendant's conduct. These requirements and limits are based on policy, social justice, and practicality. Generally, society is reluctant to hold a defendant liable simply because a plaintiff has been injured. Consequently, the plaintiff is required to show that the defendant's conduct actually caused, or at least substantially contributed to, the plaintiff's injuries. Once this causal connection is established, causation also determines the extent to which the defendant can be held responsible.

Causation thus contains two components, actual cause and proximate cause. Actual cause refers to the relationship between the actor's conduct and the actual injury. Actual cause exists when, without the defendant's conduct, the plaintiff's injury either never would have occurred or the identical result would not have followed. Proximate cause refers to the limitations which courts have placed upon a defendant's responsibility for the consequences of his

14. Some courts apply the "but for" test to determine if causation exists. For an example of this view of actual cause see Cooper v. Sisters of Charity of Cincinnati, Inc., 27 Ohio St. 2d 242, 252-53, 272 N.E.2d 97, 103-04 (1971). Some courts apply the "substantial factor" test. For an example of this view see Hamil v. Bashline, 481 Pa. 256, 264, 392 A.2d 1280, 1284 (1978). See also infra notes 28-36 and accompanying text.
17. RESTATEMENT (SECOND) OF TORTS § 430 (1965).
19. Id. § 31, at 173; § 41, at 264.
22. Actual cause is also called cause in fact. See id.
23. Proximate cause is also called legal cause. See W. KEETON, D. DOBBS, R. KEETON & D. OWEN, supra note 15, § 41, at 263.
conduct. The defendant’s liability is usually limited to the risks that foreseeably could flow from the conduct.

A. Tests for Actual Cause

Courts currently hold two views of the issue of causation in cases involving a loss of chance. Generally, courts apply either the “but for” or the “substantial factor” test in evaluating actual cause. The original approach to actual cause is the “but for” test. Under this test, the defendant is liable for negligence only if, but for his conduct, the injury would not have occurred. Conversely, the defendant’s conduct is not the actual cause of an injury if the injury would have occurred even without his acts. For example, suppose an obstetrician examines a pregnant woman and negligently determines that she does not need a caesarean section. As a result, the baby dies during childbirth and the mother suffers physical and mental injuries. Assuming a duty and breach have been established, there can be little doubt that “but for” the doctor’s misdiagnosis, the plaintiff’s injuries would not have occurred.

Problems arise, however, when more than one cause contributes to the plaintiff's injury or when any one of several causes could produce the identical result. To meet these problems, courts apply the “substantial factor” test. Under this test, a defendant may be held

27. Id. § 43 at 284. See Comment, Medical Malpractice: The Deprivation of Chance to Service Action in Kansas, 24 WASHBURN L.J. 431, 432 n. 13 (1985). See also infra note 158 and accompanying text. But see Prosser, Palisgraf Revisited, 52 Mich. L. Rev. 1 (1952). The following causation discussion is primarily limited to actual cause. Proximate cause is not a major problem in cases involving a loss of chance. The main difficulty for a plaintiff in such cases is establishing actual cause. Once actual cause is established, juries have little difficulty in finding proximate cause. Thus, proximate cause will not be discussed.
30. Id. at § 41, at 266.
31. Id. at 265; RESTATEMENT (SECOND) OF TORTS § 432; B. SHARTEL & M. PLANT, THE LAW OF MEDICAL PRACTICE 147 (1959).
32. W. KEETON, D. DOBBS, R. KEETON & D. OWEN, supra note 15, § 41, at 266-67; RESTATEMENT (SECOND) OF TORTS § 432 and comment d.
33. RESTATEMENT (SECOND) OF TORTS §§ 432(2), 433; W. KEETON, D. DOBBS, W.
liable for conduct which substantially contributes to the plaintiff's injury. For example, suppose a patient complains of coughing and respiratory difficulties. The doctor orders chest x-rays, which are negative. The normal procedure is to have the patient undergo a bronchoscopy in order to rule out lung cancer, but the doctor negligently fails to order this test and diagnoses the problem as a mere cough. The coughing persists, but the doctor still performs no bronchoscopy. Eventually, another doctor diagnoses lung cancer, but by that time the cancer has metastasized. As a result, the patient dies. Considering the seriousness of the disease, it cannot be said that "but for" the doctor's negligence, the patient would have lived. However, the malpractice certainly appears to be a substantial factor in bringing about the patient's injury.

Demonstrating actual cause is not always as simple as the foregoing examples may suggest. The plaintiff must establish actual cause by the applicable standard of proof. Moreover, there may be limitations on the types of evidence which the plaintiff can use to establish actual cause.

B. Standard of Proof

In a medical malpractice action, the burden is on the plaintiff to prove actual cause by the applicable standard of proof. The traditional standard of proof in these actions is by a "preponderance of the evidence." The preponderance standard requires the plaintiff to prove that it is more likely than not that the defendant caused his injury. In other words, the plaintiff must establish a greater than fifty percent probability that the defendant's actions were the actual cause of the plaintiff's injury. The preponderance standard is almost always applied in medical malpractice cases, although occasionally,
other standards of proof have been used.\textsuperscript{41} Courts favor the preponderance standard because it limits the jury's ability to speculate on the issue of actual cause.\textsuperscript{42} While some speculation is inherent in any standard of proof,\textsuperscript{43} the preponderance standard at least requires the plaintiff to prove what probably happened. Lower standards of proof do not reach this probability level and the jury must guess what might have happened had the defendant not been negligent.\textsuperscript{44}

The role of the jury is closely related to the standard of proof required in medical malpractice cases.\textsuperscript{45} The jury usually determines actual cause and other factual issues.\textsuperscript{46} Therefore, the important role of the jury will be examined.

C. \textit{Roles of the Jury and Judge in Determining Actual Cause}

Traditionally, courts have treated the issue of causation as a question of fact.\textsuperscript{47} In theory, the jury, in its role as fact-finder, is supposed to determine the existence of both actual and proximate cause.\textsuperscript{48} In practice, the judge usually does not allow a case to reach the jury if he decides that the plaintiff has not proved actual cause. In these circumstances, the court has the power of non-suit or to direct a verdict for the defendant.\textsuperscript{49}

Some courts have deviated from traditional causation principles in loss of chance cases. In these courts, the role of the jury is affected by this deviation. The way these principles are applied and the role played by the jury depends on how courts define a loss of chance injury. Thus, the different judicial views of what constitutes a loss of chance injury have yielded different approaches and procedures for implementing these views.

\textsuperscript{43} See Malone, \textit{Ruminations on Cause-In-Fact}, 9 STAN. L. REV. 60, 67-68 (1956).
\textsuperscript{44} See W. Keeton, D. Dobbs, R. Keeton & D. Owen, \textit{supra} note 15, § 41 at 269.
\textsuperscript{45} See Malone, \textit{supra} note 43, at 67-68.
\textsuperscript{46} Id. at 61-68.
\textsuperscript{47} Id. at 60.
\textsuperscript{48} Id.
\textsuperscript{49} W. Keeton, D. Dobbs, R. Keeton & D. Owen, \textit{supra} note 15, § 41 at 269.
III. CURRENT APPROACHES TO CASES INVOLVING LOSS OF CHANCE

Currently, courts and commentators have taken three approaches to cases involving a loss of chance. These approaches differ significantly with respect to the various issues involved in loss of chance situations.

