Issues in Asbestos Litigation

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Issues in Asbestos Litigation

Between 1940 and 1979, 27.5 million individuals were exposed to asbestos while working in the United States. As a result of this exposure, approximately 8,200 cancer deaths now occur annually. These deaths have led to a flood of litigation. At least 16,000 asbestos-related lawsuits have been filed in state and federal courts, and the case load continues to expand. These actions constitute the largest, and potentially most costly, block of products liability claims ever to confront American industry.

1. Asbestos Litig. Rptr. 5,176 (July 9, 1982). This is a maximum figure. Another estimate is that 13.2 million individuals were exposed. Id. at 4,679 (Mar. 12, 1982).

2. Id. at 5,176 (July 9, 1982). The number of annual deaths due to asbestos-related cancers will increase to approximately 9,700 by the year 2000. Id. The figures do not include deaths from asbestosis, another asbestos-related disease. See infra notes 15-19 & accompanying text.


All but two of the co-contributors to the National Cancer Institute (NCI) study have expressed doubts as to its correctness. Asbestos Litig. Rptr. 5,177 (July 9, 1982). The study also has been seriously criticized by independent experts. See Doll & Peto, The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today, 66 J. Nat'l Cancer Inst. 1191, 1240-41, 1305-08 (1981) (concluding that there is at least a 10-fold exaggeration in the NCI estimates of the cancer hazards of asbestos exposure).


4. The Manville Corporation, the nation's largest manufacturer of asbestos products, estimated that as of June 30, 1982, new suits against it were being filed at the rate of 425 a month. A study commissioned by Manville estimated that the company ultimately could face 52,000 suits. Asbestos Litig. Rptr. 5,397 (Aug. 27, 1982). Manville has filed a petition to reorganize under chapter 11 of the Bankruptcy Reform Act, 11 U.S.C. §§ 1101-1174 (Supp. V 1981). See infra notes 127-28 & accompanying text.

This Comment examines the adequacy, equity and efficiency of existing systems for compensating victims of asbestos-related disease. The health hazards associated with asbestos exposure are considered first. Workers' compensation, tort compensation and the legislative response then are considered in turn. This Comment concludes that existing systems of compensation are ineffective to deal with the asbestos problem, and that a federal compensation law should be enacted.

Medical Aspects of Asbestos Exposure

Asbestos is the generic name given to several naturally occurring fibrous mineral silicates. While asbestos has been known about and used in small amounts for thousands of years, the widespread use of asbestos is a 20th-century phenomenon. Some 3,000 uses of asbestos have been recorded. Most of these uses are in the construction industry, and thus it is in that industry that most of the occupational exposure to asbestos has occurred.


6. 1 Asbestos: Properties, Applications, and Hazards 1 (L. Michaels & S. Chissick eds. 1979) [hereinafter cited as L. Michaels & S. Chissick]. Currently, six silicates are considered by industrial and governmental groups in various parts of the world to be asbestos. These are crocidolite, amosite, anthophyllite, tremolite, actinolite, and chrysotile. Pooley, Mineralogy of Asbestos: The Physical and Chemical Properties of the Dusts They Form, 8 Seminars in Oncol. 243, 243 (1981). Chrysotile is the most important type, accounting for over 70% of the asbestos fiber used in the United States. Chest Medicine 379 (R. George, R. Light & R. Matthay eds. 1983) [hereinafter cited as R. George, R. Light & R. Matthay]. Crocidolite is the most pathogenic type. See infra note 131 & accompanying text.

7. Anthophyllite was used in Finland to make clay pots 4000 years ago. Charlemagne is said to have possessed a tablecloth made of asbestos and Marco Polo was shown the substance in his travels in Siberia. Pliny (A.D. 50) mentioned that the weavers producing wicks for the lamps of the vestal virgins wore masks to avoid inhaling asbestos dust. J. Crofton & A. Douglas, Respiratory Diseases 589 (3d ed. 1981); D. Hunter, the Diseases of Occupations 990 (6th ed. 1978); W. Morgan & A. Seaton, Occupational Lung Diseases 124 (1975).

8. The commercial mining of asbestos did not begin until 1879 in Quebec. Since then use has increased dramatically. Worldwide use of asbestos has increased eight-fold in the last 30 years and 1000-fold in the last 60 years. J. Crofton & A. Douglas, supra note 7, at 589.


10. The physical properties that make asbestos invaluable are fire resistance; poor conduction of heat and sound; the facility with which chrysotile, and to a lesser extent crocidolite, can be woven into fabrics; resistance to acids and chemicals (except for chrysotile); electrical resistance; and mechanical strength. W. Parkes, Occupational Lung Disorders 235 (2d ed. 1982). There is no substitute for asbestos in many products. Id. at 236.

11. For example, before the hazards of asbestos were known, asbestos was widely used in insulation products. Insulation workers were exposed to asbestos dust caused by cutting or sawing the insulation to obtain a proper fit. During the last few years the use of asbestos for new insulation has been virtually abandoned. There is, however, still a vast amount of old asbestos insulation in place, the replacement or repair of which can be extremely hazard-
Three primary health hazards have been associated with asbestos exposure: lung cancer, asbestosis, and mesothelioma. At least seventeen major studies conducted since 1955 have confirmed the relationship between asbestos exposure and an increase in lung cancer, but the best evidence suggests that this increase only occurs in asbestos workers who smoke. Lung cancer is virtually incurable.

Asbestosis is a pulmonary fibrosis (an increase in fibrous tissue in the lungs). Some studies suggest that seven to ten percent of workers


Exposure to asbestos in other industries has been less significant. For example, in the United States in 1972 only 541 individuals were employed in all known active asbestos mines and mills. L. Preger, Asbestos-Related Disease 3 (1978).

Exposure to asbestos also has occurred in less direct ways. The spouses of asbestos workers were exposed when they washed the workers' clothes, and families merely living in the vicinity of an asbestos mine, processing factory, shipyard or other large commercial user may have been exposed. Newhouse, Epidemiology of Asbestos-Related Tumors, in 8 Seminars in Oncol. 250, 253 (1981). Death and disability have resulted from this indirect exposure. See infra note 235.

12. Becklake, Asbestos-Related Diseases of the Lungs and Pleura, 126 Am. Rev. Resp. Dis. 187, 188 (1982). While asbestos can cause lung cancer, there is conflicting evidence as to whether or not asbestos also causes other cancers. Some studies suggest that individuals heavily exposed to asbestos in the past are about twice as likely to die of gastro-intestinal cancers (including cancers of the esophagus, stomach, and colon) as individuals not so exposed, and that eight to nine percent of asbestos-exposed individuals die of these cancers. See Occupational Diseases and Their Compensation (pt. 1, Asbestosis-Related Diseases): Hearings Before the Subcomm, on Labor Standards of the House Comm. on Educ. and Labor, 96th Cong., 1st Sess. 80 (1979) (statement of Dr. David P. Rall) [hereinafter cited as 1979 Hearings]. However, an increased prevalence of gastro-intestinal cancer has not been a uniform finding in all studies. W. Parkes, supra note 10, at 20; L. Preger, supra note 11, at 6; Craighead & Mossman, The Pathogenesis of Asbestos-Related Diseases, 306 New Eng. J. Med. 1446, 1452 (1982).


13. See infra note 135.

14. 1979 Hearings, supra note 12, at 49 (statement of Dr. Anthony Robbins).

15. Fibrosis occurs in the lung when asbestos fibers and alveolar macrophages (scavenger cells) accumulate in the alveoli, and are subsequently entrapped. This fibrosis later spreads down to affect the terminal air sacs and more peripheral alveoli, so that finally individual lesions link up to form a widespread fine fibrotic network in the lung. J. Crofton & A. Douglas, supra note 7, at 593; I. Selikoff & D. Lee, Asbestos and Disease 145-46 (1978).

