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A Model for Enhanced Risk Recovery in Tort

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I. Introduction

Long ago, torts were simple. A defendant harmed a plaintiff. The plaintiff sought compensation. If the defendant refused to pay, a court resolved the dispute by applying the maxim of "he who breaks must pay."[1]

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1. *See* W. PAGE KEETON ET AL., PROSSER AND KEETON ON TORTS § 75, at 534-35 (5th ed. 1984) (stating that "'[i]n all civil acts,' it was said, 'the law doth not so much regard the intent of the actor, as the loss and damage of the party suffering'" so that "[t]here was, in other words, a rule . . . that 'he who breaks must pay'") (footnote omitted) (quoting Lambert v. Bessey, 83 Eng. Rep. 220 (1681)).

But society became more complex, and tort law changed. The industrial revolution, for example, ushered in a fault-based regime of "he who breaks must pay" – if he failed to behave as a reasonably prudent person.[2] Later, the development of manufactured goods gave rise to strict products liability, or "he who breaks must pay" – especially if he can bear and distribute the loss.[3] More recently, the emergence of "toxic torts" has forced courts again to rethink existing doctrine.[4]

Toxic torts are cases involving injuries caused by exposure to environmental toxins.[5] These cases, however, involve an inherent problem: Long latency periods often precede exposure-related harm,[6] making it difficult for

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2. *See* KEETON ET AL., *supra* note 1, § 28, at 161 (describing origins of negligence in tort law); Robert A. Bohrer, *Fear and Trembling in the Twentieth Century: Technological Risk, Uncertainty and Emotional Distress*, 1984 WIS. L. REV. 83, 110 (noting that "[s]ubsidizing [industrial] development has been central to tort law throughout the century or more in which the negligence standard has dominated . . . [tort] law"); *cf.* Gary T. Schwartz, *Tort Law and the Economy in Nineteenth-Century America: A Reinterpretation*, 90 YALE L.J. 1717, 1727 (1981) (cautioning that "strict liability standards in traditional English law seem ambivalent and confused," while negligence strands are "both more distinct and more capable of extended application").

3. *See* Greenman v. Yuba Power Prods., Inc., 377 P.2d 897, 901 (Cal. 1963) (stating that purpose of strict liability "is to insure that the costs of injuries resulting from defective products are borne by the manufacturers that put such products on the market rather than by the injured persons who are powerless to protect themselves"); RESTATEMENT (SECOND) OF TORTS § 402A (1965) ("One who sells any product in a defective condition unreasonably dangerous to the user or consumer . . . is subject to liability for physical harm thereby caused to the ultimate user or consumer . . . although . . . the seller has exercised all possible care in the preparation and sale of his product . . . .").

4. *See infra* notes 105-10 and accompanying text (discussing existing causation doctrine in toxic tort context).

5. The term "toxic torts" is also broad enough to encompass cases involving injuries caused by the toxicity of products or manufacturing processes. *See* GERALD W. BOSTON & M. STUART MADDEN, LAW OF ENVIRONMENTAL AND TOXIC TORTS 3 (1994) (asserting that "[e]nvironmental and toxic torts comprise harms to person, to property, or to the environment due to the toxicity of a product, a substance, or a process" (footnote omitted)); Troyen A. Brennan, *Environmental Torts*, 46 VAND. L. REV. 1, 1-2 (1993) (referring generally to such claims as "environmental torts"). Plaintiffs premise toxic tort claims, however, on traditional tort theories. *See* Keith J. Klein, *Fear of Cancer – A Legitimate Claim in Toxic Tort Cases?*, 33 A.F. L. REV. 193, 194 (1990) (arguing that "[t]he phrase 'toxic torts' is misleading to the extent that it implies any new cause of action for wrongs that occur when people are exposed to hazardous substances released into the environment [because t]oxic torts are based on the same three general theories of liability that underlie the rest of tort law: intentional interference with plaintiff's person or property, negligence, and strict liability" (footnotes omitted)). The difficulty in these cases, therefore, concerns applying traditional tort law concepts to difficult and previously unforeseen circumstances.

6. *See* Brennan, *supra* note 5, at 21 (stating that "[t]he latency period that characterizes many environmental illnesses can be as long as twenty years"); *infra* notes 23-29 and accompanying text (describing difficulties created by long latency periods).

plaintiffs to connect current illness to any specific exposure.[7]

Recently, some plaintiffs have worked around the latency problem by filing suit *before* they become sick.[8] Courts have recognized "pre-manifestation" claims in three different contexts. First, courts have sustained actions for fear of disease, in which plaintiffs seek compensation for the invasion of their mental well-being.[9] Second, courts have recognized claims for medical monitoring, in which plaintiffs seek recovery for the cost of medical surveillance to detect the onset of disease.[10] At "the top of the pyramid," however, are cases in which plaintiffs seek recovery for the very fact of living with an enhanced risk of disease.[11]

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7. *See* Tamsen Douglas Love, Note, *Deterring Irresponsible Use and Disposal of Toxic Substances: The Case for Legislative Recognition of Increased Risk Causes of Action*, 49 VAND. L. REV. 789, 803 (1996) (noting that "long latency periods also contribute to what is arguably the most problematic issue in toxic tort litigation – proving causation"); *infra* notes 117-30 and accompanying text (explaining difficulty in proving causation). The difficulty also can cause problems for toxic tort plaintiffs because of the risks that statute of limitations periods will run and that potential defendants will no longer exist or will be insolvent. *See* Love, *supra*, at 802-03 (stating that long latency periods create barriers to recovery); *see also* Brennan, *supra* note 5, at 54 (noting that "the diseases that follow toxic exposures . . . typically have latency periods between the original exposure and the ultimate manifestation of the disease, the latter being the time when the victim realizes the need to seek redress for the harm done" and concluding that "[w]ithout some qualifications to the conventional understanding of 'accrual,' the vast majority of environmental injury claims could never even be filed").

8. Latent harm cases involving claims for post-manifestation recovery have given rise to some of the most troubling chapters in twentieth century tort law, such as DES and asbestos litigation. *See, e.g.*, Borel v. Fibreboard Paper Prods. Corp., 493 F.2d 1076 (5th Cir. 1973) (permitting liability to be imposed on asbestos manufacturers); Sindell v. Abbott Lab., 607 P.2d 924 (Cal. 1980) (permitting liability to be imposed on producers of DES); Fischer v. Johns-Manville Corp., 512 A.2d 466 (N.J. 1986) (permitting punitive damages against asbestos manufacturers). It is only more recently that courts have faced an increasing number of claims in the pre-manifestation context. *See* Note, *Latent Harms and Risk-Based Damages*, 111 HARV. L. REV. 1505, 1507 (1998) [hereinafter Note, *Latent Harms*].

9. *See, e.g.*, Watkins v. Fibreboard Corp., 994 F.2d 253 (5th Cir. 1993); Dartez v. Fibreboard Corp., 765 F.2d 456 (5th Cir. 1985); Carter v. Temple-Inland Forest Prods. Corp., 943 S.W.2d 221 (Tex. App. 1997), *rev'd*, 993 S.W.2d 88 (Tex. 1999); Glen Donath, *Curing Cancer Phobia: Reasonableness Redefined*, 62 U. CHI. L. REV. 1113 (1995) (outlining state of cancer phobia law and suggesting rule for recovery); *cf.* Eagle-Picher Indus. v. Cox, 481 So. 2d 517 (Fla. Dist. Ct. App. 1985) (deciding that plaintiff may not recover for enhanced risk of contracting cancer).

10. *See, e.g.*, Potter v. Firestone Tire & Rubber Co., 863 P.2d 795, 824 (Cal. 1993); Ayers v. Township of Jackson, 525 A.2d 287, 312 (N.J. 1987); Hansen v. Mountain Fuel Supply Co., 858 P.2d 970 (Utah 1993). *See generally* Andrew R. Klein, *Rethinking Medical Monitoring*, 64 BROOK. L. REV. 1 (1998) [hereinafter Klein, *Medical Monitoring*].

11. *See* Bill Charles Wells, *The Grin Without the Cat: Claims for Damages From Toxic Exposure Without Present Injury*, 18 WM. & MARY J. ENVTL. L. 285, 349 (1994) ("The enhanced risk cause of action is at the top of the pyramid from the plaintiff's perspective because it involves the greatest amount of money. . . . But, because the cause of action rests on the mere

Courts have not favored enhanced risk claims, and have placed significant barriers in front of those who have filed such actions.[12] Several commentators have suggested ways in which courts might remove these barriers.[13] However, no proposal has convinced courts that the tort system can adequately address enhanced risk recovery. This Article represents an effort to do so.[14]

The Article begins by describing the hurdles that enhanced risk plaintiffs face under existing doctrine. These hurdles prevent tort law from sufficiently deterring those who create risk by exposing others to environmental toxins.[15] The Article then reviews proposals that seek to remedy this problem. In particular, the Article focuses on proposals that would award proportional recovery based on plaintiffs' level of increased risk.[16] These proposals have strong appeal from a deterrence perspective. The Article asserts, however, that they are not sufficiently attentive to the role that corrective justice plays

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potential to develop the disease, a plaintiff seeking damages for increased risk also faces the highest barriers to recovery."); *see also* Love, *supra* note 7, at 809 (concluding that "[i]ncreased risk is the most difficult [pre-manifestation] claim on which to succeed").

12. *See infra* notes 30-45 and accompanying text (discussing enhanced risk doctrine). Only two appellate courts, both in asbestos cases, appear to have upheld enhanced risk awards. *See* Jackson v. Johns-Manville Sales Corp., 781 F.2d 394 (5th Cir. 1986); Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129 (5th Cir. 1985). In non-asbestos cases, plaintiffs uniformly have been unable to satisfy the standard of proof. *See* Deirdre A. McDonnell, Comment, *Increased Risk of Disease Damages: Proportional Recovery as an Alternative to the All or Nothing System Exemplified by Asbestos Cases*, 24 B.C. ENVTL. AFF. L. REV. 623, 640 (1997).

13. *See, e.g.*, David P. C. Ashton, Comment, *Decreasing the Risks Inherent in Claims for Increased Risk of Future Disease*, 43 U. MIAMI L. REV. 1081 (1989) (suggesting ways to improve handling of enhanced risk claims); Brent Carson, Comment, *Increased Risk of Disease from Hazardous Waste: Proposal for Judicial Relief*, 60 WASH. L. REV. 635 (1985) (same); Keith W. Lapeze, Comment, *Recovery for Increased Risk of Disease in Louisiana*, 58 LA. L. REV. 249 (1997) (examining problems of existing Louisiana law and suggesting solutions for enhanced risk recovery); Note, *Latent Harms*, *supra* note 8 (suggesting solution to problem of latent harms); Barton C. Legum, Note, *Increased Risk of Cancer as an Actionable Injury*, 18 GA. L. REV. 563 (1984) (analyzing barriers to recovery for enhanced risk of cancer); Love, *supra* note 7 (suggesting special rules to address problems of enhanced risk recovery); McDonnell, *supra* note 12 (suggesting proportional system of compensation for latent harms). *But see* John C. Cummings, Comment, *How Far Should Increased Risk Recovery Be Carried in the Context of Exposure to Hazardous Substances?*, 76 KY. L. J. 459, 478 (1987-88) (concluding that manifest injury should be prerequisite to tort recovery).

14. In addition, the Article builds upon a standard set forth by this author in a recent article that proposes a standard for medical monitoring in pre-manifestation toxic tort cases. *See generally* Klein, *Medical Monitoring*, *supra* note 10.

15. *See infra* notes 43-45, 53-54 and accompanying text (explaining that current tort law approaches fail to sufficiently deter risky conduct).

16. "Proportional liability" advocates suggest that courts award plaintiffs the present value of risk. The value would be "equal to the present value of future losses multiplied by the estimated probability of their occurrence." Glen O. Robinson, *Probabilistic Causation and Compensation for Tortious Risk*, 14 J. LEGAL STUD. 779, 787 (1985); *see infra* notes 55-72 and accompanying text (describing proportional liability model).

in tort law,[17] nor do they sufficiently deal with the issue of administrative feasibility.[18]

The Article then sets forth a new standard: Tort law should permit enhanced risk recovery on a proportional basis, but only when a plaintiff can prove that the toxic exposure has more than doubled her risk of contracting disease in the future.[19] The Article justifies this standard as logically consistent with toxic tort doctrine in other settings[20] and as cognizant of the need for tort law to deter risky conduct. However, the standard also is attuned to the role that corrective justice should play in establishing tort law doctrine.[21] The Article concludes by providing several examples of how the new standard realistically could work, both on its own and in conjunction with other causes of action.[22] In the end, the Article suggests that the proposed standard represents a step forward in tort law's efforts to resolve toxic tort claims.

II. Traditional Doctrine

A. Overview

Courts have struggled with enhanced risk claims, in part because these claims do not fit neatly into existing tort paradigms.[23] Assume, for example,

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17. *See infra* notes 80-90 and accompanying text.

18. *See infra* notes 101-10 and accompanying text.

19. *See infra* notes 111-16 and accompanying text.

20. In particular, this standard would link enhanced risk recovery to standards that courts apply in post-manifestation toxic tort cases. *See infra* notes 118-33 and accompanying text.

21. In this way, the Article proposes a solution that is attentive to the competing tension between corrective justice and utilitarianism that pervades so many of the debates in tort law scholarship. *See* Gary T. Schwartz, *Mixed Theories of Tort Law: Affirming Both Deterrence and Corrective Justice*, 75 TEX. L. REV. 1801, 1801 (1997) ("Currently there are two major camps of tort scholars. One understands tort liability as an instrument aimed largely at the goal of deterrence, commonly explained within the framework of economics. The other looks at tort law as a way of achieving corrective justice between the parties."); *see also infra* notes 91-100, 134-36 and accompanying text (discussing gap between deterrence and corrective justice scholars).