A. Traditional Approach

A majority of jurisdictions follow the traditional approach to recovery for loss of chance. Under the traditional view, the victim's death is the injury, and loss of chance is treated as a part of that injury. An action must be brought under the applicable wrongful death statute. A successful plaintiff recovers damages for the wrongful death in general and not specifically for the loss of chance. Specific damages for loss of chance can be recovered only if the plaintiff proves the loss of chance probably caused the decedent's death.

Courts adopting this approach apply the traditional actual cause test, the “but for” analysis. These courts also require the plaintiff to meet the normal “preponderance of the evidence” standard of proof. Under this standard, the plaintiff must show that there was a greater than fifty percent chance that the doctor's negligence was the actual cause of the victim's death. Put another way, if the patient probably would have died from his illness, then no

50. See King, supra note 2, at 1363-65.
51. Id.
52. Action may also be brought under a survivorship action. For the purposes of this comment, survivorship actions will be treated as within the wrongful death area.
53. See King, supra note 2, at 1365. See also Gooding v. University Hosp. Bldg., 445 So. 2d 1015, 1020 (Fla. 1984); Cornfeldt v. Tongen, 295 N.W.2d 638, 640 (Minn. 1980); Hiser v. Randolph, 126 Ariz. 608, 612, 617 P.2d 774, 778 (1980); Cooper v. Sisters of Charity of Cincinnati, Inc., 27 Ohio St. 2d 242, 252, 272 N.E.2d 97, 103 (1971).
54. Note, supra 28, at 508.
55. See supra note 38.
56. As some commentators succinctly state, even a 50% chance is inadequate:
The plaintiff must introduce evidence which affords a reasonable basis for the conclusion that it is more likely than not that the conduct of the defendant was a cause in fact of the result. A mere possibility of such causation is not enough; and when . . . the probabilities are at best evenly balanced, it becomes the duty of the court to direct a verdict for the defendant.
57. Probability is defined in this context and throughout this comment as that which is more likely than not. See Clark v. Welch, 140 F.2d 271, 273 (1944); In re Saloman's Estate, 159 Misc. 379, 384, 287 N.Y.S. 814, 820-21 (1936).
matter how negligent the doctor was and no matter how much greater the chance of survival he would have had without the negligence, the doctor will not be held liable for his death.68

The plaintiff can usually meet the preponderance standard of proof by producing any evidence that tends to make the existence or non-existence of any material fact more or less probable.68 The evidence must show it is more likely than not that the patient died as a result of the defendant’s negligence.66 As in any negligence action, the evidence must rise above speculation and conjecture.61 Most jurisdictions require expert medical testimony concerning both the lost chance and the probability that the negligence caused the victim’s death.62 If the plaintiff establishes actual cause by a preponderance of the evidence, the jury will decide whether the doctor should be held liable.63

The leading case propounding the traditional approach is Cooper v. Sisters of Charity of Cincinnati.64 In Cooper, a mother brought a wrongful death action on behalf of her son, a sixteen year-old boy. Her son was hit by a truck while riding a bicycle.65 The boy could move around unaided when he was brought to the hospital, but he was suffering from headaches and vomiting.66 Attention was called to an injury at the back of the boy’s head, but the doctor did not examine the injury, did not take his vital signs, did not use an ophthalmoscope, and did not perform a Romberg test.67 If any of these procedures had been performed, the injury would have been detected and surgery would have been performed. However, the boy was released from the hospital and he died early the next morning of a basal skull fracture, intracranial pressure and hemorrhaging.68

58. The proponents of this approach have quoted the legalese of Davis v. Goarnieri, 45 Ohio St. 470, 15 N.E. 350 (1887), as justification for requiring a preponderance standard: “It is legally and logically impossible for it to be probable that a fact exists, and at the same time probable that it does not exist.” Id. at 490, 15 N.E. at 361.
60. See supra note 53.
61. J. Wigmore, WIGMORE ON EVIDENCE § 663, at 776-77 (3d ed. 1940).
64. Cooper, 27 Ohio St. 2d 242, 272 N.E.2d 97 (1971).
65. Id. at 242, 272 N.E.2d at 99.
66. Id. at 243, 272 N.E.2d at 99.
67. Id.
68. Id. at 244-45, 272 N.E.2d at 99.
The plaintiff’s medical expert testified that the doctor failed to follow the normal procedures for examining a patient with this type of injury and that without surgical intervention there was a one hundred percent mortality rate for such injuries. He also testified: “there certainly is a chance and I can’t say exactly what—maybe somewhere around fifty percent—that he would have survived with surgery.” The Ohio Supreme Court rejected this testimony as proof of actual cause and also specifically rejected the idea of compensation for the negligent deprivation of a loss of chance.

Thus, under the traditional approach, a plaintiff cannot recover damages for a loss of chance unless he proves that the defendant caused the patient’s death. Often, as in Cooper, this means that the plaintiff cannot recover, despite clear negligence on the part of the defendant.

B. Substantial Possibility Approach

A few jurisdictions have held that the traditional approach leads to unfair results in cases involving a loss of chance. These courts do not apply the traditional “but for” test to prove actual cause in loss of chance cases. Instead, these courts use a “substantial possibility” approach. Under this view, the plaintiff can reach the jury on the

69. Id.
70. Id. at 247, 272 N.E.2d at 101.
71. Id.
72. The court stated:

In an action for wrongful death, where medical malpractice is alleged as the proximate cause of death, and plaintiff’s evidence indicates that a failure to diagnose the injury prevented the patient from an opportunity to be operated on, which failure eliminated any chance of the patient’s survival, the issue of proximate cause can be submitted to a jury only if there is sufficient evidence showing that with proper diagnosis, treatment and surgery the patient would probably have survived.

Id. at 253-54, 272 N.E.2d at 104.

The court also rejected out-of-hand the substantial possibility approach. See infra notes 75-94 and accompanying text. The court stated:

A rule which would permit a plaintiff to establish a jury question on the issue of proximate cause upon a showing of a “substantial possibility” of survival, in our judgment, suffers the same infirmity as a rule which would permit proof of a chance of recovery to be sufficient. While the substantial possibility concept appears to connote a weightier burden than the chance of recovery idea, both derogate well-established and valuable proximate cause considerations.

Cooper v. Sisters of Charity of Cincinnati, 27 Ohio St. 2d 242, 251, 272 N.E.2d at 103.

73. "[L]oss of chance of recovery, standing alone, is not an injury from which damages will flow." Id. at 250, 272 N.E.2d at 102 (quoting Kuhn v. Banker, 133 Ohio St. 2d 304, 315, 13 N.E.2d 242, 247 (1938)).