Symptoms of asbestosis include steadily increasing breathlessness, dry cough (in the later stages of most cases), rales (crackling sounds which may be heard in the lungs), and clubbing of fingers and toes (of varying severity in approximately half the cases of more advanced asbestosis). W. Parkes, supra note 10, at 255-56.
exposed to asbestos contract asbestosis. However, this percentage varies between studies, and it has been as high as one hundred percent for workers exposed to asbestos for more than ten years. The most important variable determining the incidence of asbestosis among various populations is the product of the level and duration of asbestos exposure experienced by the workers. Asbestosis is frequently fatal. Malignant mesothelioma is a tumor arising from the mesothelial cells in the chest, stomach and heart. Some studies suggest that seven to ten percent of workers exposed to asbestos contract mesothelioma. However, the incidence of mesothelioma varies widely according to the groups of workers studied. Insulation workers and shipyard employees run the highest risk. Mesothelioma is dose-related and is uniformly fatal.

19. G. CROMPTON, DIAGNOSIS AND MANAGEMENT OF RESPIRATORY DISEASES 182 (1980). No specific treatment for asbestosis has been developed. M. WHITCOMB, THE LUNG: NORMAL AND DISEASED 174 (1982). In most cases the disease progresses even after the individual has been removed from exposure to asbestos dust. However, there is some evidence to suggest that removal from exposure after early detection of asbestosis may prevent progression to a more advanced stage of the disease. W. MORGAN & A. SEATON, supra note 7, at 128; W. PARKES, supra note 10, at 268; I. SELIKOFF & D. LEE, supra note 15, at 234.
20. Suzuki, Pathology of Human Malignant Mesothelioma, 8 SEMINARS IN ONCOL. 268, 268 (1981). Mesothelioma is much more likely to occur in the chest (pleura) than in the stomach (peritoneum), and it is very unlikely to occur in the heart. Id. Symptoms of pleural mesothelioma include steadily increasing chest pain and breathlessness, and loss of appetite and weight. Symptoms of peritoneal mesothelioma include abdominal discomfort and swelling, lethargy and weakness. W. MORGAN & A. SEATON, supra note 7, at 363-64.
21. See 1979 Hearings, supra note 12, at 80 (statement of Dr. David P. Rail). An incidence of 7-10% percent means that at least 10,000 mesotheliomas per year should be occurring already. However, the actual number is less than 1,000 a year. Doll & Peto, supra note 2, at 1307-08.
24. I. SELIKOFF & D. LEE, supra note 15, at 302. Fifty percent of patients with pleural mesothelioma are dead within 12 months of diagnosis, and very few survive more than two years. The prognosis for patients with peritoneal mesothelioma is even worse. W. MORGAN & A. SEATON, supra note 7, at 364. The course of the disease is not affected by radiotherapy, drugs or attempts at resection. J. CROFTON & A. DOUGLAS, supra note 7, at 595. Indeed, there is some evidence to suggest that radiotherapy and drugs may encourage the tumor to spread. W. PARKES, supra note 10, at 293. But see Brady, Mesothelioma-The Role for Radiation Therapy, 8 SEMINARS IN ONCOL. 329, 332-33 (1981).
Workers' Compensation

The primary vehicle for compensating the victims of occupational disease is workers' compensation. Asbestosis has been a recognized compensable disease under some workers' compensation programs since the early 1930's, and today all states cover the disease. Coverage of mesothelioma and lung cancer has been less frequent. Twenty-one states limit compensation for occupational diseases to those "peculiar to" or "characteristic of" a worker's occupation. Mesothelioma is not peculiar to occupational exposure to asbestos, since no contact with asbestos can be traced in fifteen percent of patients with the disease. Lung cancer is even less unique to the asbestos industry than is mesothelioma. Because pathologists cannot determine whether a given tumor was caused by asbestos rather than by cigarette smoke, few asbestos workers have received workers' compensation for lung cancer.

Even when the various asbestos-related diseases are covered by

25. Note, Compensating Victims of Occupational Disease, 93 HARV. L. REV. 916, 921 (1980). Workers' compensation is a mechanism for providing cash-wage benefits and medical care to victims of work-related injuries. The typical workers' compensation act has these basic features: (1) an employee is automatically entitled to benefits whenever he suffers a personal injury by accident or disease arising out of and in the course of employment; (2) in exchange for this automatic entitlement, an employee gives up his right to sue the employer for damages for any injuries covered by the act; and (3) the employer is required to secure his liability through private insurance, state-fund insurance, or self-insurance. See 1 A. LARSON, WORKMEN'S COMPENSATION LAW § 1.10 (1978).


29. W. PARKES, supra note 10, at 277. See also infra note 233. In some studies, the incidence of mesothelioma that is unrelated to asbestos exposure is as high as 80%. As a general rule, however, the more intensive the inquiry into possible asbestos exposure and the more thorough and quantitative the examination of lung tissue for asbestos, the fewer are the non-associated cases. Kannerstein, Churg, McCaughey & Selikoff, Pathogenic Effects of Asbestos, 101 ARCHIVES PATHOL. & LABORATORY MED. 623, 625 (1977). Thus, the few courts ruling on the issue have found mesothelioma to be a compensable occupational disease. See Tysenn v. Johns-Manville Corp., 517 F. Supp. 1290, 1292 (E.D. Pa. 1981); Osteen v. A. C. & S., Inc., 209 Neb. 282, 286, 307 N.W.2d 514, 518 (1981).

30. R. George, R. Light & R. Matthay, supra note 6, at 394.


statute or judicial decision, actual recovery may be precluded by one or more artificial barriers. Perhaps the most important restriction, present in many state compensation statutes, is the requirement that a claim be filed within a specified period of time after the last day of work or the last exposure to the injurious substance.  

This requirement may operate to bar claims for asbestos-related disease, because the specified period (often two to five years) is much shorter than the average latency periods for these diseases (two to four decades). Another barrier is the requirement that claimants with asbestosis prove that they have been exposed to the hazard in question for a substantial period of time, typically five years. In many cases this rule will operate equitably, since symptoms of asbestosis usually do not appear until the individual has been exposed to asbestos dust for at least ten years. But a heavy exposure to free asbestos fibers may lead to the development of symptoms in a much shorter period of time. Heavy exposure for one year has caused asbestosis, and a mere eighteen months of exposure has caused death from the disease. In these cases the minimum exposure rule would preclude recovery.


35. P. Barth & H. Hunt, supra note 33, at 121.


37. T. Clark, Clinical Investigation of Respiratory Disease 472 (1981). Similarly, even workers exposed to asbestos for less than six months run an elevated risk of developing lung cancer. R. George, R. Light & R. Matthay, supra note 6, at 394.

38. D. Hunter, supra note 7, at 999.

39. Several states also impose minimum time requirements regarding the state in which
The various statutory requirements can and do operate to prevent compensation of asbestos victims and their survivors. But a nonstatutory barrier may be even more significant. A recent study of 17,800 insulation workers found that a workers' compensation death claim was made in only thirty-eight percent of the fatality cases. Of the surviving spouses who did not file death claims, eighty percent gave ignorance as the reason.