22. *See infra* notes 146-87 and accompanying text.

23. *See* Love, *supra* note 7, at 805 (noting that "[c]ourts typically try to force these [enhanced risk] causes of action into the traditional tort paradigm, with the result that plaintiffs are faced with difficult and often insurmountable barriers to recovery"). Such "paradigms" might be viewed as revolving around physical, emotional, or economic harm. In enhanced risk cases, however, the plaintiff's injury simply cannot be so easily compartmentalized. This problem might be surmountable by applying the Restatement of Torts's broad definition of injury as the invasion of any "legally protected interest" to argue that enhanced risk is something compensable in and of itself. *See* RESTATEMENT (SECOND) OF TORTS § 924 (1965) (defining injury as invasion of any "legally protected interest"); Leslie S. Gara, *Medical Surveillance Damages: Using Common Sense and the Common Law to Mitigate the Dangers Posed by Environmental Hazards*, 12 HARV. ENVTL. L. REV. 265, 273 (1988) (stating that "'the entire history of the development of tort law shows a continuous tendency to recognize as worthy of legal protection

that *X* negligently has introduced a toxic substance into *Z*'s drinking water supply. *Z* does not exhibit any symptoms of disease, nor does she suffer from emotional distress because of a fear of future disease. But scientific evidence shows that the exposure has increased *Z*'s risk of contracting cancer in the future.[24]

If *Z* sues *X* for increasing *Z*'s risk of disease, however, her claim will not fit into any traditional tort law "compartment." For example, because *Z* does not seek recovery for current injury, she would not be likely to maintain a negligence claim.[25] Similarly, *Z*'s claim for emotional distress would not be successful because she would not be seeking recovery for harm to her psyche. Finally, *Z* is not seeking recovery for any economic or dignitary damage. Therefore, specialized claims, like those for medical monitoring, would not be helpful.[26]

Yet a sense remains that *X* has wronged *Z* by increasing her future risk of disease.[27] Does *Z* have to wait until she becomes ill before she can sue *X*?[28] Or can the tort system address the problem now?[29] A number of courts have struggled with this very question.

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interests which were previously not protected at all'" (quoting RESTATEMENT (SECOND) OF TORTS § 1 cmt. d (1965))). However, doing so still leaves courts with the difficult task of assessing and valuing enhanced risk apart from more established categories of harm. *Cf.* Love, *supra* note 7, at 814 (discussing how to establish existence of "injury" in enhanced risk actions).

24. *See infra* notes 122-30 and accompanying text (discussing use of scientific evidence to prove causation).

25. *See* KEETON ET AL., *supra* note 1, § 30, at 165 (stating that damages are part of prima facie negligence case); *see also* Richardson v. Michigan Humane Soc'y, 561 N.W.2d 873, 874 (Mich. Ct. App. 1997) (same). Damages also are required in strict liability and nuisance actions. *See, e.g.*, Uniroyal Chem. Co. v. Deltech Corp., 160 F.3d 238, 242 (5th Cir. 1998) (requiring damages in strict liability actions); Tipler v. McKenzie Tank Lines, 547 So.2d 438, 440 (Ala. 1989) (requiring damages in nuisance actions). Such actions also might form the basis for *Z*'s claim against *X*. *See* Joseph H. King, Jr., *"Reduction of Likelihood" Reformulation and Other Retrofitting of the Loss-of-a-Chance Doctrine*, 28 U. MEM. L. REV. 491, 499 (1998) [hereinafter King, *Reduction of Likelihood*] (discussing strict liability and nuisance actions).

26. *See infra* note 112 (discussing medical monitoring claims); *supra* note 10 and accompanying text (same).

27. In addition, the defendant, *X*, is not forced to internalize the damage that its conduct ultimately will cause. *See infra* notes 43-45, 53-54 and accompanying text (discussing failure of tort system to deter those who expose others to toxins).

28. *See infra* notes 41-42 and accompanying text (explaining how delays raise problems associated with statutes of limitation and single action rule).

29. To address the problem now, it is imperative to set aside what enhanced risk is not, and focus on what is left – the current *possibility* of *future physical harm*. The "physical" in future physical harm is not troubling. Indeed, courts have a great deal of experience in addressing physical harm. The trick is dealing with the "possibility of future" harm. In this regard, courts have struggled. More particularly, by refusing to rethink existing compartments of doctrine, courts continually insist on asking whether a plaintiff has *current* physical harm in deciding whether the defendant should compensate the plaintiff for the risk of contracting disease in the *future*. The result is unsatisfactory. *See infra* notes 41-45, 51-54 and accompanying text.

B. Current Approach

Courts that have attempted to resolve claims like the one described above have set forth a two-part hurdle for plaintiffs to clear. First, enhanced risk plaintiffs must demonstrate the existence of some present injury attributable to the toxic exposure.[30] Second, enhanced risk plaintiffs must demonstrate that they more likely than not will develop the latent disease for which the exposure has increased their risk.[31] An examination of this standard, however, shows that it represents a nearly insurmountable barrier for enhanced risk plaintiffs. It also shows that the standard does not serve tort law's underlying goals.

As noted above, the first part of the current enhanced risk standard requires that a plaintiff demonstrate the existence of current physical harm related to his exposure. Typical of this focus is the court's opinion in *Amendola v. Kansas City Southern Railway Co.*[32] In *Amendola*, nineteen railroad employees brought an action under the Federal Employers' Liability Act (F.E.L.A.) to recover for increased susceptibility to disease because of their workplace exposure to asbestos.[33] The plaintiffs, however, did not allege that they currently "sustained or manifested" any physical symptoms as a result of the exposure.[34] This failure, according to the court, was fatal to the claims. The court explained:

> If mere exposure to asbestos were sufficient to give rise to [a] F.E.L.A. cause of action, countless seemingly healthy railroad workers, workers who might never manifest injury, would have tort claims cognizable in federal court. It is obvious that proof of damages in such cases would be highly speculative, likely resulting in windfalls for those who never take ill and insufficient compensation for those who do. Requiring manifest injury as a necessary element of an asbestos related tort action avoids these problems and best serves the underlying purpose of tort law: The compensation of victims who have suffered.[35]

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30. *See* Janet H. Smith, *Increasing Fear of Future Injury Claims: Where Speculation Carries the Day*, 64 DEF. COUNS. J. 547, 552-53 (1997); McDonnell, *supra* note 12, at 624. This requirement stems from non-toxic tort cases, such as *Feist v. Sears, Roebuck & Co.*, 517 P.2d 675 (Or. 1975). In *Feist*, a cash register fell and fractured a child's skull. The plaintiff presented evidence that the skull injury made the child more susceptible to contracting meningitis in the future. The court held that it was proper for the jury to "consider 'the evidence that plaintiff has susceptibility for such a future problem.'" Thus, the *Feist* court followed the traditional rule that a "'plaintiff is entitled to compensation for all damages that reasonably are to be expected to follow . . . the [present] injury.'" McDonnell, *supra* note 12, at 628 (citation omitted).

31. *See* McDonnell, *supra* note 12, at 628.

32. 699 F. Supp. 1401 (W.D. Mo. 1988).

33. Amendola v. Kansas City S. Ry. Co., 699 F. Supp. 1401, 1402 (W.D. Mo. 1988).

34. *Id.* at 1402-03 n.1.

35. *Id.* at 1407 (quoting Schweitzer v. Consolidated Rail Corp., 758 F.2d 936 (3d Cir. 1985)).

Obviously, a literal application of a "manifest injury" standard would preclude any *pre*-manifestation plaintiff in a toxic tort case from maintaining a claim. It is not surprising, therefore, that plaintiffs have made creative arguments regarding what constitutes a "manifest injury." For example, plaintiffs in two asbestos cases that predate *Amendola* worked around the hurdle by describing the inhalation of the asbestos fibers as a present physical harm.[36] Plaintiffs have made similar arguments in cases involving other toxic substances, pointing to cellular or even "sub-cellular" damage as manifest harm.[37] But in such cases, plaintiffs run straight into the second part of the standard – the requirement that they must prove to a degree of reasonable medical certainty that the cancer will manifest in the future.[38] Needless to say, devel-

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36. *See* Jackson v. Johns-Manville Sales Corp., 781 F.2d 394, 412 (5th Cir. 1986) (describing inhalation of asbestos fibers as present physical harm); Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129, 1145 (5th Cir. 1985) (same); *see also* Carson, *supra* note 13, at 642 ("Acceptance of cellular damage as a present cause of action will enable plaintiffs to receive compensation for the full extent of the injury."). One commentator viewed this development in the asbestos setting as representing part of a liberalizing trend in the need for a current physical injury in enhanced risk cases. *See* Melissa Moore Thompson, Comment, *Enhanced Risk of Disease Claims: Limiting Recovery to Compensation for Loss, Not Chance*, 72 N.C. L. REV. 453, 461-63 (1994). Initially, the commentator noted that in cases with "a severe concomitant physical injury, such as a head trauma or a fractured bone, many courts allow the jury to consider evidence of enhanced risk of disease as going to the extent and permanency of the harm." *Id.* at 461. This phenomenon, of course, is little more than application of the traditional rule that permits for the award of future medical expenses, prominently applied in *Feist v. Sears, Roebuck & Co.*, 517 P.2d 675 (Or. 1975). The asbestos cases, however, expand this notion by adopting "the view that subcellular or cellular damage can constitute injury." Thompson, *supra*, at 462. The next, and most troubling, level of case would consider damage awards for "enhanced risk itself as the present injury." *Id.* at 463.

37. *See, e.g.*, Sterling v. Velsicol Chem. Corp., 855 F.2d 1188, 1205-06 n.23 (6th Cir. 1988); Love, *supra* note 7, at 807 (discussing *Sterling*).

38. *See* Jackson v. Johns-Manville Sales Corp., 781 F.2d 394, 396 (5th Cir. 1986) (concluding that "[p]laintiff who does not presently have cancer can state a claim or recover damages in an action based upon strict liability in tort for the reasonable medical probability of contracting cancer in the future"); Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129, 1137-38 (5th Cir. 1985) (deciding that "[p]ossibility alone cannot serve as the basis for recovery, for mere possibility does not meet the preponderance of the evidence standard" and that "[c]ertainty, however, is not required: the plaintiff need demonstrate only that the event is more likely to occur than not" (footnote omitted)). Even before the mid-1980s asbestos cases were decided, Professor Joseph H. King, Jr. wrote that there was

> no recovery for future consequences or losses under the traditional rule, unless it appears more likely than not that such a consequence or loss will occur that will be attributable to the tortious conduct. In other words, it would have to appear that the defendant destroyed a better-than-even chance of avoiding a future condition by reducing by 51% the likelihood of avoiding it.

Joseph H. King, Jr., *Causation, Valuation, and Chance in Personal Injury Torts Involving Preexisting Conditions and Future Consequences*, 90 YALE L.J. 1353, 1372 (1981) [hereinafter King, *Preexisting Conditions*] (footnote omitted). In more recent cases, the standard has been

oping such evidence is a daunting task for most enhanced risk plaintiffs.[39] And even where developing the evidence itself is possible, the standard eliminates the possibility of bringing an action in many cases where the level of increased risk is significant.[40]

The obvious answer to this problem is that plaintiffs who fail to clear the hurdles set before them should wait to sue when their disease manifests. But this solution throws additional hurdles into the plaintiffs' paths. For example, in latent harm cases, statutes of limitation and the "single cause of action rule"[41] might bar plaintiffs' claims by the time their disease manifests. As one commentator recently explained, these rules often create a Catch-22:

> If a plaintiff waits until he develops a disease to sue, he or she may lose all of his or her causes of action because a traumatic event or other injury may have

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expressed in a variety of fashions. *See* Smith, *supra* note 30, at 553 (stating that "[w]hile the language differs from court to court, in order to recover, plaintiffs generally must establish that there is a greater than 50 percent chance that the disease or condition will occur" and noting that "[t]he standard of proof has been variously described as: more probable than not; reasonably certain; reasonably probable; medically probable; a probability; or a reasonable medical certainty" (footnotes omitted)); *see also* Legum, *supra* note 13, at 568 (discussing how "[c-]ourts, implicitly recognizing that the injury they are compensating is actually the risk of future injury, allow the jury to assess potential damages only when the evidence introduced indicates that there is at least a probability that such damages will occur" (footnote omitted)).

39. *See generally* Sterling v. Velsicol Chem. Co., 855 F.2d 1188 (6th Cir. 1988). *Sterling*, a commonly-cited example outside the asbestos setting, involved a class action brought by individuals who lived near the defendant's chemical waste site. The *Sterling* court rejected the plaintiffs' increased risk claims, which were based on expert testimony that representative plaintiffs' susceptibility to cancer and other diseases increased from 25% to 30%. *Id.* at 1205. Applying Tennessee law, the court stated that the plaintiffs failed to provide proof to a reasonable medical certainty that the disease would manifest. *Id.* According to the court, the "mere increased risk of a future disease or condition resulting from an initial injury is not compensable." *Id.* at 1204. For discussion of *Sterling*, see Lapeze, *supra* note 13, at 255 and McDonnell, *supra* note 12, at 640.

40. For example, imagine a situation where the toxic exposure increased the risk of a particular disease from 1% to 49%. Current doctrine would bar such a plaintiff from maintaining an enhanced risk action under current doctrine because he could not demonstrate a likelihood that his disease actually would manifest in the future.

41. One commentator explained the single action rule as follows:

> Grounded in the doctrine of res judicata, the single cause of action rule, also called claim preclusion, provides that a single wrongful act can give rise to only one action. When a plaintiff fails to include an item of damage or a ground of recovery in a single cause of action, he or she may not claim the omitted element later. If a plaintiff prevails on a cause of action, any other potential claims merge into that judgment.