74. See King, supra note 2, at 1368.
issue of proximate cause by showing that there was a substantial possibility that the defendant's negligence was the actual cause of the patient's injury.\textsuperscript{75}

The courts using this approach apply the substantial factor test to prove actual cause.\textsuperscript{76} This test relieves the plaintiff of the burden of showing that it was more likely than not that the defendant's negligence caused the victim's death. Thus, the plaintiff need not establish that "but for" the malpractice the victim would have lived; he need only show that the physician's negligence was a substantial factor in bringing about the injury. If the plaintiff presents evidence that the doctor's negligence increased the risk of harm to the victim, and if he shows that the harm was actually sustained, the jury decides whether or not that increased risk was a substantial factor in producing the patient's harm.\textsuperscript{77}

These courts also lower the standard of proof required to establish actual cause from a probability (greater that fifty percent) to a substantial possibility.\textsuperscript{78} The extent of the possibility depends on the factual situation in the case.\textsuperscript{79}

Substantial possibility jurisdictions use the substantial factor test and a lower standard of proof because they view a loss of chance injury as an injury which increases the risk of future harm. The basis for liability for injuries of this type is codified in Restatement (Second) of Torts section 323(a).\textsuperscript{80} This section

\begin{footnotes}
\item [75] \textit{Id.} See also Herskovits v. Group Health Cooperative of Puget Sound, 99 Wash. 2d 609, 613-14, 664 P.2d 474, 476 (1983); Hicks v. United States, 368 F.2d 262, 632 (4th Cir. 1966).


\item [77] \textit{Herskovits}, 99 Wash. 2d at 615, 664 P.2d at 477; Hamil, 481 Pa. at 269, 392 A.2d at 1286. The \textit{Hamil} court also held that if the jury finds that sufficient evidence of actual cause has been presented, then proximate cause is automatically established. \textit{Id.} at 272, 392 A.2d at 1288.

\item [78] See Note, supra note 28, 519; King, supra note 2, at 1368.


\item [80] \textit{Restatement (Second) of Torts} § 323(a) (1965), states:

\begin{quote}
One who undertakes . . . to render services to another which he should recognize as necessary for the protection of the other's person or things, is subject to liability to the other for physical harm resulting from his failure to exercise reasonable care to perform his undertaking, if his failure to exercise such care increases the risk of such harm.
\end{quote}

\textit{Id.}
\end{footnotes}
recognizes] that a particular class of tort actions, of which [a loss of chance] is an example, differs from those cases normally sounding in tort. Whereas typically a plaintiff alleges that a defendant's act or omission set in motion a force which resulted in harm, the theory of [a loss of chance] case is that the defendant's act or omission failed in a duty to protect against harm from another source.81

These courts view section 323(a) as authority to relax the degree of certainty normally required to permit the plaintiff's evidence to reach the jury.82 Thus, the substantial possibility approach applies the substantial factor test and a lower standard of proof to cases involving a loss of chance.

The most recent example of the substantial possibility approach is Herskovits v. Group Health Cooperative of Puget Sound.83 In Herskovits, the decedent's wife brought a survivorship action against the Cooperative.84 The decedent visited the defendant's hospital numerous times during 1974 to complain of chest pains and coughing.85 On December 5, 1974, he was diagnosed as having a cough problem and was treated with cough medicine.86 The hospital made no further attempt to treat Mr. Herskovits other than ordering an occasional chest x-ray.87 His condition continued to worsen and he sought another medical opinion in June 1975.88 It was only then that his lung cancer was diagnosed.89

The plaintiff presented testimony which established that if the tumor was at Stage One in December 1974, the decedent's chance of a five-year survival would have been thirty-nine percent.90 As a result of the defendant's misdiagnosis, the tumor had progressed to

81. Herskovits, 99 Wash. 2d at 615, 664 P.2d at 477; see also Hamil, 481 Pa. at 269, 392 A.2d at 1286.
82. The Hamil court stated;
   Such cases by their very nature elude the degree of certainty one would prefer and upon which the law normally insists before a person may be held liable. Nevertheless, in order that an actor is not completely insulated because of uncertainties as to the consequences of his negligent conduct, Section 323(a) tacitly acknowledges this difficulty and permits the issue to go to the jury upon a less than normal threshold of proof.
84. Id. at 611, 664 P.2d at 475.
85. Id.
86. Id.
87. Id.
88. Id.
89. Id.
90. Id. at 612, 664 P.2d at 475.
Stage Two and his chance of a five-year survival had fallen to twenty-five percent. The defendant argued that the plaintiff had to prove a greater than fifty percent chance of survival at the time the negligence occurred in order to establish liability. The court rejected this contention. It held that although the decedent would have had only a thirty-nine percent chance of survival if the negligence had not occurred, the fourteen percent reduction of his chance of survival was sufficient evidence of actual cause to allow the causation issue to go to the jury.

On a conceptual level, the substantial possibility approach and the traditional approach are the same; both view the victim's death as the injury. However, the substantial possibility approach increases the plaintiff's chances of showing that the defendant's negligence caused the victim's death. Nonetheless, neither approach recognizes a separate tort for loss of chance.

C. Compensation Approach

The compensation approach proposes a change in the concept
of loss of chance. Under this view, the lost chance for survival or recovery constitutes a separate, compensable injury. Either the patient or his estate is entitled to bring suit.

The justification for this view is stated in a well-known passage in *Hicks v. United States*:

> [W]hen a defendant's negligent action or inaction has effectively terminated a person's chance of survival, it does not lie in the defendant's mouth to raise conjectures as the measure of the chances that he has put beyond the possibility of realization. If there was any substantial possibility of survival and the defendant has destroyed it, he is answerable. Rarely 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.

This approach applies the traditional preponderance of the evidence standard of proof. Thus, the plaintiff would be required to prove by a preponderance of the evidence that the defendant negligently deprived the victim of a chance of recovery. If the jury finds that the defendant's negligence probably caused the decedent to lose a chance recovery, the plaintiff can recover for the chance that the defendant destroyed.

Under the compensation approach, the decedent's estate can be compensated for any damages which flow from the doctor's malpractice even though the decedent probably died as a result of his pre-existing illness. These damages could include increased pain due to aggravation of the injury, loss of earnings that he would have

---

96. See King, *supra* note 2, at 1376.
97. See id. at 1363-64; see also *supra* note 13.
98. 368 F.2d 626 (4th Cir. 1966).
99. Id. at 632.
100. The only comprehensive system for compensating a loss of chance has been proposed by Professor Joseph King. See *supra* note 95; King, *supra* note 2, at 1381-96. Professor King's proposals are primarily concerned with valuation of the lost chance. He does not specifically address the issue of actual cause or several other issues discussed in this comment. However, he does advocate using the preponderance standard of proof. Id. at 1394-95. See also *supra* note 95.
102. Id. at 1364.
received had his life expectancy not been shortened,\textsuperscript{103} mental and emotional distress resulting from concern over anticipated future consequences of the malpractice,\textsuperscript{104} loss of the opportunity for earlier and more effective treatment,\textsuperscript{105} loss of the opportunity to benefit from potential scientific break-throughs,\textsuperscript{106} and, of course, loss of the victim's chance of surviving the illness.\textsuperscript{107} Any other damages appropriate to the loss of chance setting could also be included. Thus, the compensation approach does not compensate the plaintiff for all the damages resulting from the decedent's death, but only for those damages flowing from the decedent's decreased or lost chance of survival.\textsuperscript{108}

The compensation approach proposes two ways to value damages.\textsuperscript{109} Under the "single outcome method,"\textsuperscript{110} the plaintiff's compensation is based on the percentage chance-of-survival the victim would have had with proper diagnosis and treatment multiplied by the compensable value of the victim's life had he survived.\textsuperscript{111} The value of the patient's life is based on such factors as age, health, and earnings.\textsuperscript{112}

The second method of valuing damages is the "expected value"

\textsuperscript{103} See Herskovits, 99 Wash. 2d at 619, 664 P.2d at 479.