Many asbestos workers who do file compensation claims are unsuccessful. According to one study, only thirty-eight percent of insulation workers with mesothelioma who applied for compensation were able to obtain any benefits at all. Often a worker will be unable to prove permanent and total disability resulting from his asbestos-related disease. Such workers are confronted with various limitations on available benefits. Eleven states either omit or qualify benefits for partial disability caused by asbestos exposure. Seven other states limit partial disability benefits for occupational diseases generally. And even those states that provide benefits for partial disability often do not permit claimants to reapply for benefits when their conditions worsen.

the exposure occurred. These requirements may operate to bar recovery where the worker has been exposed to asbestos while employed in different states during the course of his working life. P. Barth & H. Hunt, supra note 33, at 123. This may create "at least three different time requirements for filing claims; the worker has been exposed to the hazard for at least five years out of the past ten years, and at least two of these five years must have occurred in the state in which the claim is filed." Id.

40. See 1980 Hearings, supra note 2, at 170 (statement of Sen. Gary Hart); Note, supra note 25, at 921-25.

41. Occupational Disease Compensation and Social Security: Hearings Before the Subcomm. on Labor Standards of the House Comm. on Educ. and Labor, 97th Cong., 1st Sess. 64, 68 (1981) (statement of Prof. Peter S. Barth). This same study found that five of every six insulation workers were forced to leave work because of asbestos-related diseases. Id. at 65. Only 29% of these workers ever filed a workers' compensation claim. Id. at 67.

Additional evidence of underutilization of compensation systems by asbestos victims is provided by a study which found that, in 1981, only .3% of all workers' compensation claims filed in California involved exposure to asbestos. 1982 Hearings, supra note 27, at 487 (statement of Robin Obetz).

42. 1980 Hearings, supra note 2, at 227 (statement of Laurence J. Cohen, General Counsel, Int'l Ass'n of Heat & Frost Insulators & Asbestos Workers). Part of the explanation for this statistic may be that by the time a workers' claim is processed, he has already died. Such an explanation is suggested by the fact that the median survival time from diagnosis for patients with mesothelioma is 4-12 months. R. George, R. Light & R. Matthay, supra note 6, at 530. Thus, a more meaningful figure may be the number of widows who obtain death benefits. According to one study, 23% of widows of workers who died from asbestos-related disease did not receive any benefits at all after filing. 1982 Hearings, supra note 27, at 475 (statement of Prof. William G. Johnson).


44. 1980 Hearings, supra note 2, at 227 (statement of Laurence J. Cohen).

45. Id.
as they usually do in cases of asbestosis.  

Workers who are able to prove total disability do not fare much better. One study found that a worker who becomes totally disabled for life from an occupational disease and who is able to prove that the disability is linked to the workplace receives, on average, about $9,700 in total compensation benefits, compared to expected future earnings of $77,000. Thus, on the average, workers' compensation benefits replace about one-eighth of lost wages. The ratio may be even lower with respect to asbestos-related diseases, at least under laws which award benefits based on rates prevailing at the time of exposure.

Despite the inadequacies of workers' compensation systems, victims of asbestos-related disease invariably find that no other relief is available from their employers. Workers' compensation is, by statute, the exclusive remedy for an injured worker against his employer if the injury or occupational disease is covered by the statute, and if the employer has secured compensation insurance. Exclusive remedy clauses have functioned in a number of jurisdictions to bar tort suits by employees injured by exposure to asbestos.

Two main approaches have been used by injured asbestos workers attempting to escape the force of these clauses. In the first approach, an injured worker argues that his employer deliberately injured him. The worker's theory is that injuries resulting from such acts are not accidental, and thus are not encompassed by compensation statutes, but rather, are compensable in tort. Not all states, however, recognize the inten-

46. Id.
47. INTERIM REPORT, supra note 28, at 3-4.

51. See 2A A. LARSON, supra note 25, § 68.11 (1982).
tional tort exception. Those states that do recognize the exception have strictly construed the requirement of intent, to the extent that this approach usually has failed in asbestos cases.

The second approach has been to argue the “dual capacity” doctrine. Under this doctrine, an employer may become vulnerable to tort suit by an employee if he possesses a second persona completely independent from his status as employer. An asbestos worker urging application of the dual capacity doctrine argues that the second persona possessed by his employer is that of manufacturer of the asbestos products that caused his injury.

The basic rationale for permitting suit in the dual capacity situation is that an employer should not be able to escape tort liability on the basis of the mere fortuitous circumstance that the injured individual was an employee of the manufacturer whose product caused the injury. Although this argument is appealing, it should fail because the requirement that the employer have an independent second capacity is not met. The duty of a manufacturer to provide safe products to the public cannot be separated from the manufacturer’s duty to provide safe products to its employees for use in their work. Asbestos workers asserting the dual capacity doctrine usually have been unsuccessful.


54. 2A A. Larson, supra note 25, § 72.81 (1982). Professor Larson has narrowed his definition in an attempt to correct what he calls the “looseness and overextension” attending the doctrine. See id. An earlier edition of Larson’s work would have permitted suit if the employer merely occupied a second capacity that conferred on him obligations independent of those imposed upon him as an employer. See 2A A. Larson, supra note 25, § 72.80 (1976).


The net result of an asbestos worker's failure to argue successfully the intentional tort exception or the dual capacity doctrine is that the exclusive remedy against his or her employer is the inadequate workers' compensation system. One commentator has concluded that "[w]orker's compensation for asbestos-related diseases is, in all states, at best inadequate, at worst a travesty."\textsuperscript{59}

Workers' compensation, in addition to being inadequate for the employee, is inequitable for the employer. The most common practice in cases of occupational disease is to assign liability to the carrier who provided coverage when the disease resulted in disability, if the employment at the time of disability involved conditions that could have caused the disease.\textsuperscript{60} This practice is unfair to the last employer when conditions in one or more previous employments also contributed to the development of the disease.\textsuperscript{61} This practice is also unfair when an insurer providing coverage for only a brief period of time at the end of a claimant's work history is held liable for the claimant's disease, since the disease probably could not have been caused by such very recent

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\textsuperscript{60} See 4 A. Larson, supra note 25, § 95.21 (1982).

\textsuperscript{61} Carter v. Avondale Shipyards, Inc., 415 So. 2d 174, 176 (La. 1981). Additional arguments against the last-injurious-exposure rule may be made. An employer (or insurer) may be more likely to dispute a potentially large claim when the entire burden falls on him. P. Barth & H. Hunt, supra note 33, at 129. Such an approach also might discourage employers from hiring not yet disabled individuals who previously worked under conditions favorable to the development of occupational disease. Robin v. Royal Improvement Co., 289 N.W.2d 76, 78 (Minn. 1979).

The policy rationale for using a last-injurious-exposure rule to determine liability in cases of asbestos-related disease is that absent the rule, and absent apportionment of liability, a disabled worker would be placed in the very difficult position of having to prove which source of asbestos exposure caused his disease. That is, the rule has the virtue of being definite. 4 A. Larson, supra note 25, § 95.21 (1982). Liability is not apportioned in asbestos cases because of the difficulty of accurately determining the date of onset of an asbestos-related disease and the degree of aggravation by subsequent exposure. See General Dynamics Corp. v. Benefits Review Bd., 565 F.2d 208 (2d Cir. 1977); Östeen v. A. C. & S., Inc., 209 Neb. 282, 307 N.W.2d 514 (1981).

This type of apportionment is unnecessary. All that is required is the use of pro-rata apportionment, the proportion to be determined by the ratio of the number of years the insurer was on the risk to the total number of years of exposure. This approach is certainly more equitable than assigning all liability to the last employer. However, use of an apportionment formula would increase fractional costs of workers' compensation systems, due to the necessity of identifying the various sources of asbestos exposure and assuring that each employer is assessed and then pays its proportionate share. See P. Barth & H. Hunt, supra note 33, at 129.
exposure. While some courts have recognized this,62 others have not.63

Tort Compensation

While workers' compensation laws make compensation the exclusive remedy for an injured worker against his employer, the employee is not barred from bringing suit against a third-party manufacturer of the asbestos products he worked with. Even in tort actions, however, the victim of an asbestos-related disease may face insurmountable obstacles to recovery. An initial obstacle is the applicable statute of limitations.