McDonnell, *supra* note 12, at 630-31 (footnotes omitted); *see* Wells, *supra* note 11, at 323-24 (stating that "[t]he necessity for the development of the doctrine of enhanced risk derives from the single action rule" and that "[t]he traditional rule requires the plaintiff to bring all of his complaints against the defendant regarding a single incident to the court at one time" (footnote omitted)).

occurred during exposure that triggered prescription. However, because the plaintiff may only sue once for the same transaction or occurrence, if he or she sues within the prescriptive period for the incidental damages due to exposure, res judicata will bar a subsequent suit for a disease.[42]

Such a situation raises a serious theoretical concern – the defendant that caused the exposure is never forced to internalize the full costs of its activity.[43] In fact, in the typical toxic tort case in which exposure-related harm is latent,[44] the defendant may never internalize any of the long-term health costs associated with its activity. Thus, a tort system that does not address enhanced risk claims shortly after exposure may fall far short of providing optimal deterrence against those that expose others to toxins.[45]

C. Patchwork Solutions

Many people have suggested patchwork solutions to these problems, largely by suggesting that courts loosen limitations and single action barriers. With respect to statutes of limitations, some have urged aggressive implementation of the discovery rule, whereby limitations periods would not begin to run until the plaintiff learned, or should have learned, of her injury.[46] With respect to the single cause of action rule, some have suggested permitting plaintiffs to split their cause of action, allowing plaintiffs to sue for enhanced risk now and manifest disease later.[47]

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42. Lapeze, *supra* note 13, at 257; *see* Wells, *supra* note 11, at 326 (noting that "the potential plaintiff is faced with a choice between an inadequate recovery if he sues immediately, and no recovery if he waits").

43. The situation may give rise to corrective justice concerns as well, in that the defendant is never held accountable for the harm that it caused to other individuals. *See infra* notes 80-100, 132-35 and accompanying text (providing further discussion of relationship between enhanced risk and corrective justice).

44. *See supra* notes 5-7 and accompanying text (discussing latency problem).

45. *See* King, *Preexisting Conditions*, *supra* note 38, at 1377 (asserting that this all-or-nothing approach "subverts the deterrence objectives of tort law by denying recovery for the effects of conduct that causes statistically demonstrable losses"); McDonnell, *supra* note 12, at 626 (discussing deterrence).

46. *See* Lapeze, *supra* note 13, at 258 (advocating discovery rule as solution to statute of limitations problems); *see also* Thompson, *supra* note 36, at 469 (noting that "the trend among courts is to depart from the traditional rule and follow the discovery rule instead").

47. *See* Lapeze, *supra* note 13, at 259 (positing that "splitting the cause of action will not force the plaintiff to choose between suing right away on incidental causes of action and losing the cancer claim due to claim preclusion, or waiting until the disease develops and most likely being barred due to prescription"); *see also* W. Neil Evans, *Providing Adequate Remedies to Toxic Tort Victims*, TRIAL, Apr. 1997, at 56, 56 (arguing that splitting cause of action is preferable to claim preclusion); Thompson, *supra* note 36, at 472 (stating that "[a] growing minority of states allow[s] the plaintiff to split the cause of action and sue for each successive disease as it develops" (footnote omitted)).

These solutions, however, raise more problems than they solve. For example, even with a discovery rule, determining the date of accrual for purposes of the statute of limitations is not easy. Is it the date of exposure? The date of "sub-cellular injury"? The date when the plaintiff discovers the defendant's legal responsibility? Or do we wait until manifestation of disease before starting the clock?[48] In addition, applying the discovery rule, particularly with a later accrual date, raises the very problems that limitations periods are meant to avoid in the first place, such as the possibility of stale evidence, uncertainty,[49] and perhaps even insolvent defendants.[50] Likewise, splitting the cause of action destroys the basic principles of res judicata because it makes great sacrifices in terms of certainty and efficiency.

In sum, enhanced risk claims suffer from a dissatisfying gridlock. The prevailing test includes a current "injury" component that is artificial at best and illogical at worst.[51] The test also includes a burden of proof concerning future manifestation that is virtually impossible for plaintiffs to meet.[52] Yet, waiting for manifestation itself is highly problematic.[53] The result is that enhanced risk of disease remains virtually ignored in the tort system. This is troubling, however, in an environment in which we know that actors will cause harm, yet the tort system is failing to address or to deter their risky activities.[54]

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48. *See* Thompson, *supra* note 36, at 468 (determining that date of accrual might "contribute to the confusion in cases involving enhanced risk of disease and often will influence results").

49. *See, e.g.*, Raymond v. Eli Lilly & Co., 371 A.2d 170, 176-77 (N.H. 1977) (analyzing discovery rule).

50. In addition, waiting until manifestation decreases the chance that a defendant will be solvent and able to pay a damage award. *See* Love, *supra* note 7, at 802-03 (noting that "by the time a disease manifests itself, a particular company may have reorganized, gone out of business, or declared bankruptcy" and recognizing that "[t]here is no guarantee, for instance, that a paper mill which releases dioxin into a nearby stream will still be operating twenty-five years later when people who swam in the stream actually contract cancer" (footnotes omitted)).

51. *See supra* notes 29, 41-45 and accompanying text (explaining problems attendant to application of prevailing test); *see also* E. Donald Elliott, *The Future of Toxic Torts: Of Chemophobia, Risk as a Compensable Injury and Hybrid Compensation Systems*, 25 HOUS. L. REV. 781, 789 (1988) [hereinafter Elliott, *The Future of Toxic Torts*] (arguing that "[w]e should purge toxic tort law of the unfortunate and legally anomalous doctrine that no harm is suffered unless the plaintiff can prove that it is more likely than not that involuntary exposure to the chemical caused a recognized disease or other form of physical harm" and that "[this] violation of a person's bodily autonomy . . . is also an injury that the law should recognize and compensate").

52. *See supra* notes 30-40 and accompanying text (describing burden of proof problems under prevailing test).

53. *See supra* notes 41-45 and accompanying text (describing statute of limitation and res judicata problems in enhanced risk cases).

54. This problem is only likely to increase as more toxins are released into the environment and as people become more aware of their risks. *See infra* notes 105-10 and accompanying text; *cf.* Elliott, *The Future of Toxic Torts*, *supra* note 51, at 785 (speculating that press coverage of toxic tort cases might inflate public concern over health risks).

III. The Proportional Liability Model

As the previous paragraph suggests, the lack of tort law action in the enhanced risk arena leads to a concern about under-deterrence. In other words, entities are engaging in activities that undoubtedly lead to costs in terms of human health, but the law may not force these entities to internalize the full costs of their activities.[55] With this fact in mind, it is not surprising that those who have proposed changes to tort law's current approach to enhanced risk have done so largely from a utilitarian perspective – that is, with an eye toward creating a system that provides optimal deterrence.[56] This section of the Article sets out the utilitarian solution to the enhanced risk problem – a solution that focuses on proportionalizing liability[57] for enhanced risk at the time of exposure, rather than on compensating for physical injury at the time of manifestation. This section also addresses three major objections to this approach: first, the notion that proportional liability will undercompensate those who eventually do become ill (or will overcompensate those who do not);[58] second, the notion that proportional liability gives insufficient attention to corrective justice as an underlying basis for tort law rules;[59] and third, the argument that a proportional recovery model would not be administratively feasible.[60] From that perspective, this Article proposes a solution that incorporates the utilitarians' concerns and the corrective justice view, as well as practical considerations of administrative feasibility.[61]

A. The Basics of Proportional Liability

The theory of proportional liability in an enhanced risk case is straightforward. Professor Glen Robinson, an early and strong proponent of proportional liability, explained the concept:

> Assuming that the risk [from exposure] is one that would give rise to liability when the actual loss is suffered, why not adjudicate the entire case

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55. *See supra* notes 43-45 and accompanying text.

56. *See* Legum, *supra* note 13, at 583 ("If producers and handlers of carcinogens are forced to pay for the costs of the cancer caused by negligent or defective production or negligent handling, they will have incentive to engage in the socially optimal level of production or care in handling."). This concern is not irrelevant even to those who view corrective justice as the dominant goal of tort law. As Professor Schwartz pointed out, a number of prominent commentators and attorneys who are not regarded as economists have supported deterrence as a rationale for tort law. *See* Schwartz, *supra* note 21, at 1829.

57. *See infra* notes 62-72 and accompanying text.

58. *See infra* notes 74-79 and accompanying text.

59. *See infra* notes 80-100 and accompanying text.

60. *See infra* notes 101-10 and accompanying text.

61. *See infra* notes 111-46 and accompanying text.

> by awarding the victim the present value of the risk at the point at which the risk can be identified and given some measurable value? The value is equal to the present value of the future losses multiplied by the estimated probability of their occurrence.[62]

For example, suppose that BigCo negligently has exposed one thousand persons to a toxin that has increased the risk of cancer for each population member from 10% to 30%. Under current doctrine, BigCo would not have to deal with the consequence of its conduct until someone actually contracts cancer and attempts to associate it with the exposure.[63] Under a system of proportional liability, however, each member of the population would have the right to sue immediately for 20% of the damages associated with a future cancer case.[64] Those concerned with deterrence cheer this result – the tort system forces defendants to internalize the future costs of their behavior now, but does not force them to overcompensate the exposed plaintiffs as a class.[65]

In further support of their views, proportional liability advocates point to its better-established cousin in American tort law: proportional recovery for the lost chance of survival.[66] As Professor Robinson explained,

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62. Robinson, *supra* note 16, at 786; *see* King, *Preexisting Conditions, supra* note 38, at 1387 (supporting compensation by method that reflects probability).

63. *See* Klein, *Medical Monitoring, supra* note 10, at 19-23 (discussing difficulties that plaintiffs face in proving causation in toxic tort cases); *infra* notes 117-30 and accompanying text (same).

64. *See* 2 ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY 369-75 (1991) (advocating proportional liability if attributable fraction of disease at particular level of exposure is between 20% and 80%). Professor Robinson is clear that this should be a plaintiff's *choice*, not a requirement:

> It is enough in any case to say that I do not propose to *require* victims to pursue recovery for risk if they prefer to await the outcome and seek compensation for actual injury. The question is whether there is reason to deny an action to a risk victim who does not want to wait, say, a decade to find out whether injury ensues.

Robinson, *supra* note 16, at 788 (emphasis in original). Professor Robinson also is clear that he is not advocating a change in the rules for defining what activities are tortious; rather, he is advocating a re-definition of what constitutes a compensable injury. *Id.* at 782-83. For a slightly more sophisticated method for calculating damages using a proportional liability scheme, see *infra* notes 68-72 and accompanying text.

65. *See* David Rosenberg, *Individual Justice and Collectivizing Risk-Based Claims in Mass-Exposure Cases*, 71 N.Y.U. L. REV. 210, 234 (1996) [hereinafter Rosenberg, *Individual Justice*] (asserting that risk-based insurance fund claims or proportional liability "may serve a special deterrence role in mass-exposure cases . . . by preventing firms from using latency periods to become judgment-proof or otherwise evade the bulk of claims"); McDonnell, *supra* note 12, at 647 (stating that proportional liability "would provide a deterrent to negligent behavior that creates an increased risk of disease, but would avoid over-compensating plaintiffs as a class").

66. *See, e.g.*, Herskovits v. Group Health Coop., 664 P.2d 474, 479 (Wash. 1983) (permitting recovery for lost chance of survival); *see also* Petriello v. Kalman, 576 A.2d 474,

> [t]ortious exposure to risk is in fact really the obverse of these "loss of chance" cases, and the problems of causal determination and valuation are virtually identical. To the extent courts now recognize compensation for the value of the loss of a chance, they could equally recognize tortious risk exposure.[67]

Professor Joseph King, an early advocate of proportional liability in the lost chance setting, addressed this very point.[68] In his oft-cited work, Professor King detailed two ways to value enhanced risk, even when the plaintiff cannot prove that there is a probability of the harm manifesting itself in the future.[69] First, Professor King suggested that courts could use a "single outcome" approach, in which expert testimony would estimate the odds and most likely date of the onset of disease and calculate damages accordingly.[70] Alternatively, Professor King suggested that courts could use a more complicated, but more precise, test involving the calculation of "expected value" or "weighted means" based on a variety of estimates concerning the possible odds and time

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484 (Conn. 1990) (same); United States v. Anderson, 669 A.2d 73, 78 (Del. 1995) (same); Delaney v. Cade, 873 P.2d 175, 183 (Kan. 1994) (same); Scafidi v. Seiler, 574 A.2d 398, 400 (N.J. 1990) (same); Carson, *supra* note 13, at 646 (noting that loss of chance doctrine supports recovery for increased risk victims); Love, *supra* note 7, at 818-19 (noting analytical similarities between loss of chance and increased risk cases). Another commentator described the relationship between lost chance of survival and increased risk of disease actions as follows:

> In both a lost chance of survival action and an increased risk of disease action, the damage is the chance that a future event will occur. In a lost chance claim, the event is survival; in an increased risk claim, the event is developing a disease. Therefore, the damages should be based on how much the chance has increased or decreased, not the ultimate harm that might be caused by the negligence. This is because the interest that is being protected in both cases is the freedom from the increased or decreased risk or chance.

Lapeze, *supra* note 13, at 267.

67. Robinson, *supra* note 16, at 793.

68. *See* King, *Preexisting Conditions*, *supra* note 38, at 1354 ("It is the thesis of this article that the loss of a chance of achieving a favorable outcome or of avoiding an adverse consequence should be compensable and should be valued appropriately, rather than treated as an all-or-nothing proposition.").

69. *See id.* at 1383-85.

70. *See id.* at 1383. Professor King provided the following example:

> Consider its application to a tortious accident to a twenty-year old plaintiff that creates a chance that blindness will result in the future. . . . 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 fifty, the loss attributable to that condition would be $100,000. Because, however, it is not certain that the injury will result in blindness, it would not be appropriate to award the full $100,000. If the probability that the injury will result in blindness at any time is 30%, one might value the chance at $30,000.