\textsuperscript{104} See Evers v. Dollinger, 95 N.J. 399, 400, 471 A.2d 405, 411 (1984). The Evers case involved a related concept called "increased risk of recurrence." In a case involving increased risk, the physician's negligence causes the patient an increased risk that the illness will recur at some point in the future. See supra note 13. For examples of other increased risk cases see Davis v. Gravis, 672 S.W.2d 928 (1984); Jordan v. Bero, 158 W.Va. 28, 210 S.E.2d 618, 640-41 (1974) (Neely, J., concurring); Feist v. Sears, Roebuck & Co., 267 Or. 402, 517 P.2d 675 (1973).


\textsuperscript{106} See King, supra note 2, at 1382.

\textsuperscript{107} Id.

\textsuperscript{108} Herskovits, 99 Wash. 2d at 632, 664 P.2d at 485 (Pearson, J., concurring).

\textsuperscript{109} See King, supra note 2, at 1382-84.

\textsuperscript{110} Id. at 1382-83.

\textsuperscript{111} Id.

\textsuperscript{112} Id. at 1383. Professor King provides the following example based on his single outcome formula. For example, a plaintiff blinded by defendant's negligence would proceed as follows:

Initially, the trier of fact would determine the most likely time of onset of blindness. Assume that if blindness does result in the future, the most likely age of onset for this particular plaintiff would be age fifty. Assume further that if blindness does occur at age fifty, the loss attributable to that condition would be one hundred thousand dollars [$100,000]. Because, however, it is not certain that the injury will result in blindness, it would not be appropriate to award the full one hundred thousand dollars [$100,000]. If the probability that the injury will result in blindness at any time is thirty percent, one might value the chance at thirty thousand dollars [$30,000].

Id.
or "weighted mean" computation.\textsuperscript{113} This method computes a weighted average of all possible outcomes based on the likelihood of their occurrence, and then adds these totals up to arrive at a value.\textsuperscript{114}

These three approaches embody the current methods to evaluate cases involving loss of chance. Each approach, however, involves drawbacks. These approaches should be carefully analyzed so that the problems inherent in each can be recognized and avoided.

IV. Cross-analysis

Three major themes run through the current approaches to loss of chance cases: the application of traditional causation principles and standards of proof, the role of the jury, and policy considerations. A thorough analysis of loss of chance must include an evaluation in terms of these themes.

A. Causation Principles and Standards of Proof

1. Traditional Approach

The traditional approach adheres to well-established causation principles.\textsuperscript{115} This approach requires actual cause to be shown by the "but for" test and to be proved by a preponderance of the evidence.\textsuperscript{116} Because no recovery for the lost chance itself is allowed, a case involving loss of chance must be brought as a wrongful death action.\textsuperscript{117} As such, in order to recover damages, the plaintiff must show that but for the doctor's misdiagnosis, the decedent probably would have survived.\textsuperscript{118} The application of traditional causation

\textsuperscript{113} Id. at 1384.
\textsuperscript{114} Id. Professor King provides this example to explain his expected value formula: \textbf{\textit{[A]ssume, in an admittedly oversimplified set of facts, that as a result of [a]n accident there is a 25% chance of the onset of injury-induced blindness occurring at fifty years of age, a 4% chance at forty, a 1% chance at thirty, and a 70% chance that such blindness would never result. Assume further that these are the only possible outcomes. Finally, assume that if blindness occurs at age fifty the loss would be $100,000; if at age forty, $200,000; and if at age thirty, $300,000. Under the expected-value approach, the chance would be valued by aggregating the possible outcomes discounted to reflect their degree of likelihood. Thus, we would add $25,000 (25% of $100,000), $8000 (4% of $200,000), $3000 (1% of $300,000), and $0 (70% of 0), giving a total value of the chance of injury-induced blindness of $36,000.}}
\textit{Id.}
\textsuperscript{115} Id. at 1365-68.
\textsuperscript{116} See supra notes 54-63 and accompanying text.
\textsuperscript{117} See supra note 52 and accompanying text. See also Wolfstone & Wolfstone, supra note 4, at 138.
\textsuperscript{118} B. Smartel & M. Plant, supra note 31, at 147.
principles thus can prevent the plaintiff from recovering damages despite the defendant's negligence.

No conceptual problems exist with this approach; it is faithful to established causation principles. However, strict adherence to these principles unfairly denies compensation to plaintiffs who have suffered an injury.\(^{119}\) These plaintiffs have been deprived of a benefit due to the defendant's negligence. They should not be denied redress simply because their injury is somewhat less tangible than those injuries involved in traditional negligence cases. Moreover, this approach is arbitrary.\(^{120}\) A plaintiff whose lost chance rises above the applicable standard of proof can be compensated. Yet, a plaintiff with the identical injury (the lost chance), but whose specific degree of lost chance is not greater than fifty percent cannot be compensated. The plaintiff's ability to recover damages, therefore, hinges on the fortuitous timing of his physical examination. If he happens to be misdiagnosed by his doctor during the earlier stages of his disease, his chances of recovering damages are greater than if he is misdiagnosed during the later stages. Such random and arbitrary results cannot be justified.

2. Substantial Possibility Approach

Strict adherence to causation principles is less important under the substantial possibility approach than under the traditional approach.\(^{121}\) The substantial possibility approach applies the substantial factor test to the actual cause question\(^{122}\) and allows the issue of causation to go to the jury on a lower standard of proof.\(^{123}\) This approach attempts to mitigate the harshness of the traditional approach by easing the plaintiff's evidentiary burden.\(^{124}\) Many courts support the relaxed actual cause test and its lower standards of proof because of policy considerations.\(^{125}\)

Despite its appeal, the substantial possibility approach is also inadequate because it offends traditional causation principles. The substantial factor test was designed primarily for specialized situa-

\(^{119}\) See Wolfstone & Wolfstone, supra note 4, at 138.

\(^{120}\) See King, supra note 2, at 1376-77.

\(^{121}\) See Herskovits, 99 Wash. 2d at 613-17, 664 P.2d at 476-78; Hamil, 481 Pa. at 264-73, 392 A.2d at 1284-86. See generally King, supra note 2, at 1368-69 n.53.

\(^{122}\) See supra notes 76-77 and accompanying text.

\(^{123}\) See supra notes 78-79 and accompanying text.

\(^{124}\) See Hamil, 481 Pa. at 267, 271, 392 A.2d at 1285, 1287; Hicks v. United States, 368 F.2d 626, 632 (4th Cir. 1966); Herskovits, 99 Wash. 2d at 613-17, 664 P.2d at 477-78.

\(^{125}\) See Herskovits, 99 Wash. 2d at 614, 664 P.2d at 491 (Dolliver, J., dissenting). See generally King, supra note 2, at 1368-69 n.53.
tions in which the "but for" test would allow each defendant to avoid liability.\textsuperscript{126} It should not be used in all circumstances.\textsuperscript{127} The substantial factor test was meant to apply only when the conduct of each defendant alone would be sufficient to cause the plaintiff's harm.\textsuperscript{128} When an injury would have occurred notwithstanding the defendant's conduct, by definition, the defendant's acts cannot be a substantial factor in causing that injury.\textsuperscript{129} Thus, in a loss of chance setting, a doctor's negligence cannot be a substantial factor in causing a patient's death if the patient would have died anyway.\textsuperscript{130} Moreover, the substantial factor test was not designed to be used when the victim is one of the causes of the injury.\textsuperscript{131} In effect, application of the substantial factor test in loss of chance situations distorts traditional causation principles.