Statutes of Limitations

Traditionally, most statutes of limitations have provided that a suit must be brought within a specified period of time after the cause of action accrues.64 Since all of the asbestos-related diseases have very long average latency periods,65 the time of accrual of the cause of action for these diseases is subject to dispute. The cause of action might be held to accrue when the plaintiff is exposed to asbestos, when the plaintiff's disease is first medically diagnosable, or when the plaintiff's disease has manifested itself by symptoms, such as shortness of breath, that should or in fact do alert the plaintiff to the presence of a disease.66

A majority of courts considering the issue have applied a "discovery rule" by holding that the statute does not begin to run until the plaintiff discovers, or should have discovered, his or her disease, whether his or her action sounds in negligence or strict liability.67 Sev-


64. Developments in the Law—Statutes of Limitations, 63 HARV. L. REV. 1177, 1200 (1950).


eral jurisdictions have mandated the same result by statute.68

Courts applying the discovery rule in asbestos cases have used a bewildering variety of formulations. Some of these formulations can have inequitable consequences. Under one approach, the limitations period begins to run when the plaintiff should have discovered his asbestosis,69 presumably even if he has not discovered the cause of the disease. Other courts have held that the cause of action accrues when the asbestos-related disease manifests itself by symptoms that could have enabled the plaintiff to discover the injury, even though the symptoms were not such that a reasonable person would have discovered the injury.70

Of greater concern to asbestos victims are statutes of limitations that do not apply the discovery rule. Under one such approach, the cause of action accrues on the date of the plaintiff's last exposure to asbestos.71 This rule is quite harsh; a worker may not have any reason to bring suit until decades after his last exposure to asbestos because asbestos-related diseases have such long latency periods.

Other rules commence the running of the statute when the plaintiff's disease is first medically diagnosable,72 or when damage to the plaintiff occurs.73 These rules may bar many claims that could be brought under discovery rules, since damage caused by an asbestos-


related disease frequently precedes the symptoms. For example, many workers with localized mesotheliomas are asymptomatic even when their tumors are quite large.\textsuperscript{74} Indeed, on many occasions the presence of a tumor has been revealed only at autopsy.\textsuperscript{75} Similarly, an asbestos worker with significant pulmonary damage from asbestosis may have no symptoms and no X-ray abnormality.\textsuperscript{76} In these cases the statute would be running even though the workers had no reason to suspect that they had causes of action.

Two additional statute of limitations questions are of concern to victims of asbestos-related disease in jurisdictions that do apply discovery rules. The first is whether or not discovery of one disease should commence the running of the statute on another disease. This issue is of concern because many victims develop multiple diseases\textsuperscript{77} that have different latency periods. It may be argued that because a single wrongful act (a failure to warn of the hazards of asbestos exposure) caused all of the diseases, the statute should run on all of them with the discovery of any one.\textsuperscript{78} This reasoning is unpersuasive because in a latent disease case the existence of the disease is as much an issue as its cause.\textsuperscript{79} A more logical approach is to commence the running of the statute independently for each disease, on the basis that the diseases themselves are independent.\textsuperscript{80}

The second question is whether or not a discovery rule should be applied to survival and/or wrongful death actions\textsuperscript{81} involving exposure to asbestos. The prevailing view is that a discovery rule is inapplicable.
to both survival\textsuperscript{82} and wrongful death\textsuperscript{83} actions. The argument against applying a discovery rule in survival actions is that the latest a decedent can discover his cause of action is just prior to his death, and if he does not discover it by then there is no cause of action to be kept alive by the decedent's representatives.\textsuperscript{84} It is irrelevant when the representatives make their discovery as to decedent's disease, since it is not their cause of action.

In a wrongful death case, the purported rationale for not applying a discovery rule is that it is the fact of death itself which should put plaintiffs on inquiry regarding a cause of action.\textsuperscript{85} This rationale assumes that all of the information from which the cause of the decedent's death may be ascertained is available to plaintiffs at the time of death.\textsuperscript{86} Such an assumption is not always correct.\textsuperscript{87} One situation in which the assumption is not correct is where defendants have concealed the facts necessary to determine whether or not a cause of action exists. When plaintiffs are able to prove tortious fraudulent concealment of facts, some courts will make an exception and apply a discovery rule.\textsuperscript{88}


\textsuperscript{84} McDaniel v. Johns-Manville Sales Corp., 511 F. Supp. 1241, 1243 (N.D. Ill. 1981). One court has advanced the alternative argument that applying the discovery rule beyond the date of death would be contrary to the purpose of the statute of limitations to prevent stale claims: "Allowing the discovery rule to run past the date of death would allow survival actions to be brought \textit{at any time} the decedent's estate through medical advancement or otherwise discovered the cause of the decedent's injuries that were suffered during his lifetime." Johnson v. Koppers Co., 524 F. Supp. 1182, 1191 n.5 (N.D. Ohio 1981) (emphasis in original).


\textsuperscript{87} For example, in airplane crash cases, it is possible that either the cause or the fact of the crash will not be discovered until sometime after the crash has occurred. Courts have applied discovery rules in these cases. See Wetzal v. McDonnell Douglas Corp., 491 F. Supp. 1288 (E.D. Pa. 1980); Praznik v. Sport Aero, Inc., 42 Ill. App. 3d 330, 355 N.E.2d 686 (1976); see also Shaughnessy v. Spray, 55 Or. App. 42, 637 P.2d 182 (1981) (discovery rule applied in wrongful death action involving manufacture and prescription of propoxyphene, a medication).

\textsuperscript{88} See, e.g., Krueger v. St. Joseph's Hosp., 305 N.W.2d 18, 24 (N.D. 1981). In DeCosse v. Armstrong Cork Co., 319 N.W.2d 45, 52 (Minn. 1982), the court remanded a wrongful death action on the basis that manufacturers may have fraudulently concealed the hazards of asbestos exposure from decedents. This approach is questionable, because the statute of limitations should be tolled in a wrongful death action only if fraudulent concealment has prevented those who have the right to bring the action from discovering that the action exists. That is, for statute of limitations purposes, non-disclosure to decedent's should be relevant in a survival action, but not in a wrongful death action.
A similar exception will not be made for mere negligent concealment.  

State of the Art Defense

Asbestos plaintiffs able to surmount the statute of limitations barrier have a choice of theories to argue at trial. Two theories of liability that asbestos plaintiffs commonly assert are negligence and strict products liability. A plaintiff asserting a negligence theory must establish a duty, a breach, causation, and damages.

Plaintiffs in asbestos suits commonly argue that the manufacturer’s failure to warn of the hazards of asbestos exposure establishes the breach element. In a negligence action, a seller is “under a duty to give adequate warning of unreasonable dangers involved in the use [of his product] of which he knows or should know.” Thus, state of the art evidence is and should be relevant in negligence-based actions, inasmuch as it determines the scope of the duty owed. When plaintiffs are able to establish the availability of knowledge of asbestos hazards, courts will find that the manufacturers had the duty to warn of those hazards. The breach of this duty may result in the imposition of liability.

A plaintiff asserting a strict products liability theory must prove a defect in the product which injured him, a causal link between this defect and his injury, and the manufacturer’s knowledge that the prod-


uct would reach users without substantial change of the condition in which it was sold.96 One of the three classes of defects in products liability law is a failure to warn or properly instruct.97

The standard set forth in the Restatement (Second) of Torts requires the seller to warn of a danger of which it has knowledge or "by the application of reasonable, developed human skill and foresight should have knowledge. . . ."98 This standard expressly opens the door to state of the art evidence in strict products liability actions.