Id.

of the onset of disease.[71] Either method does a better job of forcing actors to internalize the true costs of their activities than does the traditional "all-or-nothing" method. And a court easily could apply either method to an enhanced risk claim.[72]

B. The Limits of Proportional Liability

Proportional liability, however, is subject to some criticism. First, critics assert that proportional liability is inherently unfair because it either overcompensates or undercompensates victims.[73] As one commentator argued, "[t]o the individual hazardous waste victim, [proportional liability] is either grossly

71. *See id.* at 1384-85. Professor King continued his example to explain this concept:

> Elaborating on the preceding example, assume, in an admittedly oversimplified set of facts, that as a result of the 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), $8,000 (4% of $200,000), $3,000 (1% of $300,000), and $0 (70% of $0), giving a total value of the chance of injury-induced blindness of $36,000.

Id.

72. Professor King recently has authored an article in which he refined his views on the loss of chance doctrine in light of the seventeen years that have elapsed since the publication of his initial article. *See* King, *Reduction of Likelihood*, *supra* note 25, at 496. In this article, Professor King acknowledged that the "loss-of-a-chance question sometimes arises in the context of allegations that the defendant's negligence increased the risk or likelihood of future harm." *Id.* at 509. In the introduction to the article, Professor King suggested that he would not approve of such a cause of action. *Id.* at 496 ("Where the defendant's tortious conduct created a risk of future consequences, the operation of the loss-of-chance doctrine should be suspended until the harmful effects actually materialize."). He later acknowledged, however, that a full evaluation of the enhanced risk issue was "beyond the scope of [his] Article." *Id.* at 511. Ultimately, Professor King proposed a refined standard for the application of the loss-of-a-chance doctrine that would help courts apply the concept even in situations where there is no evidence of a "literal chance of survival." *Id.* at 559. Among the factors that Professor King would take into account is an evaluation of whether the "defendant's tortious conduct was the reason it was not feasible to determine precisely whether or not the more favorable outcome would have materialized but for the tortious conduct." *Id.* at 495; *see also id.* at 542-43, 559-60 (listing other factors to consider in determining loss of chance). Professor King's proposals would have primary application in the most common fact settings in which the principles are applied, such as medical malpractice claims arising from delays in diagnoses of a patient's illness. *See id.* at 547.

73. *See* Cummings, *supra* note 13, at 473 (stating that "[t]heoretically under the extent of the injury approach, victims of toxic exposure as a class would be compensated in proportion to the damages they sustain, although each individual plaintiff would be either overcompensated or undercompensated" (footnote omitted)).

unfair or overly generous. Those who develop a disease receive a fraction of their medical costs, lost wages, and nonpecuniary damages arising from the defendant's tortious conduct, while others receive a windfall."[74] One can deflect this criticism, however, by viewing proportional recovery not as a partial payment of potential damages but as the equivalent of insurance premiums to protect against the risk of future harm.[75] Economists, for example, define the value of an insurance premium as risk multiplied by expected loss.[76] Following this logic, several commentators recently have proposed just that – compensating for enhanced risk by allowing those exposed to toxins to recover insurance premiums designed to cover the risk of future disease.[77] If this form of proportional liability is the basis for a tort award, offering plaintiffs protection for the risk they face resolves the over- and undercompensation problem.[78] Thus, the overcompensation and undercompensation problem seems

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74. Carson, *supra* note 13, at 649-50 (footnote omitted).

75. *See* Rosenberg, *Individual Justice*, *supra* note 65, at 219 (stating that enhanced risk claims would "compel the tortfeasor to pay a mass-exposure plaintiff the premium that would purchase an insurance policy providing tort-type and tort-level damages in the event that the ultimate accrued harm occurs"); *see also* FRANK B. CROSS, ENVIRONMENTALLY INDUCED CANCER AND THE LAW: RISKS, REGULATION AND VICTIM COMPENSATION 210 (1989) ("An individual suffering a certain probabalistic future risk of cancer should receive a damage award equivalent to the present cost of adequately insuring against probable future costs associated with the particular risk."); *cf.* Troyen A. Brennan, Book Review, 30 JURIMETRICS J. 511, 515 (1990) (questioning ability of insurers to write such policies).

76. Professor Steven Shavell explained:

> This assumption implies that the insurer can be virtually sure of covering its costs by collecting from each insured the expected value of the amount it will have to pay him. If, for instance, each insured faces a 5 percent risk of losing 10,000, and will be paid that amount in the event of a loss under the insurance policy, the insurer can cover its costs by collecting premiums of 500.

STEVEN SHAVELL, ECONOMIC ANALYSIS OF ACCIDENT LAW 192 (1987).

77. *See* Ashton, *supra* note 13, at 1122; Carson, *supra* note 13, at 650; Note, *Latent Harms*, *supra* note 8, at 1517; Evans, *supra* note 47, at 58.

78. *See* Carson, *supra* note 13, at 650-51 (explaining that remedy avoids overcompensation and undercompensation problems). Of course, the reality of such a solution will depend on the availability of the type of information that is necessary for insurers to set useful premiums. *See* Ashton, *supra* note 13, at 1130 (stating that availability of insurance remedy depends on ability to predict future costs). A recent note in the *Harvard Law Review* advocates the payment of the value of insurance premiums in latent harm cases, but only after an evaluation of four factors: (1) the expense of risk determination; (2) the availability and efficiency of insurance; (3) the defendant's prospective judgment-proof status; and (4) the availability of evidence. Note, *Latent Harms*, *supra* note 8, at 1513-16. Of course, a problem arises under such a process when the factors do not point toward proportional recovery. In such a case, traditional tort law options will be limited to the unsatisfying "all-or-nothing" regime. Others have suggested, however, that similar situations might be addressed outside the tort system altogether. *See* E. Donald Elliott, *Why Courts? Comment on Robinson*, 14 J. LEGAL STUD. 799, 801-05 (1985) [hereinafter Elliott, *Why Courts?*] (advocating administrative compensation

tractable, at least with "perfect world" assumptions and a belief in the availability of insurance in this type of setting.[79]

Proportional liability advocates, however, face additional criticism from those who assert that, as a moral matter, rules of tort law must relate to notions of corrective justice. In general, one may view corrective justice in tort law as a "defendant's obligation to compensate for harm that she has caused wrongfully or in violation of the plaintiff's rights."[80] Scholars describe the contours of corrective justice in various ways.[81] In a broad sense, however, corrective justice scholars assert that tort liability must relate to a nexus – a "transaction" – between the parties to a lawsuit.[82] As Professor Ernest Weinrib, a leading corrective justice scholar, wrote: "[Corrective justice] considers the position of the parties anterior to the transaction as equal, and it restores this antecedent equality by transferring resources from defendant to plaintiff so that the gain realized by the former is used to make up the loss suffered by the latter."[83]

In more common tort parlance, the key to establishing this nexus is the requirement of cause in fact[84] – that is, the plaintiff must prove that he would

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system for those exposed to toxins); *see also infra* notes 176-87 and accompanying text (advocating combination of tort law and administrative compensation for increased risk cases).

79. *See supra* notes 75-78 and accompanying text (discussing insurance); *infra* notes 136-41 and accompanying text (discussing "perfect world" assumptions in proportional recovery regime).

80. Kenneth W. Simons, *Corrective Justice and Liability for Risk-Creation: A Comment*, 38 UCLA L. REV. 113, 125-26 & n.47 (1990).

81. Professor Simons succinctly described the views of some of the academy's leading corrective justice scholars:

> Jules Coleman thinks that corrective justice involves undoing wrongful gains and wrongful losses, though he gives a nonobvious, technical meaning to "wrongful." Ernest Weinrib defines corrective justice as the obligation of a negligent "doer" to respect the equality of the victimized "sufferer." Richard Epstein, prior to becoming a born-again utilitarian, defined corrective justice as one of several paradigmatic forms of causal liability. George Fletcher defines corrective justice as liability for imposing nonreciprocal risks. Catherine Wells argues that corrective justice entails providing a fair adjudicative process to determine whether the defendant is responsible for the plaintiff's loss. And Richard Posner, bless his heart, reaches the felicitous conclusion that "corrective injustice" is just another way of saying "maximize social wealth."

Id. at 126 & nn.47-53.

82. *See, e.g.*, Ernest J. Weinrib, *Toward a Moral Theory of Negligence Law*, 2 LAW & PHIL. 37, 38 (1982) [hereinafter Weinrib, *Moral Theory*].

83. *Id.* Corrective justice theorists contrast their views to "utilitarians," such as Holmes or Posner, whom are said to view wealth maximization as the ultimate goal of tort law. *Id.* at 43-44. Weinrib, for example, argued that utilitarianism cannot provide a moral foundation for tort law because it fails to require a direct linkage between plaintiff and defendant. *Id.* at 46.

84. *See id.* at 38 (stating that "the requirement of factual causation establishes the indispensable nexus between the parties by relating their rights to a transaction in which one has

not have suffered an injury "but for" the conduct of the defendant.[85] Obviously, the plaintiff will not be able to satisfy this burden in the vast majority of enhanced risk cases. In fact, in many cases, proportional recovery would permit plaintiffs to recover when it is more likely than not that the defendant's conduct will have absolutely no future impact on the plaintiff. Such a result troubles corrective justice theorists because it imposes tort liability without proof of a nexus between the defendant's conduct and the plaintiff's harm.[86] Indeed, corrective justice scholars have been outright hostile to the notion of violating this principle in the pursuit of the efficiency that proportional liability advocates hope to achieve.[87]

Scholars favoring deterrence as the primary goal of tort law have returned the disparagement, occasionally describing the bases of corrective justice as "abstruse,"[88] "highly artificial,"[89] or "at odds with the accepted norms of our present tort law, which routinely involves probabilistic assessment of victim injuries."[90] At least two scholars, however, recently wrote articles that might help to bridge this chasm.

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directly impinged upon the other"); Ernest J. Weinrib, *Causation and Wrongdoing*, 63 CHI.-KENT L. REV. 407, 429-30 (1987) [hereinafter Weinrib, *Causation*] (explaining that "causation particularizes by singling out this plaintiff from the class of persons whom the defendant has endangered"); *see also* Richard W. Wright, *Actual Causation vs. Probabilistic Linkage: The Bane of Economic Analysis*, 14 J. LEGAL STUD. 435, 435-36 (1985); Richard W. Wright, *Causation, Responsibility, Risk, Probability, Naked Statistics, and Proof: Pruning the Bramble Bush by Clarifying the Concepts*, 73 IOWA L. REV. 1001, 1004 (1988); *cf.* Jules L. Coleman, *Moral Theories of Tort: Their Scope and Limits: Part II*, 2 LAW & PHIL. 5, 6-7 (1983) (asserting that corrective justice involves negating wrongful gains and losses, but does not necessarily involve equating liability with exact harm caused); Richard A. Posner, *The Concept of Corrective Justice in Recent Theories of Tort Law*, 10 J. LEGAL STUD. 187, 201-06 (1981) (disputing need for linkage between responsibility and bearing costs of harm caused). More recently, however, Professor Christopher H. Schroeder argued that causation should not be a predicate for corrective justice. *See* Christopher H. Schroeder, *Corrective Justice and Liability for Increasing Risks*, 37 UCLA L. REV. 439, 439 (1990) [hereinafter Schroeder, *Increasing Risks*].

85. *See* KEETON ET AL., *supra* note 1, § 41, at 265-66.

86. *Cf.* Robinson, *supra* note 16, at 790-91 (stating that Weinrib's view of corrective justice would "exclude[ ] [probabilistic recovery] virtually by definition").

87. *See, e.g.*, George P. Fletcher, *Fairness and Utility in Tort Theory*, 85 HARV. L. REV. 537, 537 (1972) (referring to commentary that "cultivate[s] the idiom of cost-spreading . . . and cost avoidance"); Richard W. Wright, *The Efficiency Theory of Causation and Responsibility: Unscientific Formalism and False Semantics*, 63 CHI.-KENT L. REV. 553, 578 (1987) (stating that tort law "has no room for efficiency theory").

88. *See* Rosenberg, *Individual Justice*, *supra* note 65, at 232 ("Abstruse Kantian notions of free will aside, there is little reason why the harmful consequences of otherwise wrongfully created risk should escape correction simply because not all of the possible injurious effects have occurred or will occur . . . .").

89. Robinson, *supra* note 16, at 791.

90. *Id.*; *see* Rosenberg, *Individual Justice*, *supra* note 65, at 232 (criticizing theories of corrective justice).

Professor Christopher Schroeder, for one, argued that corrective justice theorists are not consistent when they identify actual causation as an absolute predicate to corrective justice ideals.[91] Schroeder noted that corrective justice theorists assert that tort law should focus on the "ex ante" – the choice that an actor makes "at the time he is confronted with the situation demanding a choice to be made."[92] A focus on actual causation, however, requires a focus on the "ex post" – an after-the-fact evaluation of whether the defendant's conduct led to the plaintiff's harm.[93] Professor Schroeder wrote that "[g]iven the pervasive influence of the ex ante perspective in moral theory, the persistence of causation in tort is an anomaly, and one that deepens when we appreciate how much that influence has already spread into legal theory."[94] Therefore, rather than relying on proof of actual causation as the key to a system of corrective justice, Professor Schroeder proposed that tort law should hold actors liable for the creation of risk from the moment they act.[95] In this way, Professor Schroeder's argument resembles proposals for proportional liability.[96] However, rather than presenting his proposal as at loggerheads with

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91. *See generally* Schroeder, *Increasing Risks*, *supra* note 84. Schroeder noted, however, that corrective justice itself is "one of the two most powerful theories of tort in American legal thought today." *Id.* at 439.