The lower standard of proof used in the substantial possibility approach also offends traditional causation principles.\textsuperscript{132} This approach allows a loss of chance case to go to the jury upon a showing of a possibility of actual cause. According to traditional causation principles, such a showing should result in a directed verdict for the defendant.\textsuperscript{133}

3. \textit{Compensation Approach}

Those who argue that a loss of chance should be a separate cause of action need not distort traditional causation principles. They

\begin{itemize}
  \item \textsuperscript{126} W. KEETON, D. DOBBS, R. KEETON & D. OWENS, supra note 15, § 41, at 267. See Smith, supra note 33, at 223-29.
  \item \textsuperscript{127} W. KEETON, D. DOBBS, R. KEETON & D. OWENS, supra note 15, § 41, at 267-68.
  \item \textsuperscript{128} Id.
  \item \textsuperscript{129} Id. at 268; Herskovits, 99 Wash. 2d at 638, 664 P.2d at 491 (Brachtenbach, J., dissenting); Texas & Pacific R.R. Co. v. McCleery, 418 S.W.2d 494, 497 (Tex. 1967).
  \item \textsuperscript{130} "A defendant's tort cannot be considered a legal cause of plaintiff's damage, if that damage would have occurred just the same even though the defendant's tort had not been committed." Smith, supra note 33, at 312. See Herskovits, 99 Wash. 2d at 638, 664 P.2d at 489; W. KEETON, D. DOBBS, R. KEETON & D. OWENS, supra note 15, § 41, at 267-68.
  \item \textsuperscript{131} The pre-existing illness of the plaintiff is a cause of the injury. See Herskovits, 99 Wash. 2d at 638, 664 P.2d at 489 (Brachtenbach, J., dissenting). See generally W. KEETON, D. DOBBS, R. KEETON & D. OWENS, supra note 15, § 41, at 267-68.
  \item \textsuperscript{132} See King, supra note 2, at 1377.
  \item \textsuperscript{133} [The plaintiff] must introduce evidence which affords a reasonable basis for the conclusion that it is more likely than not that the conduct of the defendant was a substantial factor in bringing about the result. A mere possibility of such causation is not enough; and when . . . the probabilities are at best evenly balanced, it becomes the duty of the court to direct a verdict for the defendant.
\end{itemize}
simply redefine what constitutes the injury.\textsuperscript{134} The loss of chance itself, rather than the death of the patient, constitutes the injury. The compensation approach requires that the lost chance be established by a preponderance of the evidence.\textsuperscript{135} Thus, if the jury finds that the doctor's negligence probably caused the decedent to lose a chance of recovery, the plaintiff can recover damages for that injury.\textsuperscript{136} No deviation from traditional causation principles occurs.

At the same time, fairness to the plaintiff is maintained.\textsuperscript{137} The plaintiff is justly compensated for the injuries he incurred. He is not barred from recovery by rigid causation principles. This approach is appealing because it follows traditional causation principles and, at the same time, promotes fairness to the plaintiff.

B. Role of the Jury

The three approaches also differ with respect to the roles of jury and judge.\textsuperscript{138} In an ordinary negligence case, the jury alone determines causation.\textsuperscript{139} Moreover, the jury values the damages awarded to the plaintiff.\textsuperscript{140} It values damages based on both the evidence presented and on its collective conscience.\textsuperscript{141} However, a loss of chance case is not an ordinary negligence case.\textsuperscript{142} Consequently, the three approaches assign different functions to the jury.

1. \textit{Traditional Approach}

Under the traditional approach, the plaintiff must introduce enough evidence to establish that the defendant's misdiagnosis probably caused the victim's death.\textsuperscript{143} The judge determines whether the plaintiff's evidence is sufficient.\textsuperscript{144} If the judge decides the evidence is insufficient, he directs a verdict for the defendant.\textsuperscript{145} However, if the

\textsuperscript{134} See generally King, supra note 2, at 1394-95.
\textsuperscript{135} See King, supra note 2, at 1394-95.
\textsuperscript{136} Id. at 1371-72.
\textsuperscript{137} For an explanation of the actual cause test used by this approach, see supra note 100.
\textsuperscript{138} While the role of the judge is not an independent theme in loss of chance approaches, the judge's role is one aspect of the function of the jury. Thus, the judge's role will be discussed when it is affected by the function of the jury.
\textsuperscript{139} See J. Dooley, Modern Tort Law § 8.02, at 226 (1982).
\textsuperscript{140} See C. McCormick, supra note 8, § 16, at 62.
\textsuperscript{141} Id. § 16, at 64.
\textsuperscript{142} See Hamil, 481 Pa. at 269, 392 A.2d at 1286-87.
\textsuperscript{143} See supra note 60.
\textsuperscript{144} W. Keeton, D. Dobbs, R. Keeton & D. Owen supra note 15, § 37, at 237.
\textsuperscript{145} Id.
court determines that the evidence is sufficient, the case goes to the jury.\textsuperscript{146} The jury then decides whether the defendant should be held liable,\textsuperscript{147} and if so, it determines the amount of compensation.\textsuperscript{148} The plaintiff’s damages are valued by the jury based on the evidence presented and the jury’s conscience.\textsuperscript{149}

Under the traditional approach, no conceptual deficiencies exist regarding the role of the jury. Because this approach does not view a lost chance as a separate injury, the role of the jury is the same as in any negligence action.\textsuperscript{150}

However, under the traditional approach, conceptual deficiencies regarding the role of the judge can result in unfairness to the plaintiff. Under this approach, the role of the judge can operate to effectively bar the plaintiff from reaching the jury. The plaintiff is required to prove actual cause to the court’s satisfaction.\textsuperscript{151} As a result, plaintiffs who cannot meet the rigid actual cause standard are denied compensation for the harm they suffer. Thus, although the jury functions normally, the end result is unfair to many plaintiffs who are also negligently deprived of a chance of survival.