The appropriateness of applying the Restatement's standard in asbestos cases is subject to dispute. The issue usually arises when manufacturers attempt to defend on the basis that the state of the medical art up to the mid-1960's was such that the danger to insulation workers was not reasonably known. Manufacturers argue that since the danger was not reasonably known, no duty to warn was created and therefore insulation products were not unreasonably dangerous or defective for failure to warn.99

The recent trend of court decisions is to strike the state of the art defense in asbestos suits where plaintiffs assert a strict liability theory based on failure to warn.100 The fundamental reason for striking the defense in this situation is that to allow it is to equate the failure to warn standard applied under strict liability with that applied under a negligence theory, thus completely removing the distinctions between the two causes of action.101

It may also be argued that to allow the defense is to frustrate the basic goals that underlie strict products liability law. The first of these goals is risk spreading, which provides compensation to accident victims by shifting losses to product manufacturers who pass their costs on

96. Restatement (Second) of Torts § 402A (1965).
98. Restatement (Second) of Torts § 402A comment j (1965).
to the public in the form of price increases.102 Allowing the state of the art defense frustrates this goal because the manufacturers and distributors of asbestos products are better able than injured plaintiffs to allocate the costs of injuries resulting from exposure to asbestos.103

A second goal of strict liability is accident avoidance, or the creation of a financial incentive for manufacturers to improve the safety of their products.104 Since the state of the art at a given time is partly a function of industry's investment in safety research, imposition of liability for the failure to discover hazards creates an incentive for additional investment.105

The counter-arguments seem persuasive. First, the manufacturers of asbestos products are not necessarily superior cost-allocators; most of them have been out of the asbestos insulation business for at least a decade.106 These manufacturers are unable to pass their costs on to the public in the form of price increases because the offending products are no longer being manufactured.107 Second, many powerful incentives exist already for a manufacturer to make its products as safe as it possi-

104. See Spradley, supra note 93, at 396, 409.
106. UNARCO ceased to manufacture products containing asbestos in 1970, the Keene Corporation ceased in 1972, and Eagle-Picher ceased in 1971 or 1972. 1982 Hearings, supra note 27, at 95, 239; Eagle-Picher Indus., Inc. v. Liberty Mutual Ins. Co., 682 F.2d 12, 23 (1st Cir. 1982).
107. It might be argued that asbestos manufactureres still are superior cost allocators because their insurers cover the costs of injuries resulting from exposure to asbestos. This argument also is unpersuasive. First, the assumption that all asbestos manufacturers carried adequate insurance is false. For example, prior to 1968 Eagle-Picher was completely uninsured for liability resulting from exposure to its asbestos products. Eagle-Picher Indus., Inc. v. Liberty Mutual Ins. Co., 682 F.2d 12, 16 (1st Cir. 1982). If a manufacturer's insurance coverage is judicially interpreted to be triggered by the manifestation of a disease, as it was in Eagle-Picher, then a prior lack of coverage would not necessarily defeat loss-spreading, since asbestos-related diseases have such long latency periods. But where a court interprets an insurance policy to mean that coverage is triggered by exposure, e.g., Insurance Co. of North Am. v. Forty-Eight Insulations, Inc., 633 F.2d 1212 (6th Cir. 1980), modified on reh'g, 657 F.2d 814 (6th Cir.), cert. denied, 454 U.S. 1075 (1981), loss-spreading by insurers is denied where a manufacturer was uninsured at the time of exposure. Moreover, loss-spreading is denied even under Eagle-Picher for diseases manifesting themselves after insurance companies stopped providing insurance coverage to asbestos manufacturers. Finally, if a plaintiff is unable to identify a particular manufacturer's product as the cause of his injury, and market share liability is not imposed, see infra notes 116-43 & accompanying text, then that manufacturer's insurers would be free of liability. For more detailed discussions of the insurance coverage problem in asbestos litigation, see, e.g., Comment, Insurer Liability in the Asbestos Disease Context—Application of the Reasonable Expectations Doctrine, 27 S.D.L. Rev. 239 (1982); Note, Asbestos Litigation: The Insurance Coverage Question, 15 Ind. L. Rev. 831 (1982).
bly can.\textsuperscript{108} Third, strict liability cannot be an incentive to increased research and development if the manufacturer knows liability will be imposed whether or not it improves the technology of its product.\textsuperscript{109} This argument is a variant of the more fundamental contention that to exclude state of the art evidence is to convert the doctrine of strict liability into one of absolute liability. Such a conversion in effect makes manufacturers the insurers of their products.

If the state of the art defense is to be allowed in asbestos litigation based on strict products liability, it is likely that many asbestos victims will go uncompensated. Asbestos manufacturers did not begin to warn of the dangers associated with asbestos exposure until the 1960's.\textsuperscript{110} But to a considerable degree the provision of warnings coincided with the state of the medical art. Dr. Irving J. Selikoff, the nation's leading authority on asbestos-related disease, has summarized the general state of medical knowledge pertaining to asbestos as it existed in the early 1960's:

With a few important exceptions, the evidence at that time rested on scattered reports of small numbers of cases, and the cases themselves were sometimes selected or simply those that happened to come to the attention of the writer. The population base from which these cases came was seldom mentioned or could not be ascertained. . . . The possibility that quite low dosages might have grave consequences 30 years after initial exposure was still tenuous.\textsuperscript{111}

The few important exceptions to the early dearth of knowledge concerning the effects of asbestos exposure are studies that involved asbestos miners and millers. The relationship between asbestosis and lung cancer was not confirmed until 1955,\textsuperscript{112} and the relationship between asbestos and mesothelioma was not indicated until 1960,\textsuperscript{113} but

\begin{itemize}
  \item 108. Robb, \textit{supra} note 93, at 31-32 & n.135 (these incentives include the rule of negligence liability and the desire to avoid a reputation for manufacturing dangerous products).
  \item 109. \textit{Id.} at 31.
  \item 111. I. Selikoff & D. Lee, \textit{supra} note 15, at 31 (citation omitted). One indication of the early lack of medical knowledge is that asbestosis was sometimes injected surgically into the pleural cavity in the 1940's to promote the formation of adhesions. \textit{See id.} at 262.
  \item 113. \textit{See} Wagner, Sleggs & Marchand, \textit{Diffuse Pleural Mesothelioma and Asbestos Exposure in the North Western Cape Province}, 17 \textit{Brit. J. Indus. Med.} 260 (1960); M. Dunnill, \textit{supra} note 75, at 422 (prior to 1960 there were serious doubts as to whether primary pleural mesothelioma existed at all as an entity).
\end{itemize}
even these studies did not involve insulation workers. The hazard for workers and other persons who use or are exposed to finished asbestos products has only recently been appreciated.\textsuperscript{114} It was not until 1964-65 that the hazard to insulation workers came to light.\textsuperscript{115}

In summary, state of the art evidence is relevant in negligence-based actions to determine the scope of the duty owed, and it ought to be admissible in strict products liability cases based on the manufacturer's failure to warn of the hazard, since to exclude it in such cases is to convert the doctrine of strict products liability into one of absolute liability. But when state of the art evidence is admissible, it may preclude recovery for victims of asbestos-related disease, since asbestos manufacturers began warning of the dangers to insulation workers within a few years after these dangers were known.