92. *Id.* at 451.

93. *See id.* at 455-56 (discussing focus on actual causation).

94. *Id.* at 457; *see also* Christopher H. Schroeder, *Causation, Compensation, and Moral Responsibility*, *in* PHILOSOPHICAL FOUNDATIONS OF TORT LAW 347, 349 (David G. Owen ed., 1995) [hereinafter Schroeder, *Moral Responsibility*] (describing requirement of causation as "often fortuitous and thus morally arbitrary").

95. *See* Schroeder, *Increasing Risks*, *supra* note 84, at 466 (proposing that tort law should hold actors liable for the creation of risk from moment they act). It is not entirely clear, however, that Professor Schroeder would allow plaintiffs actually to recover any payments until actual harm manifested. *See* Simons, *supra* note 80, at 116, 122-24 (raising questions about Schroeder's proposal in this regard). In an article responding to Professor Simons, Professor Schroeder stated that he would be "perfectly willing to entertain such a system" that allows plaintiffs to recover damages upon the creation of risk. Christopher H. Schroeder, *Corrective Justice, Liability for Risks, and Tort Law*, 38 UCLA L. REV. 143, 159 (1990) [hereinafter Schroeder, *Corrective Justice*]. Such a system, Professor Schroeder suggested, might even be consistent with principles of corrective justice "insofar as it simply represents a better way to insure that plaintiffs who are eventually injured receive compensation for their injuries." *Id.* Alternatively, Professor Schroeder suggested: "[Is] exposure to the risk of harm [] itself a violation of plaintiff autonomy sufficient to trigger recovery [?] . . . In other words, is the risk of harm itself a harm? The answer may be yes, but less obviously than in the case of physical injury," and thus might justify risk-exposure recovery. *Id.* at 160.

96. Again, with the caveat that Professor Schroeder's initial article envisions proportional liability without immediate compensation. *See* Schroeder, *Increasing Risks*, *supra* note 84, at 470-71; *cf.* Schroeder, *Corrective Justice*, *supra* note 95, at 159-60 (suggesting that "exposed individuals could take the risk exposure payments and purchase liability insurance more efficiently than a centralized compensation fund" and speculating that "[w]hether this method of accomplishing the ends of corrective justice is superior to the earlier article's proposal

corrective justice, Professor Schroeder asserted that the system is consistent with corrective justice: "By translating expected harm to others into an immediate cost to the agent, the legal rules provide a built-in incentive to engage in just the deliberatively rational process that the ex ante theory contemplates."[97]

More recently, and more broadly, Professor Gary Schwartz advocated a "mixed theory" of tort law that accounts for the concerns of scholars in both the deterrence and corrective justice camps.[98] Drawing on a similar, yet friendlier, debate in the area of criminal law,[99] Professor Schwartz challenged the conventional wisdom that the two goals are mutually exclusive:

> [T]ort law obviously fails to achieve its goal of comprehensive deterrence: there is, after all, an ample amount of negligence in society. Still, inasmuch as tort law is sometimes successful in deterring tortious conduct, this success should be of keen interest to corrective justice analysts, since it minimizes the problem of injustice that those scholars address.[100]

Without diminishing the fuller arguments that Professor Schwartz set forth, his point in the quote above appears to have application in the enhanced risk setting. That is, the attempt of proportional liability scholars to achieve their deterrence goal should appeal to corrective justice scholars who want to hold defendants morally responsible for any damage they eventually cause. The corrective justice objection to proportional liability, therefore, may not be an insurmountable hurdle to the consideration of proportional liability as part of an approach to the enhanced risk problem.

Yet one major objection to proportional liability remains: A system of proportional liability would place enormous administrative strains on the judicial system. Professor Schroeder, in particular, recognized these strains

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depends entirely on which scheme presents fewer practical difficulties of the sort I discussed in the article").

97. Schroeder, *Increasing Risks*, *supra* note 84, at 466. Like Professor Schroeder, Professor Margaret Berger set forth a proposal that she argued is consistent with the goal of corrective justice despite the fact that the proposal does not rely on traditional notions of causation. *See* Margaret A. Berger, *Eliminating General Causation: Notes Towards a New Theory of Justice and Toxic Torts*, 97 COLUM. L. REV. 2117, 2134, 2140 (1997) (proposing tort cause of action that relies, not on concept of general causation, but instead on duty to "develop and disseminate significant data needed for risk assessment"). Professor Berger explained that "[i]f a corporation fails to exercise the appropriate level of due care, it should be held liable to those put at risk by its action, without regard to injuries that eventually ensue; it is culpable because it has acted without taking into account the interests of those who will be affected by its conduct." *Id.* at 2134; *see infra* notes 126, 184, 187 and accompanying text (discussing Professor Berger's theory).

98. Schwartz, *supra* note 21, at 1801.

99. *See id.* at 1811-15.

100. *Id.* at 1827.

as an obstacle to the enactment of a proportional liability system.[101] Using a hypothetical involving a speeding motorist as an example, he conceded that it would be nearly impossible in many instances to monitor each instance of risk creation in society and to extract ex ante payments accordingly.[102] However, Professor Schroeder suggested that a proportional liability system might be more realistic in toxic exposure cases:

> [A]dministrative costs do not favor a [traditional] cause-based system in toxic cases, because the detection of toxic discharges (risks) is not substantially more costly an undertaking than is detection of the source of toxic related harm (causes). Furthermore, the number of liability events is actually fewer under a liability for risk system, where [an entity] is charged once for the entire risk created by its discharging, than under a cause-based system, where each discrete harm constitutes a discrete liability and litigable event.[103]

Professor Schroeder's point would make sense in a world that imposes tort liability primarily through administrative fiat.[104] However, the point would become debatable if tort law retains its private character in which individual plaintiffs seek to enforce liability through litigation. In fact, the administrative costs associated with a risk-based liability scheme would likely

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101. *See* Schroeder, *Increasing Risks*, *supra* note 84, at 474-77; *see also* Robinson, *supra* note 16, at 796-97 & n.43 (discussing administrative costs associated with risk-based liability); Lapeze, *supra* note 13, at 268 (suggesting that proportional liability system will open "floodgates" of litigation). Professor Berger, who proposed a system that would impose liability based on a defendant's duty to develop and disseminate information concerning risk, also recognized workability as a problem. Berger, *supra* note 97, at 2145; *see infra* notes 126, 187 and accompanying text. Berger asserted, however, that an

> advantage of the model is that the proof needed to establish liability is the kind of evidence about a past event that our system handles well. It would, of course, be costly and time consuming to establish a defendant's failure to exercise due care in obtaining and disseminating substantial information about risk, although it would be substantially cheaper than having to prove causation as well.

Berger, *supra* note 97, at 2149-50.

102. *See* Schroeder, *Increasing Risks*, *supra* note 84, at 473-74. Professor Schroeder conceded that

> one of the strengths of the existing system of tort is that it waits until a compensable event has occurred before a costly lawsuit is permitted or necessary. Under a pure liability for risk system, liability events become distinct from and potentially much more numerous than compensable events, so that the intrusiveness and the administrative costs of the system ought to be substantially more than the present system's.

Id.; *see id.* at 477 (stating that "until fancy technologies are available, cases like Speeding Motorist probably ought to continue to receive cause-based treatment").

103. *Id.* at 476-77.

104. *Id.* at 470 (discussing "compensation from administered funds, or having defendants pay risk premiums into such funds at the moment they perform a risky act").

be a larger hurdle in the toxic torts setting than anywhere else. To understand this proposition, one must recognize the staggering number of toxic substances to which we are exposed in the late twentieth century. According to the United States Environmental Protection Agency (EPA), billions of pounds of hazardous chemicals are emitted into the air every year,[105] and nearly twenty percent of the U.S. population (approximately forty million people) lives within four miles of a hazardous waste site that the EPA has placed on its National Priority List.[106] Assuming that many of these toxins increase our risk of disease to some extent, a pure proportional liability system would allow millions of Americans to bring multiple enhanced risk tort actions.[107] Such an unreasonable proposition is what led courts to draw the lines that they have – that only those with a present injury can sue[108] and that only those who can prove a probability of later manifestation can recover.[109] But, as discussed above, these lines are not entirely sensible.[110] Instead, courts should begin to look for a better line – a line that sensibly limits the number of enhanced risk claims, is consistent with the desire for deterrence, and takes account of notions of corrective justice. The following section of this Article attempts to do just that.

IV. A New Enhanced Risk Model

Tort law should permit enhanced risk recovery on a proportional basis, but only when a plaintiff can prove that the toxic exposure has more than

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105. *See* Paul J. Komyatte, *Medical Monitoring Damages: An Evolution of Environmental Tort Law*, 23 COLO. LAW. 1533, 1533 (1994) (citing United States General Accounting Office, *Air Pollution: EPA's Strategy and Resources May Be Inadequate to Control Air Toxins* (Washington, D.C.: GAO/RCED-91-143, June 26, 1991) at 9)); *see also* Klein, *Medical Monitoring*, *supra* note 10, at 13 (citing GAO report).

106. *See* Komyatte, *supra* note 105, at 1533 (reporting that "eight of ten Americans live near some type of hazardous waste site"); *see also* Andrew R. Klein, *Hazardous Waste Cleanup and Intermediate Landowners: Reexamining the Liability-Based Approach*, 21 HARV. ENVTL. L. REV. 337, 337-38 (1997) (discussing extent of present hazardous waste site problems).

107. *See* Metro-North Commuter R.R. Co. v. Buckley, 521 U.S. 424 (1997) (rejecting post-exposure, pre-symptom medical monitoring claim brought under Federal Employers' Liability Act). In discussing the potential impact of an expansive liability system, the Court stated:

> [T]ens of millions of individuals may have suffered exposure to substances that might justify some form of substance-exposure-related medical monitoring . . . . And that fact, along with uncertainty as to the amount of liability, could threaten both a "flood" of less important cases . . . and the systemic harms that can accompany "unlimited and unpredictable liability . . . ."

Id. at 442; *see* Klein, *Medical Monitoring*, *supra* note 10, at 13-14 (discussing *Metro-North*).

108. *See supra* notes 32-37 and accompanying text.

109. *See supra* notes 38-40 and accompanying text.

110. *See supra* notes 40-45 and accompanying text.

doubled her risk of contracting disease in the future.[111] Fundamentally, this standard correlates with the actual causation standard that courts apply in cases where disease is manifest.[112] In other words, there should be no pre-manifestation recovery for possible illness that a plaintiff cannot eventually connect to a defendant's conduct using normal measures of actual causation.[113]

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111. Unlike current doctrine, the proposed standard would *not* require a plaintiff to demonstrate that a toxic exposure caused him to suffer from some current physical harm, nor would it require proof that a plaintiff is likely to actually contract disease in the future. As discussed earlier in the Article, such a standard can be defended only as a way to limit the number of claims that enter the tort system; however, it bears little relationship to the goal of deterring future physical injury. *See supra* notes 43-45, 53-54 and accompanying text. Thus, the proposed standard helps address the underdeterrence problem that plagues existing doctrine. On the other hand, unlike proposals for pure proportional liability, the proposed standard would not permit *every* person with *any* level of enhanced risk to pursue tort recovery. Thus, the proposed standard removes, or at least significantly diminishes, the flood of litigation fear that is a real barrier to the enhanced risk recovery theory. *See supra* notes 101-07 and accompanying text.

112. By design, the line also is consistent with a standard this author proposed in a recent article about whether tort law should compensate pre-manifestation plaintiffs for the cost of medical monitoring. *See generally* Klein, *Medical Monitoring*, *supra* note 10. That article, operating under the premise that additional medical surveillance would help detect and treat the onset of disease, suggests that a doubling-of-the-risk standard would improve tort law's ability to address pre-manifestation claims in an efficient manner while retaining a connection to tort law's tradition of actual causation. *Id.* at 15-28. The standard for enhanced risk recovery set forth in this Article, therefore, should be viewed as part of a larger vision about how tort law should compensate the pre-manifestation plaintiff. In an effort to avoid duplication, this Article does not address some of the points set forth in the previous article. Among these points is the concern about how – or whether – tort law should address de minimis enhanced risk. *See, e.g.*, ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY, *supra* note 64, at 373-74, 379-80 & n.60 (discussing significance of slight increases in risk of disease); Brennan, *supra* note 5, at 69 (suggesting that courts limit medical monitoring remedies to situations impacting large numbers of people). In the medical monitoring arena, some "cut-off" level seems sensible because the compensation at issue (the costs of medical surveillance) bears no relation to the level of enhanced risk. *See* Klein, *Medical Monitoring*, *supra* note 10, at 16-18 (discussing relationship between compensation and level of enhanced risk). The need for such a "cut-off," however, is not so compelling in the enhanced risk arena where the level of recovery would be directly proportional to the level of enhanced risk. *See, e.g.*, *infra* notes 163-65 and accompanying text (discussing possibility of limiting recovery to level of enhanced risk). For example, under this Article's proposal, a person whose level of risk for a particular disease increased from .5% to 1% would be able to recover .5% of the cost of his future disease, even though he might not be able to recover medical monitoring costs under the prior article's proposal. *See* Klein, *Medical Monitoring*, *supra* note 10, at 17-18; *infra* notes 163-64 and accompanying text. The enhanced risk recovery, however, is logical from a deterrence standpoint because it proportionately compensates for the possibility of future harm. Further, a person in such a position might well decide that the small recovery is not even worth the cost of litigation and decide to wait for the unlikely manifestation to occur before he sues. *See* Robinson, *supra* note 16, at 788 (suggesting that such choice is important).

113. *See infra* notes 117-30 and accompanying text.