2. \textit{Substantial Possibility Approach}

The jury’s role in determining actual cause under the substantial possibility approach is considerably different from its role under the traditional approach. The differences arise from each approach’s view of a loss of chance injury. The traditional approach does not consider the lost chance to be a special type of injury.\textsuperscript{152} The substantial possibility approach, on the other hand, views a loss of chance as falling within Restatement (Second) of Torts section 323(a).\textsuperscript{153} Applying Restatement section 323(a) allows the jury to determine whether the evidence is sufficient to constitute actual cause.\textsuperscript{154} In effect, section 323(a) relaxes the degree of certainty the

\textsuperscript{146} \textit{Id}. § 45, at 320.
\textsuperscript{147} \textit{See id.} at 319-21.
\textsuperscript{148} \textit{See supra} note 140.
\textsuperscript{149} \textit{See supra} notes 140-41.
\textsuperscript{150} \textit{W. Keeton, D. Dobbs, R. Keeton & D. Owen, supra} note 15, § 36, at 235.
\textsuperscript{151} The plaintiff is required to prove that the victim probably would have lived but for the defendant’s negligence in order to reach the jury. \textit{See supra} note 6. Plaintiffs whose chances of survival were less than 50% when the negligence occurred are not allowed to recover any damages. These plaintiffs cannot even take their case to the jury. \textit{See supra} note 53.
\textsuperscript{152} \textit{See King, supra} note 2, at 1365.
\textsuperscript{153} \textit{See supra} notes 80-82 and accompanying text.
\textsuperscript{154} \textit{See Herskovitz, 99 Wash. 2d at 613, 664 P.2d at 476; Hamil, 481 Pa. at 269, 392 A.2d at 1286.}
plaintiff must normally show in order to reach the jury.\textsuperscript{155}

If the plaintiff introduces sufficient evidence to establish that the doctor's negligence resulted in a loss of chance of recovery for the patient, the substantial possibility approach allows the jury, not the court, to make the connection between the lost chance and actual cause.\textsuperscript{156} The court, presumably, cannot take the case away from the jury by determining that the evidence of actual cause is insufficient.\textsuperscript{157} Moreover, some courts hold that if the jury finds that actual cause has been established, the necessary proximate cause requirement is automatically satisfied.\textsuperscript{158} Finally, once the jury determines that the defendant is negligent, it values damages by the same method used under the traditional approach.

The substantial possibility approach always allows the plaintiff to reach the jury on the issue of actual cause. As a result, more injured plaintiffs are compensated under this approach than under the traditional approach.\textsuperscript{159} While this outcome is desirable, the substantial possibility approach distorts the traditional function of the jury in order to achieve fairness for the plaintiff. Furthermore, this approach does not consider a lost chance to be a separate, compensable injury.\textsuperscript{160} Consequently, many plaintiffs with loss of chance injuries remain uncompensated because they cannot establish actual cause.

3. Compensation Approach

In cases involving a lost chance of recovery, the compensation approach considers the lost chance to be the injury and compensates that loss directly.\textsuperscript{161} Consequently, the role of the jury under this approach is different in some respects from its role under the other two approaches.

Because the lost chance itself is the injury, the jury's role in determining actual cause is not different from the jury's role in an ordinary negligence action.\textsuperscript{162} The jury decides if the doctor's negligence is probably the actual cause of the patient's loss of chance.\textsuperscript{163}

\begin{itemize}
\item \textsuperscript{155} \textit{Hamil}, 481 Pa. at 269, 392 A.2d at 1286.
\item \textsuperscript{156} \textit{Id.} See \textit{Kallenberg v. Beth Israel Hosp.}, 45 A.D.2d 177, 180, 357 N.Y.S.2d 508, 511 (1974).
\item \textsuperscript{157} No cases involving non-suits for failing to establish actual cause have been reported in substantial possibility jurisdictions.
\item \textsuperscript{158} \textit{Hamil}, 481 Pa. at 272, 392 A.2d at 1288.
\item \textsuperscript{159} \textit{See King, supra} note 2, at 1368 n.52.
\item \textsuperscript{160} \textit{Id.}
\item \textsuperscript{161} \textit{See supra} note 96.
\item \textsuperscript{162} \textit{See supra} note 2, at 1395.
\item \textsuperscript{163} \textit{Id.}
\end{itemize}
The court presumably reserves the right to non-suit if the court finds that the plaintiff’s evidence is insufficient to establish actual cause. In this way, the compensation approach assigns traditional functions to the jury.

However, the role of the jury in valuing compensation differs considerably from its role under the two other views. Under the other two approaches, as in all negligence cases, the jury assesses damages based both on the evidence presented and on its collective conscience. Under the compensation approach, although the jury decides whether to award damages, the valuation of those damages is done “within specific guidelines and parameters set by the court.” The jury is given a set of figures that represents the calculated value of the decedent’s life. The jury must then multiply this figure by the percentage chance of survival which was lost in order to arrive at a compensation figure.

Problems exist, however, because the formulas used to value the plaintiff’s damages are complex and may be confusing to the jury. These formulas are rigidly mathematical. A probability expert would be required to testify about the particular formulas used to determine the valuation figures. Furthermore, these valuation methods are inappropriate at the trial level because the figures used to compute the value of the victim’s life are highly speculative. Finally, the jury is not free to disregard these figures and value the chance using alternative methods. Thus, the jury becomes a “rubber stamp.” This distorts the traditional role of the jury and is the major drawback of this approach.

164. See id. See also supra note 100.
165. See supra notes 139-41 and accompanying text.
166. Id.
167. See King, supra note 2, at 1382.
168. See id. at 1393-94; supra notes 110-14 and accompanying text.
169. See King, supra note 2, at 1393-94. See also supra notes 110-14 and accompanying text.
170. See supra notes 110-14 and accompanying text.
171. See King, supra note 2, at 1385.
172. Professor King admits that his more precise, “expected value” concept involves “a virtually unlimited number of permutations that would have to be weighted before they could be aggregated to arrive at the value of the chance.” King, supra note 2, at 1384.
173. See King, supra note 2, at 1385 n.106.
174. See King, supra note 2, at 1383-84. Professor King never really describes how the expected value of one’s life is calculated. The figures in his hypothetical are chosen arbitrarily. He proposes no method to calculate the figures that he provides. In any event, these figures cannot be calculated with the degree of accuracy which is necessary to implement King’s proposals.
175. See generally id. at 1381-82.
C. Policy Considerations

The final theme running through the three approaches to the loss of chance issue involves policy considerations. At the root of the differences between the three approaches are policy considerations which should not be underestimated.

1. Traditional Approach

Courts generally embrace the "but for" test and the preponderance standard in an attempt to limit potential injustice. If a case reaches the jury without sufficient evidence that the physician’s negligence caused the decedent’s death, unjust verdicts may result. Liability could be imposed in many instances involving a patient who would have died even if the doctor had not been negligent. Thus, many courts find that fairness supports adopting the traditional approach.

Moreover, the traditional approach finds no reason to "derogate well-established and valuable [causation] principles." The use of a strict level of causation deters frivolous lawsuits and avoids placing blame on a doctor merely because he fails to find a cure.

While this approach is consistent with traditional causation principles, it is inconsistent with other tort principles and values. Liability for tortious conduct deters people from acting negligently and encourages them to act carefully. The traditional approach subverts this deterrence objective of tort law by allowing the defendant to insulate himself from the consequences of his actions.

176. See Herskovits, 99 Wash. 2d at 642, 664 P.2d at 491 (Brachtenbach, J., dissenting); Cooper, 27 Ohio St. 2d at 251-52, 272 N.E.2d at 103.
177. See Herskovits, 99 Wash. 2d at 642, 664 P.2d at 491 (Brachtenbach, J., dissenting); Cooper, 27 Ohio St. 2d at 251, 272 N.E.2d at 103.
178. Cooper, 27 Ohio St. 2d at 251, 272 N.E.2d at 103.

Justice Brachtenbach stated:

The physician serves a vital function in our society, a function which requires the assumption of a duty to the patient. Yet, his profession affords him only an inexact and often experimental science by which to discharge his duty. Moreover, the tendency to place blame on a physician who fails to find a cure is great.

Id.