\textbf{Proof of Causation}

It is frequently the case in an asbestos suit that a plaintiff has been exposed to asbestos produced by more than one manufacturer. Where the plaintiff is able to prove the identities of all of the parties who produced the asbestos to which he was exposed, the manufacturers can be held jointly and severally liable.\textsuperscript{116} This approach is desirable because

\begin{itemize}
  \item \textsuperscript{114} R. George, R. Light & R. Matthay, \textit{supra} note 6, at 380; H. Hinshaw & J. Murray, \textit{supra} note 11, at 722-24.
  \item \textsuperscript{115} See Selikoff, Churg & Hammond, \textit{The Occurrence of Asbestosis Among Insulation Workers in the United States}, 132 ANNALS N.Y. ACAD. SCI. 139 (1965).
\end{itemize}
in a multiple exposure situation it is probably impossible to prove that a particular product caused the resultant disease.\(^{117}\)

An alternative scenario is that a plaintiff is unable to identify any of the manufacturers who produced the asbestos to which he was exposed. In this situation, a plaintiff would be unable to recover under traditional products liability law because he has failed to establish causation.\(^{118}\) Asbestos plaintiffs confronted with the causation barrier in this context have at times asserted theories of market share liability.\(^{119}\)

The theory of market share liability was first judicially pronounced in *Sindell v. Abbott Laboratories*.\(^{120}\) The California Supreme Court held in *Sindell* that if a plaintiff proves that she contracted a DES-related cancer and that her mother took DES during pregnancy, then market share apportionment determines a manufacturer’s liability unless the manufacturer exculpates itself by proving that its product could not have caused the injury.\(^{121}\)

The *Sindell* decision has been the subject of a great deal of academic commentary, and many of the approving commentaries have suggested the application of market share liability to asbestos litigation.\(^{122}\) However, such an application would involve somewhat different considerations from those involved in the DES suits.

First, DES was often prescribed by generic rather than brand name, while the converse was true for the marketing of asbestos.\(^{123}\) The assumption underlying the relevancy of this distinction is that plaintiffs


\(^{118}\) W. Prosser, *sua note* 92, § 103.


\(^{121}\) Sindell v. Abbott Laboratories, 26 Cal. 3d at 612, 607 P.2d at 937, 163 Cal. Rptr. at 145.


brining suit three or four decades after they were exposed to asbestos will be able to remember the names on the labels of the products to which they were exposed, if they had the initial opportunity to view those labels.\textsuperscript{124} Where this assumption is correct, market share liability cannot be imposed. The \textit{Sindell} court held that imposition of market share liability was justified only where the plaintiff was unable to identify any manufacturer of the products causing his injury.\textsuperscript{125} Several courts have rejected the market share theory in asbestos cases because the plaintiff was able to identify at least one manufacturer who produced the asbestos to which he was exposed.\textsuperscript{126}

In other cases the plaintiff will be unable to recall the label name or the product manufacturer will not be available as a defendant. The availability problem is compounded by the fact that some of the asbestos manufacturers, including the Manville Corporation, the nation's largest, have filed petitions to reorganize under chapter 11 of the Bankruptcy Reform Act.\textsuperscript{127} Since these filings automatically stay the commencement or continuation of judicial proceedings against the filing debtor companies,\textsuperscript{128} defendants who may be identifiable are no longer available to be sued. Thus, asbestos plaintiffs may have additional need to rely on market share theories.

\textsuperscript{125} Sindell v. Abbott Laboratories, 26 Cal. 3d at 611, 607 P.2d at 936, 163 Cal. Rptr. at 144.
\textsuperscript{127} To date, three defendants have filed reorganization petitions under the Act, 11 U.S.C. §§ 1101-1174 (Supp. V 1981). \textit{See In re} Johns-Manville Corp., Nos. 82 B 11,656 to B 11,676 (Bankr. S.D.N.Y., filed Aug. 26, 1982); \textit{In re} UNR Indus., Nos. 82-B-9841 to 82-B-9851 (Bankr. N.D. Ill., filed July 29, 1982); \textit{In re} Amatex Corp., No. 82-05, 220 K (Bankr. E.D. Pa., filed Nov. 1, 1982).
\textsuperscript{128} 11 U.S.C. § 362(a) (Supp. V 1981). In Northern Pipeline Const. Co. v. Marathon Pipe Line Co., 102 S. Ct. 2858 (1982), the Court held that the Bankruptcy Reform Act's broad grant of jurisdiction to bankruptcy judges violated article III of the United States Constitution. Arguably, the \textit{Northern Pipeline} decision deprived the bankruptcy and district courts of bankruptcy jurisdiction. However, the Court has refused without comment a petition by some of Manville's non-filing co-defendants for a writ of prohibition and/or mandamus that would prohibit federal or bankruptcy judges from exercising the automatic stay provisions of the Act. \textit{Asbestos Litig. Rptr.}, 6,243 (Feb. 25, 1983).

Non-filing co-defendants also have been generally unsuccessful in having the emergency stay provisions extended to cover them. \textit{See, e.g.}, Austin v. UNARCO Indus., Inc., No. 82-1168 (1st Cir., filed Mar. 30, 1983); Pitts v. UNARCO Indus., Inc., 698 F.2d 313 (7th Cir. 1983) (per curiam); \textit{In re} Johns-Manville Corp., 660 P.2d 271 (Wash. 1983) (en banc); Note, \textit{The Manville Bankruptcy: Treating Mass Tort Claims in Chapter 11 Proceedings}, 96 Harv. L. Rev. 1121, 1139 n.90 (1983) (as of December 1, 1982, at least 38 courts had held that § 362(a) applies only to the filing debtor company; as of the same date, 14 courts had stayed proceedings against all co-defendants, but many of these stays were only temporary).
Another distinction between asbestos litigation and DES litigation is that DES plaintiffs were exposed to DES before they were born, whereas asbestos plaintiffs typically were exposed to asbestos over the course of their working lives. This distinction is important because DES plaintiffs can identify exactly when the physical tort occurred (when they were in utero), thereby giving manufacturers some benchmark from which to disprove causation. In contrast, the time frame in asbestos cases from which the manufacturers must disprove causation (the entire length of a plaintiff's employment history) is very wide, and the burden may be impossible to overcome.

A third distinction is that, unlike asbestos products, DES was produced from identical formulas and was fungible. Thus, while DES was uniformly harmful, asbestos products were not. The variable pathogenicity of asbestos products is apparent on several levels. First, not all types of asbestos are equally harmful; crocidolite is the most pathogenic type, at least in the induction of mesothelioma. Moreover, the pathogenicity of crocidolite itself varies according to where the mineral was mined. Finally, not all products made of the same type of asbestos are equally harmful, since they may contain different percentages of asbestos and products with greater percentages are more dangerous.

131. See W. Parkes, supra note 10, at 287 (crocidolite is almost exclusively causally related to mesotheliomas in man); Newhouse, supra note 11, at 253 (weight of the evidence suggests there is a gradient from crocidolite through amosite to chrysotile in their potential potency to induce mesothelioma). Differences in pathogenicity are primarily linked to the aerodynamics and shapes of the various fiber types. Crocidolite fibers are straight, whereas chrysotile fibers resemble stretched coils; hence the retention of the former in the lung is six times that of the latter because straighter fibers are less likely to be intercepted prior to deposition in the lung. J. Crofton & A. Douglas, supra note 7, at 592.

The evidence on lung cancer is more conflicting. Compare Becklake, supra note 12, at 189 (risk for lung cancer production is greater for crocidolite than for chrysotile) with L. Selikoff & D. Lee, supra note 15, at 327 (all types of asbestos except crocidolite have been incriminated in the production of lung cancer). One factor that makes it difficult to resolve this particular dispute is that the majority of industrial exposure to asbestos has been to a mixture of the asbestos types. See Pooley, supra note 6, at 247.