As detailed below, this correlation would reduce the tension that enhanced risk recovery has with corrective justice theory.[114] It would create a system that is more administratively plausible than a system of pure proportional liability.[115] It also would still take account of the tort system's role in deterring risky conduct.[116]

A. Proving Causation

Commentators have documented the tremendous difficulties inherent in proving causation in post-manifestation toxic tort cases.[117] However, a brief description of the topic is relevant to explaining this Article's proposed standard, given the standard's explicit connection to causation in the post-manifestation setting.

Initially, one should recall that tort law normally requires a plaintiff to connect her injury, by a preponderance of the evidence, to a defendant's tortious act or omission.[118] This connection may be relatively easy to prove in a run-of-the-mill case. However, it can be quite difficult to prove in a toxic exposure case both because of the latency problem[119] and because the plaintiff may have been exposed to more than one disease-causing toxin. In light of these problems, courts generally require toxic exposure plaintiffs to jump through two "hoops" in order to prove actual causation. First, plaintiffs must

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114. *See infra* notes 132-35 and accompanying text.

115. *See infra* notes 136-41 and accompanying text.

116. *See infra* notes 136-41 and accompanying text. Economists do not often advocate rules based on the ex post approach of actual causation. *See* Schwartz, *supra* note 21, at 1817 & n.123 (remarking that "language of causation" is "alien" to an economist (citing Guido Calabresi, *Concerning Cause and the Law of Torts: An Essay for Harry Kalven, Jr.*, 43 U. CHI. L. REV. 69, 105 (1975))). However, as Professor Schwartz pointed out, the "actual causation test produces results that are roughly acceptable for deterrence purposes." Schwartz, *supra* note 21, at 1817. Drawing a standard with a connection to actual causation in an enhanced risk case would seem to be especially palatable to an economist because, unlike in most cases, the causation standard would be used in an ex ante fashion – the law would be setting a liability standard based on an attempt to determine the level of future harm that the defendant's conduct would cause in the future.

117. *See* Klein, *Medical Monitoring*, *supra* note 10, at 18-23. For a more detailed treatment of the topic, see generally Gerald W. Boston, *A Mass Exposure Model of Toxic Causation: The Content of Scientific Proof and the Regulatory Experience*, 18 COLUM. J. ENVTL. L. 181 (1993) and Michael D. Green, *Expert Witnesses and Sufficiency of Evidence in Toxic Substances Litigation*, 86 NW. U. L. REV. 643 (1992). For an example of a recent case that has grappled with issues of toxic causation, see *Merrell Dow Pharmaceuticals v. Havner*, 953 S.W.2d 706 (Tex. 1997).

118. *See* KEETON ET AL., *supra* note 1, § 41, at 265-66; Paul J. Zwier, *"Cause in Fact" in Tort Law – A Philosophical and Historical Examination*, 31 DEPAUL L. REV. 769, 785 (1982) (discussing role of individualism in development of cause in fact requirement).

119. *See supra* notes 5-8 and accompanying text.

prove general causation – that the substance in question is capable of causing their disease.[120] Second, individual plaintiffs must prove specific causation – that the substance in question caused the particular plaintiff's disease.[121] Because scientific proof of specific causation is often difficult to obtain, however, many courts permit plaintiffs to recover if the plaintiffs show that the exposure increased their risk of contracting disease.[122]

The debate about what is necessary to prove causation in this fashion is far from settled.[123] Some courts and commentators, for example, have proposed a "strong" version of the preponderance rule, requiring both scientific evidence that exposure increased the chance of disease by more than fifty percent *and* "particularistic" evidence that the exposure led to disease in an individual plaintiff.[124] Others have advocated a weaker version of the preponderance rule that would permit verdicts to stand solely upon statistical evidence.[125] Still others have proposed that toxic tort law jettison the entire concept of using probabilities to prove general causation.[126]

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120. *See Havner*, 953 S.W.2d at 714 (discussing general causation) (citing Joseph Sanders, *From Science to Evidence: The Testimony on Causation in the Bendectin Cases*, 46 STAN. L. REV. 1, 14 (1993)); BOSTON & MADDEN, *supra* note 5, at 342-45 (same) (quoting Sterling v. Velsicol Chem. Corp., 855 F.2d 1188 (6th Cir. 1988)); *see also* Kenneth S. Abraham, *Individual Action and Collective Responsibility: The Dilemma of Mass Tort Reform*, 73 VA. L. REV. 845, 860 (1987) (referring to general and specific causation as "substance" and "source" causation).

121. *See Havner*, 953 S.W.2d at 714 (discussing specific and general causation); BOSTON & MADDEN, *supra* note 5, at 342-45 (same).

122. According to the *Havner* court,

> [t]he finder of fact is asked to infer that because the risk is demonstrably greater in the general population due to exposure to the substance, the claimant's injury was more likely than not caused by that substance. Such a theory concedes that science cannot tell us what caused a particular plaintiff's injury. It is based on a policy determination that when the incidence of a disease or injury is sufficiently elevated due to exposure to a substance, someone who was exposed to that substance and exhibits the disease or injury can raise a fact question on causation.

Havner, 953 S.W.2d at 714.

123. *See* Klein, *Medical Monitoring*, *supra* note 10, at 19-23 (discussing level of increased risk necessary to prove specific causation).

124. *See* Merrell Dow Pharm. v. Havner, 953 S.W.2d 705, 715 (Tex. 1997) (discussing "strong" version of preponderance rule (citing *In re* Agent Orange, 597 F. Supp. 740 (E.D.N.Y. 1985))); David Rosenberg, *The Causal Connection in Mass Exposure Cases: A "Public Law" Vision of the Tort System*, 97 HARV. L. REV. 849 (1984) [hereinafter Rosenberg, *Causal Connection*] (noting proposals for strong version of preponderance rule).

125. *See Havner*, 953 S.W.2d at 715 (noting weaker version of preponderance rule); Rosenberg, *Causal Connection*, *supra* note 124, at 857-58 (same).

126. *See* Berger, *supra* note 97, at 2140 (advocating cause of action premised on defendant's duty to "develop and disseminate" information that courts could use for risk assessment purposes); *id.* at 2134 (suggesting that "[i]f a corporation fails to exercise the appropriate level

Despite this wide range of opinion, a number of courts have coalesced around a standard that considers whether scientific evidence suggests that causation was "more than 50 percent probable."[127] In epidemiological terms, this threshold is the equivalent of saying that the "relative risk" of disease based on exposure is greater than two.[128] In such a situation, the risk of disease in an exposed population would be more than double the risk of disease in a non-exposed population.[129] That, of course, is exactly the standard that this Article suggests that courts should use when determining whether to award enhanced risk damages before a disease manifests.[130]

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of due care, it should be held liable to those put at risk by its action, without regard to injuries that eventually ensue" and asserting that "it is culpable because it has acted without taking into account the interests of those who will be affected by its conduct"). Professor Berger would permit defendants to exculpate themselves by showing either (1) "that certain adverse health reactions could not plausibly arise from exposure to defendant's product," or (2) that the court should reduce damages because a "particular plaintiff's injury is attributable or partly attributable to another cause, such as smoking." *Id.* at 2144-45.

127. *See infra* note 129 and accompanying text.

128. Epidemiology is the scientific discipline concerned with disease distribution and determinants among human populations. In epidemiology, "relative risk" compares the risk of disease among an exposed population with the risk of disease among a non-exposed population. Mathematically, the equation R1/R2 represents relative risk when R1 is the risk of disease among the exposed population and R2 is the risk of disease in the non-exposed population. *See* BOSTON & MADDEN, *supra* note 5, at 352, 354; Green, *supra* note 117, at 647-48.

> If the relative risk equals one (i.e., the numerator is the same as the denominator), the risk in the exposed group is the same as the risk in the nonexposed group, and there is no suggestion of any association between the exposure and the disease in question. If the relative risk is greater than one, the risk in the exposed group is greater than in the non-exposed group, and there is a positive association between the exposure and the disease.

BOSTON & MADDEN, *supra* note 5, at 354; *see also* Green, *supra* note 117, at 644-48.

129. *See, e.g.*, Daubert v. Merrell Dow Pharm., 43 F.3d 1311, 1320 (9th Cir. 1995) (requiring risk of disease in exposed population to be twice that in non-exposed population in order for plaintiffs to recover); DeLuca v. Merrell Dow Pharm., 911 F.2d 941, 958-59 (3d Cir. 1990) (same); Hall v. Baxter Healthcare Corp., 947 F. Supp. 1387, 1403 (D. Or. 1996) (same); Manko v. United States, 636 F. Supp. 1419, 1434 (W.D. Mo. 1986) (same); Marder v. G.D. Searle & Co., 630 F. Supp. 1087, 1092 (D. Md. 1986) (same); Cook v. United States, 545 F. Supp. 306, 308 (N.D. Cal. 1982) (same); *Havner*, 953 S.W.2d at 716 (same).

130. *See supra* notes 111-29 and accompanying text. To be sure, the "doubling standard" has its complications. *See* Klein, *Medical Monitoring*, *supra* note 10, at 20-23. Professor Green, in particular, argued that courts should not apply a burden of production that requires epidemiological evidence because in many cases epidemiological evidence simply does not exist. Green, *supra* note 117, at 674-95. Instead, Professor Green argued that "plaintiffs should be required to prove causation by a preponderance of the *available evidence*, not by some predetermined standard that may require nonexistent studies." *Id.* at 680. This does not mean, however, that Professor Green rejected the doubling standard itself; rather, he objected that courts have wrongly "created a veneer of infallibility and conclusiveness" around epidemiology studies. *Id.* at 699.

B. Supporting Theory

The proposed standard provides a common sense equilibrium. The tort system would not hold a defendant liable for creating a risk of harm when a court would not attribute the harm to the defendant's conduct if the harm were to occur later.[131] Although this equilibrium might not completely satisfy some corrective justice theorists,[132] it should represent an improvement over proposals for pure proportional liability, and, perhaps, create a setting in which Professor Schwartz's "mixed theory" of tort law could take root.[133]

For example, Professor Weinrib viewed "[t]he requirement of factual causation [as] establish[ing] the indispensable nexus between the parties by relating their rights to a transaction in which one has directly impinged upon the other."[134] A system of pure proportional liability would inevitably violate

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131. In general, this standard would limit pre-manifestation recovery to cases involving substances around which a "mature" body of scientific evidence has developed. *See, e.g.*, Daubert v. Merrell Dow Pharm., Inc., 43 F.3d 1311, 1316 (9th Cir. 1995) (describing court's task as "daunting" when dispute "concerns matters at the very cutting edge of scientific research, where fact meets theory and certainty dissolves into probability"); Schneck v. IBM Corp., Civ.No. 92-4370, 1996 U.S. Dist. LEXIS 10126, at *12-*13 (D.N.J. June 21, 1996) (denying consolidation of similar toxic tort cases when scientific evidence is not "mature") (citing MANUAL FOR COMPLEX LITIGATION § 33.26, at 322 (3d ed. 1995)). For example, scientific evidence linking tobacco or asbestos to human disease has matured. *See* Borel v. Fibreboard Paper Prods. Corp., 493 F.2d 1076, 1083-84 (5th Cir. 1973) (tracing knowledge of asbestos-related health risks to 1920s and noting that U.S. Public Health Service documented risks associated with asbestos exposure in 1938); Jon D. Hanson & Kyle D. Logue, *The Costs of Cigarettes: The Economic Case for Ex Post Incentive-Based Regulation*, 107 YALE L.J. 1163, 1167 & nn.1-4 (1998) (citing numerous studies linking tobacco to human disease); Irene Scharf, *Breathe Deeply: The Tort of Smokers' Battery*, 32 HOUS. L. REV. 615, 616 n.2 (1995) (tracing studies of tobacco-related disease to 1891). In contrast, evidence presented in the early 1990s concerning breast implants was not sufficiently mature to connect the implants to harm. *See* Gina Kolata, *Implants Cause No Major Disease*, CHARLOTTE OBSERVER, June 21, 1999, at 4A (reporting that "[a]n independent panel of 13 scientists convened by the Institute of Medicine at the request of Congress has concluded that silicone breast implants do not cause any major diseases"). *See generally* MARCIA ANGELL, SCIENCE ON TRIAL (1996) (discussing use of scientific evidence in tort cases). The standard proposed in this Article, therefore, would significantly restrict tort access for pre-manifestation plaintiffs; they would not recover until scientific evidence was sufficiently mature to establish a causal link between their exposure and their disease. This limitation should not prevent society from addressing the health problems associated with toxic exposure at the earliest possible stage. Nevertheless, the tort system is the wrong place to do so until scientific evidence matures. *See infra* notes 176-87 and accompanying text.

132. *See, e.g.*, Weinrib, *supra* note 82, at 38-40 (discussing importance of providing nexus between plaintiff's injury and defendant's wrong); *cf.* Schroeder, *Increasing Risks*, *supra* note 84 (asserting that tort system should enforce "norms of morality").

133. *See supra* notes 98-100 and accompanying text. As Professor Schwartz pointed out, however, leading corrective justice scholars have not been especially open to this notion. *See* Schwartz, *supra* note 21, at 1815.

134. Weinrib, *supra* note 82, at 38; *see supra* notes 80-87 and accompanying text.

this requirement: A plaintiff could recover damages despite (1) suffering from no current disease, (2) being unable to show that he is likely ever to suffer from disease, and (3) being unable to show that, if he did contract the disease, he could establish a causal connection to the defendant's conduct. Thus, any connection to actual causation in a system of proportional liability would be purely fortuitous.