180. Liability is imposed on those whose negligent conduct injures another. The imposition of liability for tortious conduct serves to deter people from acting negligently. See Rosenberg, supra note 38, at 861 & n.51; Pierce, Encouraging Safety: The Limits of Tort Law and Government Regulation, 33 Vand. L. Rev. 1281, 1281 (1980).
181. See King, supra note 2, at 1377.
182. Herskovits, 99 Wash. 2d at 616, 664 P.2d at 477.
Finally, the traditional approach fails to properly allocate losses. When a physician’s conduct causes a loss of chance, the traditional approach allows compensation only if the lost chance is the cause of death. As a result, many victims are not compensated for their lost chances. In effect, the loss is allocated to the victim rather than to the tortfeasor. This failure to properly allocate these losses "undermines the whole range of functions served by the causation-valuation process and strikes at the integrity of the tort system of loss allocation."

2. Substantial Possibility Approach

The substantial possibility approach emerged because of dissatisfaction with the traditional approach. Many courts blamed causation standards for the problem of unfairness to the plaintiff. Consequently, these standards were adjusted.

Under the substantial possibility view, the defendant cannot insulate himself from the consequences of his actions. This approach encourages physicians to use greater care than they might use under the other two approaches because the risk of liability is greater. Thus, this approach is consistent with the deterrence aspect of tort law.

Although this approach to loss of chance seems conceptually appealing, it too raises a number of problems. The substantial possibility approach manipulates and distorts traditional causation principles. It misapplies the substantial factor test and allows the case to reach the jury on less than a preponderance of the evidence. The distortion of the causation analysis leads to confusion in the law.

Because the substantial possibility approach fails to recognize loss of chance as an independent compensable injury, the allocation of losses under this approach is no more fair than it is under the traditional approach. The substantial possibility view often fails to
compensate for a lost chance. Moreover, in many instances, the substantial possibility approach allocates losses less efficiently than does the traditional approach. The defendant is often held liable for the wrongful death of a patient who would have died notwithstanding the defendant's negligence. In these situations, the defendant must compensate the plaintiff for the death of the victim rather than just for the loss of chance. The substantial possibility approach thus allows a few more plaintiffs to reach the jury than under the traditional approach, but at the expense of fairness to the defendant and strict conformity to traditional causation principles.

3. Compensation Approach

Many of the same policy considerations underlying the substantial possibility approach are embraced by advocates of the compensation approach. Both views are responses to dissatisfaction with the traditional approach. Both views encourage compensation for victims' losses and, through deterrence, they discourage negligent conduct. The differences between the two views lie in the implementation of these policies. The substantial possibility approach eases the causation test and lowers the standard of proof so that the plaintiff can reach the jury more easily. The compensation approach, on the other hand, allows the plaintiff to recover for the loss of chance itself.

The two views also differ in that the compensation approach is consistent with other traditional tort principles. It requires actual cause to be established by a preponderance of the evidence. This approach efficiently allocates losses. It determines exactly what was lost and compensates that loss accordingly. Moreover, this approach is equally fair to plaintiffs and defendants. It does not sub-
ject the defendant to unnecessary liability; yet it compensates plaintiffs for their losses. Thus, this approach achieves fairness for both plaintiffs and defendants without offending traditional causation principles.

Policy considerations weigh heavily in favor of establishing a separate cause of action for compensating a loss of chance. Problems arise, however, in implementing these policies. The compensation approach sacrifices practicality in an attempt to attain mathematical accuracy. Moreover, using the jury to rubber-stamp complex mathematical probabilities which it may not understand distorts the traditional jury function, making the compensation approach unattractive.

V. PROPOSAL

The problems associated with each of the current approaches demonstrate that a new approach is warranted. Such an analysis must preserve the benefits of the current approaches and avoid their deficiencies. It must equitably compensate victims and their families for harm suffered without unfairly subjecting physicians to undeserved liability. The new approach must be consistent with existing causation principles and tort policies. Finally, it must be practical at the trial level.

A. Recognize a Cause of Action for Loss of Chance

The compensation approach views the loss of chance itself as the injury and compensates the victim for his injuries. At the same time, it allocates losses in an equitable manner. However, this approach is impractical and complex. It sacrifices workability and practicality for alleged accuracy. Consequently, no reported decision has adopted the compensation approach. Nevertheless, the idea of compensating the loss of chance directly is the best solution to the loss of chance problem and it should be adopted in a modified form.

199. Id.
200. See supra notes 170-75 and accompanying text.
201. Id.
202. Id.
203. But cf. Herskovits, 99 Wash. 2d at 625-32, 664 P.2d at 479-87 (Pearson, J., concurring) (Justice Pearson advocates adopting Professor King's compensation approach). "The best resolution of the issue before us is to recognize the loss of a less than even chance as an actionable injury." Id. at 630, 664 P.2d at 487.
Currently, several situations exist involving medical malpractice in which a cause of action for loss of chance can and should be applied. A lost chance cause of action should be applied to those medical malpractice cases in which science has developed fairly accurate mathematical estimates for chances of recovery.

For example, misdiagnosis of heart disease and cancer are especially suitable for a loss of chance cause of action. The medical community’s sophistication concerning these illnesses is increasing. Moreover, early detection of these illnesses is very important in limiting their severity. The increasing volume of knowledge concerning cancer makes it easier and simpler to detect the disease. It is now possible to determine the growth rate of cancer and to differentiate specific stages of harm. Experts can now testify, with a reasonable degree of medical certainty, about information relating to loss of chance: when the cancer could have been detected by a reasonably prudent physician, when the cancer metastasized, at what stage the cancer was in when the doctor failed to diagnose it, how serious the cancer was when the diagnosis was finally made, the injury caused by the growth of the cancer as a result of the lack of proper care, and the chance of survival which was lost as a result of the malpractice.

204. Professor McCormick’s theories were originally designed for contract cases. See C. McCormick, supra note 8, at 117-23; Professor King’s theories are not designed to be limited to medical malpractice cases but are designed to be applied to all situations in which chance can be valued. See King, supra note 2, at 1354.

205. This effectively means that primarily only cancer and heart disease cases fall within this criteria. However, this solution is designed to account for medical science advances and if other illnesses later become susceptible to quantification of chance, they too may be included.


208. Id. §§ 14.2-14.3, at 236-41.

209. See Evers, 95 N.J. at 404, 471 A.2d at 408; 99 Wash. 2d at 612, 664 P.2d at 475.


211. Id. at 238-41.


213. See Evers, 95 N.J. at 404-405, 471 A.2d at 408; Herskovits, 99 Wash. 2d at 612, 664 P.2d at 475.

214. See Herskovits, 99 Wash. 2d at 612, 664 P.2d at 475. See also Evers, 95 N.J. at 405, 471 A.2d at 408 (expert testimony as to increased risk of recurrence); see supra note 104.
Establishing a cause of action for loss of chance in these types of cases will benefit both medical science and patients. Early diagnosis of cancer enhances the patient's chance of survival. Establishing liability for loss of chance of recovery will motivate doctors to closely scrutinize any symptoms of these diseases and will encourage them to be more careful and thorough in their examinations. Thus, in situations in which it is more likely than not that the decedent died as a result of his illness, but was deprived of a chance of recovery due to the defendant's negligence, suit should be brought under a loss of chance cause of action.