Because crocidolite apparently is the most dangerous type of asbestos, stringent regulations virtually have banned its use in Britain since 1970. However, increasing quantities of crocidolite are being used in Western Europe, the United States, and Japan. W. Morgan & A. Seaton, supra note 7, at 374; W. Parkes, supra note 10, at 235.
132. Crocidolite from the North Western Cape Province of South Africa is much more pathogenic than that from the Transvaal region of the same country. Kannerstein, Churg & McCaughey, Asbestos and Mesothelioma: A Review, 13 PATHOL. ANN. 81, 95 (1978). See also L. Preger, supra note 11, at 86.
133. A dose-response relationship exists for all of the asbestos-related diseases and for
Asbestos plaintiffs often have had exposure to a wide variety of products that are not equally harmful. Similarly, manufacturers may have produced different types of asbestos products and thus would have a different market share for each product. As a result, in asbestos suits it may be impossible to quantify market shares relative to harm such that apportionment of damages would reflect fault.134 This result is made more likely by the fact that cigarettes are co-carcinogens with asbestos, at least in the induction of lung cancer.135

Defining the relevant market and determining market shares are the thorniest practical problems associated with the application of market share liability to asbestos litigation. Another important concern is that applying the theory probably would distort the defendant manufacturer’s actual liability. This distortion is a function of several factors.

The first factor is that Sindell allows both plaintiffs and defendants the option of identifying a particular defendant as the manufacturer

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134. Starling v. Seaboard Coast Line R.R. Co., 533 F. Supp. 183, 191 (S.D. Ga. 1982). In Dombroff v. Armstrong Cork Co., No. 79-14048 (Dade Cty. Cir. Ct., Fla., filed Aug. 3, 1981), the court did devise a market share formula. However, Dombroff, the only opinion to date to discuss in any detail the mechanics of applying market share liability to asbestos litigation, has been overruled. See ASBESTOS LITIG. RPTR. 4,978 (May 28, 1982).

135. Authorities agree that a smoker who has been exposed to asbestos is 50 to 90 times more likely to incur lung cancer than a nonsmoker who has not been exposed. See, e.g., 1979 Hearings, supra note 12, at 79 (statement of Dr. David P. Rall). One widely-cited study concluded that a nonsmoker who has been heavily exposed to asbestos is five times more likely to develop lung cancer than a nonsmoker who has not been exposed. See Hammond, Selikoff & Seidman, Asbestos Exposure, Cigarette Smoking and Death Rates, 330 ANNALS N.Y. ACAD. SCI. 473 (1979). However, this study has been criticized, e.g., R. Monson, Occupational Epidemiology 194-96 (1980); Saracci, Asbestos and Lung Cancer: An Analysis of the Epidemiological Evidence on the Asbestos-Smoking Interaction, 20 INT’L J. CANCER 323, 327 (1977), and its finding of increased lung cancer in nonsmoking asbestos workers has not been replicated in most studies. See Craighead, Abraham & Pratt, The Pathology of Asbestos-Associated Diseases of the Lungs and Pleural Cavities: Diagnostic Criteria and Proposed Grading Schema, 106 ARCHIVES PATHOL. & LABORATORY MED. 544, 588 (1982); see also L. Preger, supra note 11, at 186 (there is no proof that asbestos exposure in the absence of a smoking history is carcinogenic to the lungs).

The best evidence suggests that exposure to asbestos alone does not increase the risk of developing lung cancer, but asbestos and smoking together act synergistically. R. George, R. Light & R. Matthay, supra note 6, at 394; G. Snider, supra note 76, at 293. In contrast, cigarette smoking plays no part in the initiation of mesothelioma, and it has only an additive effect, rather than a synergistic one, with respect to asbestosis. L. Preger, supra note 11, at 29, 124; I. Selikoff & D. Lee, supra note 15, at 279; Samet, Epler, Gaensler & Rosner, Absence of Synergism Between Exposure to Asbestos and Cigarette Smoking in Asbestosis, 120 AM. REV. RESP. DIS. 75, 80 (1979).
that produced the harmful substance. Some manufacturers thus would pay full damages in specific identification cases and proportionate damages in market share cases; hence the burden of paying damages would be disproportionately distributed.

A second factor contributing to distorted liability is that the Sindell decision contemplates that the joined defendants will be responsible for one hundred percent of the judgment. Thus, liability is apportioned according to relative market shares even if the joined defendants represent less than one hundred percent of the market. The degree to which this factor acts to distort liability is directly proportional to the percentage of the market that is required to be joined before market share liability will be imposed.

If a sufficiently high percentage of the market is joined, then distortion from this factor will be minimal. At the same time, however, imposing a high percentage requirement in asbestos litigation may preclude application of the market share theory. As indicated, some of the major manufacturers have filed petitions to reorganize under the bankruptcy code. These manufacturers may no longer be amenable to suit, and thus it may be impossible to join the requisite percentage of the market. Hence, at the same time that a plaintiff's need to rely on the market share theory has increased as a result of his inability to identify defendants, use of the theory may be foreclosed.

A third distorting factor is that if only a few jurisdictions accept the theory of market share liability, then some liability will settle by chance upon the manufacturers that can be sued in those states. Most courts considering the issue have rejected the application of market share theory in DES suits, and many courts have responded simi-

137. Id.
139. Fischer, supra note 138, at 1647. The Fordham Law Review Comment that influenced Sindell proposed the joinder of 75-80% of the manufacturers in the market. Comment, supra note 120, at 996. The Sindell court rejected this figure as too high, and held that "only a substantial percentage is required." Sindell v. Abbott Laboratories, 26 Cal. 3d at 612, 607 P.2d at 937, 163 Cal. Rptr. at 145.

It might be argued that distortion will be minimized because defendants are free to bring in third-party defendants by cross-complaint. However, many defendants may not be amenable to suit in the state where plaintiff files suit. Note, supra note 138, at 722-22.
140. See supra notes 127-28 & accompanying text.
larly in asbestos cases.\textsuperscript{143}

To summarize, market share liability should not be applied in asbestos litigation because it is probably impossible to devise a market share formula that would apportion damages proximate with fault. Applying the theory would distort the manufacturer's actual liability to an unacceptable degree. The result of not applying the theory, however, is that a plaintiff who is unable to identify the manufacturer who produced the asbestos to which he was exposed will be unable to recover, because he has failed to establish causation.

**Government Contract Defense**

Another obstacle that asbestos plaintiffs might face at trial is the government contract defense. This defense is premised on the idea that the manufacturer or supplier of a product should not be held liable for injuries caused by the product if the product was manufactured pursuant to government specifications.\textsuperscript{144} The government contract defense, which has been recognized by courts for many years,\textsuperscript{145} recently has been raised by manufacturers who supplied insulation products to naval shipyards during World War II.\textsuperscript{146}

The United States Navy has used asbestos as a thermal insulating material in Navy ships since the mid-1930's. The major application has been as insulation casing around steam boilers and as insulating lagging wrapped around propulsion plant components and steam and hot water piping.\textsuperscript{147} During World War II, approximately 4.5 million men and women worked in shipyards in the United States, many of them under conditions in which exposure to this asbestos insulation was possible.\textsuperscript{148} Thousands of these employees have contracted asbestos-re-


\textsuperscript{144} ASBESTOS LITIG. RPRTR. 4,800 (Apr. 9, 1982).

\textsuperscript{145} See generally Note, Liability of a Manufacturer for Products Defectively Designed by the Government, 23 B.C.L. REV. 1025 (1982).

\textsuperscript{146} ASBESTOS LITIG. RPRTR. 4,800 (Apr. 9, 1982).