The proposal in this Article, however, would reduce the tension with corrective justice theorists by eliminating the third point above. Proportional recovery would attach at the time of the risk creation only when a plaintiff demonstrated that a causal link would exist if the disease were to manifest. The connection to causation is then explicit and intentional, rather than nonexistent or fortuitous. In addition, this link to causation – Professor Weinrib's "indispensable nexus" – would assure that utilitarian concerns alone do not drive the rule. In this way, the rule would again appeal to the corrective justice theorist, at least as an alternative to a system of pure proportional liability.[135]

Of course, by refusing to establish even proportional liability for those who cannot prove a doubling of the risk, this proposal is open to the criticism that led to pure proportional liability suggestions in the first place: the law would not force actors to internalize the true costs of their activities at the time they create risk.[136] In a perfect world, that may be true. But, the proposal here is hardly blind to deterrence and is, in many ways, a more realistic effort to improve upon current enhanced risk doctrine than are proposals for pure proportional liability.

Recall that one of the fundamental concerns about tort law recovery for enhanced risk involves the possibility of both under- and *over*deterrence.[137] In other words, some view enhanced risk recovery as a windfall to those who never contract disease. As discussed above, this criticism is tractable in a perfect world, where we assume that everyone exposed to risk receives a proportional payment.[138] However, if the perfect world is not attainable,[139] it makes sense to focus on those plaintiffs who would be able to prove actual causation if they actually were to contract the disease.[140] In this way, we compel actors to internalize the risks only of those future harms that the tort system would attribute to their conduct.[141]

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135. *See* Weinrib, *supra* note 82, at 38-40.

136. *See supra* notes 43-45, 53-54 and accompanying text (discussing deterrence).

137. *See supra* notes 73-74 and accompanying text (noting overdeterrence and underdeterrence problem).

138. *See supra* notes 75-79 and accompanying text.

139. *See infra* notes 144-46 and accompanying text (discussing inefficiencies associated with tort system).

140. *See supra* note 131.

141. For other risks, the tort system is simply the wrong place to achieve deterrence and

C. Administrative Feasibility

Finally, it is unrealistic from an administrative standpoint to suggest that the tort system should be the vehicle to address all cases of enhanced risk that toxic exposure causes.[142] Given the enormous amount of toxins to which we are exposed, the "flood of litigation" concern would be no trivial matter if we could all sue for enhanced risk at any time. Furthermore, litigation is not an efficient way to achieve deterrence. The transaction costs associated with litigation are enormous,[143] and are likely to be especially large when proof of causation is tenuous.[144] This suggestion does not dispute that risk deterrence is an important function of the tort system. Again, the standard proposed here accomplishes exactly that – but only when mature evidence suggests that the eventual manifestation of harm could be connected to the defendant's conduct.[145] In other cases, there are fairer and more efficient ways to address unmatured risk.[146]

In short, this Article suggests that tort law should permit post-exposure, pre-symptom plaintiffs to recover damages only when they demonstrate that the exposure in question at least has doubled their risk of disease. This standard has a fundamental correlation to the actual causation standard that

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compensation. In these instances, society should rely on administrative compensation to achieve these goals. For a brief discussion of this author's views on this topic, see Klein, *Medical Monitoring*, *supra* note 10, at 33-37.

142. *See supra* notes 105-10 and accompanying text (noting administrative difficulties of addressing enhanced risk in tort cases). Even Professor Robinson states that the "class of cases for which risk-based liability would be a useful concept is a limited one." Robinson, *supra* note 16, at 797 & n.43. *But cf.* Rosenberg, *Causal Connection*, *supra* note 124, at 908-15 (promoting use of class actions to resolve mass exposure cases).

143. *See* Gary T. Schwartz, *The A.L.I. Reporters' Study*, 15 U. HAW. L. REV. 529, 537 (1993) (estimating that for every dollar that comes into the tort system, only forty or fifty cents ends up compensating injured victims). Professor Schwartz argued that "when tort law is considered from the perspective of efficiently compensating accident victims, its very high overhead becomes quite hard to justify." *Id.*; *see also* Michael J. Saks, *Do We Really Know Anything About the Behavior of the Tort Litigation System – And Why Not?*, 140 U. PA. L. REV. 1147, 1282 (1992) (stating that transaction costs are most expensive part of litigation); Stephen D. Sugarman, *Doing Away with Tort Law*, 73 CAL. L. REV. 555, 598-603 (1985) (discussing high transaction costs involved in Agent Orange, Bendectin, IUD, and asbestos litigation). Professor Saks reported that in the middle 1980s "it cost society $1.92 to deliver $1 of compensation to a victim of negligent injury." Saks, *supra*, at 1282.

144. *See, e.g.*, Saks, *supra* note 143, at 1282 (discussing high cost of litigating asbestos claims); Sugarman, *supra* note 143, at 600-01 (noting difficulty of proving causation in asbestos claims and high cost of asbestos litigation); *see also* Andrew R. Klein, *Beyond DES: Rejecting the Application of Market Share Liability in Blood Products Litigation*, 68 TUL. L. REV. 883 (1994) (discussing transaction costs associated with blood products litigation).

145. *See supra* note 131.

146. *See* Klein, *Medical Monitoring*, *supra* note 10, at 33-37 (exploring ways to address enhanced risk outside tort system).

courts apply in cases where disease in fact does manifest. Because of this correlation, the standard takes account of corrective justice concerns, while addressing the goal of deterrence in a more precise and plausible manner than would a system of pure proportional liability.

V. Applications

The previous section proposed a new enhanced risk standard. This section demonstrates how that standard would work. The section also discusses how enhanced risk recovery would operate in conjunction with other latent harm causes of action, such as medical monitoring.[147]

A. Tort Law Applies

Assume that BigCo has negligently exposed five thousand citizens in Niceville to a large quantity of "toxzene." Assume further that epidemiological studies indicate that the level of exposure experienced by Niceville's citizens has increased their risk of liver cancer from 5% to 15%. Finally, assume that no citizen has manifested any symptoms of disease related to toxzene exposure. Under current doctrine, the citizens of Niceville cannot maintain an enhanced risk claim against BigCo because (1) they do not suffer from current physical manifestations of disease[148] and (2) no individual citizen can demonstrate the probability that she will suffer from liver cancer in the future.[149]

Under the standard proposed here, however, each citizen of Niceville could maintain a claim for enhanced risk. The key, of course, is the doubling of risk. Any Niceville citizen who develops liver cancer in the future would be able to connect the disease to the BigCo exposure – that is, it is more likely than not that the exposure caused future liver cancer cases.[150] In this way, we force BigCo to internalize costs only for risks which may mature into tort liabilities.

If each Niceville citizen could recover the full amount of damages associated with a case of liver cancer, however, serious concerns about overdeterrence would arise because many citizens will never actually contract cancer. Thus, it is sensible to borrow from proportional liability proposals when considering damages in this setting. In particular, tort law should link the amount of recovery to the level of increased risk. In this case, plaintiffs could recover 10% of the cost of an actual liver cancer case. As discussed

147. *See infra* notes 156-61, 166-67 and accompanying text; *supra* note 112.

148. *See supra* notes 32-40 and accompanying text.

149. *See supra* notes 41-45 and accompanying text.

150. *See infra* note 175 and accompanying text (discussing "more likely than not" causation standard); *supra* notes 111-30 and accompanying text (same).

above, this sum would approximate the premium on an insurance policy covering the increased risk that each plaintiff must bear.[151]

Implicit in permitting recovery based on the price of insurance, however, is the idea that courts should not permit plaintiffs who do develop disease to return to court to seek additional compensation. This notion is consistent with the principles underlying the "single action" rule.[152] Therefore, if a plaintiff files an enhanced risk claim under the standard set forth in this Article, a court will need to determine at the same time whether the plaintiff can maintain other claims related to the toxic exposure.[153] Such actions typically include claims for fear of disease and for medical monitoring in an effort to detect and treat disease as quickly as possible.[154] The "fear of disease" cases are outside the scope of this Article because such cases generally compensate for emotional, rather than physical, harm.[155] Claims for medical monitoring, however, closely relate to claims for enhanced risk and merit discussion here.

As this author has argued in a previous article, the baseline for permitting post-exposure, pre-symptom medical monitoring recovery should be the same as the standard set forth herein – the plaintiff should demonstrate that the toxic exposure at least has doubled the risk of disease.[156] Indeed, the proper way to view medical monitoring recovery is as part of the compensation for enhanced risk itself, not as compensation for the "separate" injury viewed as the need for medical monitoring.[157] Assuming that the plaintiff can introduce testimony that medical procedures exist that would make the early detection and treatment of disease possible and beneficial,[158] the plaintiff who can prove a doubling of the risk should be able to recover the costs of such procedures in addition to proportional enhanced risk recovery. Beyond the arguments

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151. *See supra* notes 75-79, 138 and accompanying text.

152. *See supra* note 41 and accompanying text (discussing "single action" rule).

153. A plaintiff, however, should not be compelled to file an action prior to manifestation. Statutes of limitations, then, should not bar claims before that point in time. *See* Robinson, *supra* note 16, at 788.

154. *See supra* notes 8-10 and accompanying text (discussing pre-manifestation claims other than enhanced risk).

155. However, some courts do determine the legitimacy of plaintiffs' fears based, in part, on how likely it is the disease will occur. *See, e.g.*, Potter v. Firestone Tire & Rubber Co., 863 P.2d 795, 810-16 (Cal. 1993). Thus, there may be some connection between the level of enhanced risk and recovery for the fear of disease.

156. *See* Klein, *Medical Monitoring*, *supra* note 10, at 16.

157. *See id.* at 15-16.

158. *See id.* at 15 n.68; *see also In re* Paoli R.R. Yard PCB Litig., 35 F.3d 717, 787 (3d Cir. 1994) (stating that if plaintiff could not prove that medical procedures exist making early detection and treatment of disease possible and beneficial, then plaintiff could not recover medical monitoring expenses (quoting *In re* Paoli R.R. Yard PCB Litig., 916 F.2d 829, 852 (3d Cir. 1990))).

advanced in this Article, applying the doubling of the risk standard to medical monitoring has the added benefit of helping to mitigate future harm, and, perhaps, future liability.[159] Assuring medical monitoring also may have the effect of lowering the cost of the enhanced risk "insurance premium" component of the tort award.

Therefore, to continue with the example set forth above, assume that the citizens of Niceville introduce evidence that medical procedures exist that would make the early detection and treatment of disease possible and beneficial. Their tort awards then would include both proportional recovery for the enhanced risk and an amount that would cover the cost of medical monitoring. As suggested above, the single action rule then would preclude the plaintiff from ever suing again to recover for harms associated with the exposure.[160] This result achieves a number of goals. First, by making defendants internalize the possibility of future costs related to their risk creation, the result serves tort law's deterrence objective. Second, by including payment for medical monitoring, the result mitigates the possibility of future disease. Third, by limiting the result to cases in which a plaintiff can prove a doubling of the risk, the result relies on the link to actual causation that provides the underpinnings for corrective justice.[161]

B. Tort Law Partially Applies

As explained in the previous section, the doubling of the risk standard normally supplies a logical standard for the recovery of both enhanced risk and medical monitoring damages.[162] However, it is worth noting one type of instance in which this is not true – when the level of risk involved is extremely small. In such cases, it is feasible to allow a plaintiff to maintain an enhanced risk claim but not a medical monitoring claim.

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159. The question of future liability depends in large part on how one resolves the statute of limitations questions raised earlier in the Article. *See supra* notes 7, 41-49 and accompanying text. If one views the discovery of the existence of enhanced risk as the date of accrual, there may be *no* future liability for the manifestation of disease. However, if one is willing to give plaintiffs a choice of waiting for the disease to manifest itself before filing suit (i.e., if one tolls the statute of limitations until manifestation), then future liabilities may exist. In addition, giving plaintiffs a choice to wait until manifestation to sue could encourage defendants to fund medical monitoring programs in appropriate circumstances. *Cf.* Robinson, *supra* note 16, at 788 (stating that he does not propose "requiring victims to pursue recovery for risk if they prefer to await the outcome and seek compensation for actual injury" and that "[t]he question is whether there is reason to deny an action to a risk victim who does not want to wait . . . to find out whether injury ensues").

160. *See supra* notes 152-55 and accompanying text (discussing single action rule).

161. *See supra* notes 80-87, 135 and accompanying text (discussing corrective justice).

162. Recovery of medical monitoring damages assumes, of course, that the plaintiff can present evidence that medical procedures exist that would make the early detection and treatment of disease possible and beneficial. *See supra* note 158 and accompanying text.

Continuing with the earlier hypothetical, suppose that BigCo negligently exposed the citizens of Niceville to "chemilite," and that studies show the level of exposure increased their risk of a rare form of cancer from 3 in 10,000 to 7 in 10,000.[163] Suppose further that experts are willing to testify that expensive medical procedures exist that would make the early detection and treatment of the cancer possible. In such a case, there is little problem with keeping the tort system open to a plaintiff who wants to proceed with an enhanced risk claim.[164] Recovery in such cases would remain directly proportional to the small level of risk; therefore, the plaintiff would receive only a small award which would force the defendant to internalize only an appropriate amount considering the level of risk created. Indeed, the amount of recovery in such a case would be so small that most people might not even bother bringing a lawsuit.[165]

Medical monitoring recovery, however, would be troubling because the amounts of the awards would not bear any proportional relationship to the number of cases of disease that would actually occur. Without this relationship, a serious risk of overdeterrence might result from a broad use of medical monitoring awards.[166] The standard as applied to medical monitoring recovery, therefore, should incorporate some minimal level of enhanced risk as a threshold to recovery.[167] This threshold likely would preclude medical moni-

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163. In percentage terms, this would represent an increase from .03% to .07%.

164. Under any proportional liability system, however, preserving the plaintiff's options should be an option rather than a requirement. Consequently, courts should not interpret statutes of limitation as barring claims prior to manifestation if a plaintiff does not choose to file suit until that time. *See supra* notes 64, 153, 159 and accompanying text.

165. For example, assume each cancer case to be valued at one million dollars. When the $1,000,000 is multiplied by the increased risk (.04%), the individual recovery would be only $400. Such a case may be feasible, however, as a class action. *See* Rosenberg, *Causal Connection*, *supra* note 124, at 908-16.