However, in situations in which it is more likely than not that the defendant's negligence actually caused the victim's death, plaintiffs should not be allowed to bring a loss of chance cause of action. Wrongful death statutes provide such plaintiffs with an adequate and efficient means of procuring compensation. Finally, when it is unclear before trial whether the doctor or the pre-existing illness caused the injury, the plaintiff should be allowed to plead both causes of action in the alternative. If the plaintiff is pleading in the alternative, the jury, when charged, should be instructed that if they find that the doctor's negligence caused the death, they may award full wrongful death compensation. However, if they find that the decedent's pre-existing illness actually caused the death, but he was deprived of a measurable chance of survival, they can only compensate the plaintiff for the lost chance.

Creating a loss of chance tort under the foregoing conditions properly allocates losses by allowing the plaintiff to recover for injuries suffered. These conditions avoid subjecting the defendant to unwarranted liability. In addition, a loss of chance cause of action under these conditions is consistent with the deterrence aspect of tort law because the tortfeasor is not permitted to escape liability when he harms someone.

B. Causation: Create an Inference of Loss of Chance

Traditional causation principles should be applied in a loss of

215. "Most specialists in clinical cancer feel very strongly that the earlier one makes diagnosis of cancer, the greater is the chance for cure." CLINICAL ONCOLOGY FOR MEDICAL STUDENTS AND PHYSICIANS 33 (P. Rubin 3d ed. 1970-71) (cited and quoted in Evers, 95 N.J. at 424-25 n.2, 471 A.2d at 419 n.2); see CLINICAL ONCOLOGY 4 (J. Horton and G. Hill eds. 1977).

216. However, in jurisdictions which have no wrongful death statute, the plaintiff should be able to bring a loss of chance action. Compensation in this situation should amount to full wrongful death damages.
chance tort. This would avoid the drawbacks of the substantial possibility approach without impairing the plaintiff's ability to reach the jury. Thus, the plaintiff should be required to establish by a preponderance of the evidence that but for the doctor's negligence, the patient would not have suffered a loss of chance. This showing will almost always require expert medical testimony, which is consistent with the existing requirements of proof in any medical malpractice case.217

A showing of harm218 should then establish an inference of loss of chance. This inference would shift the burden to the defendant to show which damages were caused by the pre-existing condition and which damages were caused by the physician's negligence. Shifting the burden in medical malpractice cases is not new.219 In Fosgate v. Corona,220 the court stated:

Where the malpractice involves treatment of a pre-existing disease, the assessment of damages poses a problem, because of the practical difficulty in separating that part of the harm caused by the malpractice from the pre-existing disease and its normal consequences. Because of this, courts are now taking the view that in a situation where malpractice or other tortious act aggravates a pre-existing disease or condition, the innocent plaintiff should not be required to establish what expenses, pain, suffering, disability or impairment are attributable solely to the malpractice or tortious act, but that the burden of proof should be shifted to the culpable defendant who should be held responsible for all damages unless he can demonstrate that the damages for which he is responsible are capable of some reasonable apportionment and what these damages are.221

218. For a view that it should be considered common knowledge that injury results from delayed treatment, see Evers, 95 N.J. 399, 426-27 nn.2-6, 471 A.2d 405, 419-20 nn.2-6 (Handler, J., concurring).
219. See Matsumoto v. Kaky, 484 P.2d 147 (Hawaii 1971) (in which the plaintiff with a pre-existing disease condition suffered injuries from defendant's negligence, and damages resulting from disease and injury could not be apportioned, defendant was be liable for the entire amount of damages); Graham v. Roberts, 441 F.2d 995 (1970) (dentists, whose negligence allowed plaintiff's pre-existing disease to spread to a more serious stage, had burden of apportioning which damages were attributable to his negligence); Mudd v. Dorr, 574 P.2d 97 (Colo. Ct. App. 1977) (sponge left in patient after surgery creates rebuttable presumption of negligence); Beaudoin v. Watertown Mem. Hosp., 32 Wis. 2d 132, 145 N.W.2d 166 (1966) (shifting of burden of proof in res ipsa loquitur cases).
221. Id. at 272-73, 330 A.2d at 358.
The inference of a lost chance prevents defendants from using the nature of the injury to insulate themselves from liability. Thus, it is consistent with both the deterrence and allocation functions of tort law. Moreover, the inference of loss of chance preserves the conceptual integrity of traditional causation analysis.

C. **Allow the Jury to Determine Damages**

In applying the proposed loss of chance approach, the jury alone should determine compensation. The jury should be allowed to weigh the evidence and apply its common sense to determine compensation for the plaintiff. This jury function is consistent with the jury’s traditional role. Moreover, this allocation of jury functions is practical at the trial level because the use of complex probabilities and speculative statistics will be unnecessary.

Furthermore, the damages awarded by the jury under this proposal are no less accurate than under the compensation approach. The compensation approach forces the jury to multiply and add figures provided by witnesses and the court.222 The value of a person’s life cannot be quantified beyond any reasonable degree of certainty.223 Thus, any evaluation will be arbitrary. The arbitrary figure of a jury is preferable to the arbitrary figure of either the plaintiff’s or the defendant’s paid witnesses. In addition, appropriate jury instructions can remind the fact-finders that they are compensating only the lost chance of recovery and not the wrongful death of the victim.

The jury will value loss of chance damages in the same way it values damages in ordinary medical malpractice cases. As a result, economic evidence pertaining to loss of wages should be presented to the jury. Evidence of pain and suffering, emotional distress and other intangibles should also be presented. However, in valuing the loss of chance itself, juries will have to take into account the specific facts and circumstances surrounding the case. Such factors should include: the grievousness of the malpractice, the age, health and family of the patient, his prospects for recovery had there been no negligence, the simplicity of the procedures which would have detected the injury and various other intangible information which the jury deems relevant.

Historically, the jury determines the size of compensation

222. *See* King, *supra* note 2, at 1382-84.
223. *Id.*
awards in personal injury suits, and, in many instances, these awards have involved intangible damages. In addition, the civil litigation system provides the inherent safeguards of trial level motions and appellate review to monitor the size of jury verdicts. Therefore, no reason exists to remove this traditional jury function.

With respect to damages, the plaintiff should not be restricted to any particular type of compensation. For example, if the jury finds it difficult to quantify the lost chance, it should still be allowed to award compensation for pain, suffering, mental anguish, unnecessary medical expenses, and so forth. Similarly, if other damages are too speculative, the jury should be allowed to award compensation only for the loss of chance and not for other losses. The amount of damages should be left to the jury's discretion.

VI. Conclusion

The foregoing approach can be applied to the hypothetical described in the introduction. Mrs. Olsen's estate will be able to reach the jury on her claims for damages, including the nineteen percent lost chance of recovery, if expert testimony establishes that she was harmed by the doctor's negligence. This testimony will establish an inference of loss of chance and shift the burden of apportioning damages to the negligent defendant. The jury has the discretion to determine the amount of the recovery. The proposed approach will adequately compensate victims and their estates for losses suffered. It will equitably allocate losses, without exposing physicians to unwarranted liability. This new approach is consistent with traditional causation principles and the traditional function of the jury, and, it is practical at the trial level.

Jonathan D. Wolf

224. See C. McCormick, supra note 8, § 6, at 24-28.
225. Id. §§ 26-27, at 99-104.
226. Such motions include judgment notwithstanding the verdict and motion for a new trial.