166. *See* Brennan, *supra* note 5, at 69 (contrasting certitude of medical monitoring damages with variability of damages for pain, fear, and anxiety).

167. *See* ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY, *supra* note 64, at 379-80 & n.60 (stating that "it would be inappropriate for a court to order a defendant to fund [medical monitoring] for all 100,000 people residing in the area of a toxic exposure where the exposure is projected to increase the incidence of [a particular disease] from 3 to 5"); *see also id.* at 373-74 (asserting that compensation for slight increases in risk – "on the order of 2 or 3 percent" – should fall primarily "within the purview of state and federal environmental regulation"); Brennan, *supra* note 5, at 69 (advocating "significant potential for injury" prior to compensating for medical monitoring); Klein, *Medical Monitoring*, *supra* note 10, at 16-18 (presenting formulations for compensation of medical monitoring based on level of increased risk). This line could be drawn in any number of ways including, most obviously, an absolute numerical cutoff in terms of enhanced risk percentage. *Id.* Professor Brennan provided a more creative solution, suggesting that courts limit medical monitoring recovery to those exposed to "significant concentrations of one of the . . . most toxic chemicals as designated by the [Agency for

toring recovery to the citizens of Niceville in the hypothetical set forth above, even though the door would remain open to them to sue for enhanced risk.

C. Tort Law Does Not Apply

The previous two sections have explained the limits of post-exposure, pre-symptom tort recovery under the proposed standard. The following section provides an example in which the tort system would not apply, despite the existence of an increased risk of disease.[168]

Suppose for example that BigCo negligently has exposed the citizens of Niceville to "chemex," and studies show that the level of exposure increased their risk of contracting cancer from 25% to 30%.[169] As in the previous examples, assume that no plaintiff has manifested symptoms of disease and that procedures exist that would make the early detection and treatment of the cancer possible. Under the standard proposed here, the citizens of Niceville could not use the tort system to obtain compensation for enhanced risk of disease.[170] The "doctrinal" reason, of course, would be that the plaintiffs could not establish that their risk of contracting disease had doubled.

Advocates of proportional liability would disagree with this result. Instead, they would argue that each citizen of Niceville should receive a percentage of the cost of an eventual case of cancer.[171] The primary theory behind this argument, of course, would be deterrence: the rule would force BigCo to internalize the costs of the harm that we know they will cause in the future.[172]

Toxic Substances and Disease Registry (ATSDR)]." Brennan, *supra* note 5, at 69. As this author previously has stated, "Professor Brennan's suggestion has the benefit of clarity and rationality in that those who compile the ATSDR list are primarily concerned with the overall risk posed by each substance." Klein, *Medical Monitoring*, *supra* note 10, at 17.

168. By stating that the "tort system would not apply," this Article suggests that a plaintiff could not maintain an action to recover for enhanced risk or medical monitoring. As noted above, however, this Article takes no position on the possibility of emotional distress recovery as a possible pre-manifestation tort law remedy. *See supra* note 155 and accompanying text.

169. *See* Sterling v. Velsicol Chem. Corp., 855 F.2d 1188, 1205 (6th Cir. 1988) (refusing to permit enhanced risk recovery on evidence of 25%-30% increased risk). The *Sterling* court based its ruling on the traditional rule – the plaintiffs could not show that disease was reasonably certain to follow. *Id.* The claim would fail under the standard proposed in this Article for a different reason – the plaintiffs could not show that the exposure doubled their risk of disease. Although the standards lead to the same conclusion under this set of facts, the rationales behind the conclusions are much different.

170. Nor could the citizens of Niceville recover the costs of medical monitoring. *See supra* notes 112, 157-60 and accompanying text (discussing applicability of proposed standard to medical monitoring); *see also* Klein, *Medical Monitoring*, *supra* note 10, at 31-32 (asserting that use of tort system is less logical when level of increase of risk is undefined).

171. *See supra* notes 62-65 and accompanying text.

172. *See supra* notes 62-65 and accompanying text.

Setting aside corrective justice objections,[173] the proposal in this Article rejects proportional liability here for more pragmatic reasons. First, permitting enhanced recovery in this type of case would open the tort system to an enormous number of claimants, likely to such an extent that administrative concerns would preclude any realistic possibility of having courts adopt the standard.[174] Second, and more broadly, permitting proportional liability here would create a troubling lack of consonance in the application of actual causation. In particular, the proportional liability rule would have the contradictory effect of imposing responsibility on the defendant for creating a risk that the system would not impose if the disease actually manifested.[175]

The problem with rejecting liability in this type of case, however, is that we know BigCo's conduct will cause harm in the future, yet BigCo is never forced to internalize the harm's cost. The answer to this concern is to recognize that it is impractical to expect tort law to provide the sole mechanism for deterrence in our society. When the tort system cannot do so realistically or efficiently, we should look elsewhere to achieve this goal. In the area of toxic exposure and enhanced risk of disease, administrative alternatives, such as taxes or compensation programs, could fill the void in ways that would solve many of the problems of a vastly expanded tort system.[176]

The use of administrative alternatives to tort law has been the subject of vigorous debate.[177] Commentators such as Peter Huber, for example, have

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173. *See supra* notes 80-88 and accompanying text.

174. *See supra* notes 105-10 and accompanying text (discussing number of individuals exposed to potentially harmful toxins). Indeed, obtaining the desired level of deterrence would entail attempting to bring as high a number of exposed individuals into the tort process as possible. *See supra* notes 136-41 and accompanying text. Thus, obtaining the maximum benefit of a proportional liability approach in this type of case necessarily exacerbates the "flood of litigation" problem. *Cf.* Rosenberg, *Causal Connection*, *supra* note 124, at 892 (stating that fear of "flood of petty and spurious claims" from mass exposure is groundless because cost of adjudicating claims, rather than number of claims, is appropriate concern).

175. For example, suppose one of Niceville's citizens contracted cancer and sued BigCo, alleging that the exposure to chemex caused her disease. This claim would fail because the citizen could not prove that the exposure more likely than not caused the disease. In fact, it is far more likely that the exposure did do so. Of course, the claim could succeed if a court applied the proposed doubling-of-the-risk standard, because doubling of the risk shows that any manifestation would more likely than not be the result of the exposure. This connection to the typical causation standard is also part of what makes the proposal more attuned to notions of corrective justice as compared to a system of pure proportional liability. *See supra* notes 131-35 and accompanying text.

176. *See* Klein, *Medical Monitoring*, *supra* note 10, at 33-37 (discussing how administrative alternatives to tort law would work in medical monitoring context); *see also* Berger, *supra* note 97, at 1245 (describing possible responses to corporations' failures to disclose known dangers).

177. *See generally* ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY, *supra* note 64 (proposing administrative alternatives to tort law); Abraham, *supra* note 120 (same); Sugarman,

argued that tort law is almost always an inferior mechanism to make public risk assessment decisions.[178] Other scholars, such as Professors Clayton P. Gillette and James E. Krier, vigorously disagreed and have criticized such general conclusions as overly ambitious and "remarkably premature."[179]

Most of the debate, however, approaches the problem as an all-or-nothing competition between agencies and courts. Such polarization leaves little room for innovation, and even participants in the debate recognize its "no-win" nature.[180] Professor E. Donald Elliott, for example, described himself as a believer in the superiority of administrative agencies.[181] Yet, he wrote about the need for society "to develop new institutional arrangements that adapt the best features of both courts and the administrative process to deal with the problems of toxics in the environment."[182]

As this author has argued, it is most productive to begin developing such "institutional arrangements" within specific contexts.[183] In the enhanced risk context, this requires limiting the tort system's role to situations where a connection to causation can be made – that is, when the enhanced risk plaintiff can prove a doubling of the risk.[184] In other cases, society should look more

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supra note 143 (same); Symposium, *Future Prospects for Compensation Systems*, 52 MD. L. REV. 893 (1993) (same).

178. *See* Peter Huber, *Safety and the Second Best: The Hazards of Public Risk Management in the Courts*, 85 COLUM. L. REV. 277, 278 (1985) (criticizing judicial system's inability to manage public risk); *see also* Donald E. Elliott, *Why Courts?*, *supra* note 78, at 803 (stating that "there is . . . reason to believe that other institutions are better equipped than lay courts and juries to assess risks").

179. Clayton P. Gillette & James E. Krier, *Risk, Courts, and Agencies*, 138 U. PA. L. REV. 1027, 1031 (1990).

180. *See* Elliott, *The Future of Toxic Torts*, *supra* note 51, at 783 (describing continuing debate as "'no-win' choice between courts and compensation funds").

181. *See id.* at 791.

182. *Id.* at 783. Professor Elliott advocated techniques that combine judicial and administrative elements into "hybrid compensations systems." He asserted that "[t]he idea is not to replace judges and juries, but to facilitate their deliberations by using the administrative process to develop scientific information that can be used in individual tort cases." *Id.*; *see also id.* at 798 ("In light of the real strengths and weaknesses that affect both traditional litigation and traditional administrative compensation systems, I do not believe that either 'alternative' in its pure form will constitute the future's answer to the problem of compensation for exposure to toxic substances in the environment.").

183. *See* Klein, *Medical Monitoring*, *supra* note 10, at 28 (stating that, in medical monitoring context, "[a] tort regime that fails to apply a defined enhanced risk standard will provide little check on litigation that is driven by factors unrelated to the actual risk of defendant's activity").

184. *See supra* notes 111-13, 127-30 and accompanying text. Professor Elliott is critical of the role that causation often plays in toxic torts litigation. *See* Elliott, *The Future of Toxic Torts*, *supra* note 51, at 784 (describing "effect of the traditional legal requirement that plaintiffs must prove that they are more likely than not to have suffered physical injury in order to

closely at administrative agencies as institutions that might intervene in the name of public risk.[185] The precise details of how such systems might operate are not the focus of this Article.[186] However, as this author has argued in similar contexts, it is more than possible for administrative compensation and tort law to co-exist, and society would benefit from greater efforts toward that end.[187]

VI. Conclusion

Despite the efforts of courts and the suggestions of commentators, tort law has done a poor job of handling enhanced risk cases. Doing better requires some forward thinking, as well as a look to the past. In the forward sense, tort law must move beyond awkward attempts to force enhanced risk cases into existing paradigms. There is no good reason, for example, to compensate for the possibility of *future* harm based on whether *current* manifestations of disease exist.[188] Instead, a better line might be drawn by

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recover" as "pernicious"). The proposal in this Article, however, would not require plaintiffs to prove a current physical injury as a prerequisite to access the tort system for enhanced risk recovery. Rather, the proposal would require evidence that, if an illness were to manifest, the plaintiff could connect it to the defendant's conduct. The proposal also leaves the door open for compensation unrelated to physical harm, such as recovery for emotional distress caused by toxic exposure. In this way, the proposal contained in this Article is not necessarily inconsistent with Professor Elliott's view that the "the affront to one's dignity that occurs when one is assaulted with a potentially hazardous chemical, is also an injury that the law should recognize and compensate." Elliott, *The Future of Toxic Torts*, *supra* note 51, at 789.

185. This position does not intend to idealize administrative risk regulation, nor to ignore arguments that "capture theory" creates motivations in political markets that are similar to those in other markets. *See, e.g.*, Gillette & Krier, *supra* note 179, at 1064-70. Instead, the position simply suggests there is room for a sensible middle ground in the public risk debate that would delineate circumstances under which both courts and agencies might operate to deter a proper amount of risk.

186. For examples of literature that addresses this topic in detail, see Symposium, *Future Prospects for Compensation Systems*, *supra* note 177. *See also* ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY, *supra* note 64, at 441-83; Andrew R. Klein, *A Legislative Alternative to "'No Cause" Liability in Blood Products Litigation*, 12 YALE J. REG. 107, 111 (1995) [hereinafter Klein, *Legislative Alternative*].

187. *See* Klein, *Legislative Alternative*, *supra* note 186, at 111-15 (proposing administrative scheme for victims of HIV-contaminated blood products); Klein, *Medical Monitoring*, *supra* note 10, at 33 (proposing administrative remedy for plaintiffs who do not meet proposed medical monitoring tort standard). Professor Berger also agreed that administrative compensation schemes should be a part of toxic tort reform: "Ideally, an administrative compensation scheme should be a part of this model .... It should at least be mentioned that such a scheme would start operating once a corporation was found negligent under the information gathering standard." Berger, *supra* note 97, at 2145; *see supra* note 126 and accompanying text (discussing Professor Berger's theory).

188. *See supra* notes 134-41 and accompanying text.

looking to the past and borrowing from a rule nearly as old as "he who breaks must pay."[189] That, of course, is the traditional rule of actual causation that requires a plaintiff to prove that the defendant's conduct more likely than not caused his harm.[190]

This Article has argued that tort law should provide plaintiffs with enhanced risk compensation only when they can prove that toxic exposure has doubled their risk of disease.[191] If plaintiffs can do so, the Article recommends that the tort system provide them with proportional compensation based on their level of increased risk. This proposal borrows from a full range of tort law concerns. First, by relying on the traditional rule of actual causation, the proposal considers corrective justice.[192] Second, by advocating proportional liability, the proposal takes account of the tort law goal of deterrence.[193] Finally, by limiting the number of potential enhanced risk plaintiffs, the proposal actually may be feasible administratively.[194]

In the end, we must recognize that the enhanced risk problem will be part of the tort landscape for years to come. The sooner we develop a meaningful way to handle such cases, the better off the tort system will be.

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189. *See supra* note 1 and accompanying text.

190. *See supra* notes 85, 112-13, 118 and accompanying text.

191. *See supra* notes 111-13, 117-30 and accompanying text.

192. *See supra* notes 132-35 and accompanying text.

193. *See supra* notes 62-65, 136-41 and accompanying text.

194. *See supra* notes 142-46 and accompanying text.