\textsuperscript{147} 1978 Hearings, supra note 115, at 530 (statement of Capt. J.C. McArthur, U.S. Navy Commander, Pearl Harbor Naval Shipyard). In recent years the Navy has shifted to asbestos-free substitute materials for thermal insulation products. Id. at 531.

\textsuperscript{148} Selikoff & Hammond, Asbestos-associated Disease in United States Shipyards, 28 CA.-A CANCER JOURNAL FOR CLINICIANS 87, 89 (1978). After World War II the total number of shipyard workers rapidly decreased from a high of 1.7 million in the last months of 1943 to 200,000 or so. Total shipyard employment remained in this range from 1946 to 1976. Id.
lated diseases and have filed suit against the manufacturers that supplied the insulation products they worked with.\textsuperscript{149} Manufacturers have asserted the government contract defense on the basis that asbestos insulation products were purchased by shipyards for use in naval vessels in accordance with specifications promulgated by the government.\textsuperscript{150}

The defense has been accorded a mixed reception by the courts. In one case the court rejected the defense on the basis that, although the government was aware of the hazards of the asbestos that was supplied to it, the manufacturer never sought to inform the government or the exposed workers of such hazards.\textsuperscript{151} This reasoning is inconsistent with the accepted formulation of the defense, which provides that a defendant will be excused from liability if it proves: (1) that the product was produced pursuant to a contract; (2) that the government established the specifications for the product; (3) that the product manufactured by the defendant met the government's specifications in all material respects; and (4) that the government knew as much as or more than the defendant about the hazards that accompanied use of the product.\textsuperscript{152}

In another case the court rejected the defense on the basis that defendant's insulation products, although in compliance with government specifications, were sold to private entities as well as to the government.\textsuperscript{153} This fact, however, should be irrelevant to a determination of the applicability of the defense, because the insulation that caused the shipyard injuries would not have been present at the shipyards if

\textsuperscript{149} See Asbestos Litig. Rprr. 5,522 (Sept. 10, 1982); id. at 5,417 (Aug. 27, 1982).


\textsuperscript{152} This formulation of the defense was first propounded by the federal district court hearing the Agent Orange class action suit. See In re "Agent Orange" Product Liability Litigation, 534 F. Supp. 1046, 1055 (E.D.N.Y. 1982). Agent Orange, the preferred herbicide of the United States for use in South Vietnam, was produced pursuant to government specifications. United States military personnel exposed to Agent Orange in Vietnam have brought suit against the manufacturers of the herbicide for injuries allegedly suffered as a result of their exposure. The manufacturers have asserted the government contract defense. See generally Comment, Agent Orange as a Problem of Law and Policy, 77 Nw. U.L. Rev. 48 (1982). The Agent Orange court's formulation of the government contract defense has been accepted by several asbestos courts. See Tefft v. A. C. & S., Inc., Nos. C80-924M, C81-179M, C81-533M (W.D. Wash., filed Sept. 15, 1982); In re Related Asbestos Cases, 543 F. Supp. 1142, 1151-52 (N.D. Cal. 1982).

the government had not required it.\textsuperscript{154}

Where the government contract defense is unavailable, defendants may be found liable, and they also may encounter significant hurdles to obtaining indemnity or contribution from the government. In a group of Virginia shipyard cases,\textsuperscript{155} manufacturers of asbestos products sought indemnity from the government on the theory that, as between active and passive tortfeasors, the latter are entitled to indemnity from the former. The Fourth Circuit, applying maritime law,\textsuperscript{156} denied recovery on the basis that the manufacturers, if found liable on the main claims (liability being a predicate to indemnity), would be active tortfeasors, since a finding of liability would mean that the manufacturers had proximately caused the workers’ injuries.\textsuperscript{157} Attempts in other asbestos cases to obtain indemnity or contribution from the government also have been unsuccessful.\textsuperscript{158}


\textsuperscript{156} At the time of the Fourth Circuit decisions, maritime law recognized the active-passive rule. Subsequently, the Fifth Circuit held that the adoption of comparative negligence in maritime law abrogated this rule. See Loose v. Offshore Navigation, Inc., 670 F.2d 493 (5th Cir. 1982).

The Fourth Circuit’s holding that the claims of shipyard insulation workers are cognizable in admiralty has been rejected by the First, Second, and Ninth Circuits. See Austin v. UNARCO Indus., Inc., No. 82-1168 (1st Cir., filed Mar. 30, 1983); Keene Corp. v. United States, 700 F.2d 836, 844-45 (2d Cir. 1983); Owens-Illinois, Inc. v. United States District Court, 698 F.2d 967 (9th Cir. 1983). But see Jacobowitz v. Johns-Manville Corp., No. 79 C 865 (E.D.N.Y., filed Sept. 28, 1982).


\textsuperscript{158} See, e.g., Keene Corp. v. United States, 700 F.2d 836 (2d Cir. 1983) (dismissing for want of subject matter jurisdiction Keene’s complaint for contribution or indemnity from the United States). The government also may be insulated against claims for indemnity by virtue of the exclusive remedy clauses, see supra notes 49-50 & accompanying text, of the Federal Employees Compensation Act (FECA), 5 U.S.C. § 8116(c) (1976) and the Longshoremen’s and Harbor Workers’ Compensation Act, 33 U.S.C. § 905(a) (1976). At least 13,000 administrative claims for asbestos-related disease have been brought under the FECA. ASBESTOS LITIGATION RPT. 4,863 (Apr. 23, 1982). In Wallenius Bremen G.m.b.H. v. United States, 409 F.2d 994 (4th Cir. 1969), cert. denied, 398 U.S. 958 (1970), the court allowed a tortfeasor to seek indemnity from the United States despite the exclusive remedy clause of the FECA. However, the analysis used in Bremen has been rejected by the other circuits. See, e.g., Thomas v. Lockheed Aircraft Corp., 665 F.2d 1330, 1332 (D.C. Cir. 1981), rev’d sub nom. Lockheed Aircraft Corp. v. United States, 103 S. Ct. 1033 (1983).

In Glover v. Johns-Manville Corp., 662 F.2d 225, 228 (4th Cir. 1981), a case involving the FECA, the court assumed, without deciding, that § 8116(c) was inapplicable, on the basis of Bremen. The court’s tort-based indemnity ruling in White v. Johns-Manville Corp.,
To summarize, the United States government contributed to the asbestos problem by specifying that asbestos insulation be used aboard naval vessels during World War II and the Korean War. The government contract defense ought to be available to defendant manufacturers in asbestos suits, but where the defense is successful it will act as a complete bar to liability, and victims will go uncompensated. Where the defense is unavailable, the manufacturers may be found liable, and they also may be denied indemnity or contribution from the government. In either case the government avoids tort liability.

Efficiency and Collateral Estoppel

Thousands and thousands of pending asbestos suits have created a tremendous burden on the courts. It has been suggested that applying the doctrine of collateral estoppel could dramatically reduce this burden. For a number of reasons, however, collateral estoppel has only limited potential for application to asbestos litigation.

Collateral estoppel precludes litigation of identical issues in different suits. Only issues actually litigated and essential to a valid and final judgment are subject to collateral estoppel. Traditionally, an addi-

662 F.2d 243 (4th Cir. 1981), made it unnecessary to decide whether Bremen applied in that case to the exclusive remedy clause of the applicable statute, the Longshoremen's and Harbor Workers' Compensation Act.

159. In re "Agent Orange" Product Liability Litigation, 534 F. Supp. 1046, 1055 (E.D.N.Y. 1982). Because the defense, if successful, is a complete bar to liability, it has been suggested that federal courts should exercise their power to sever trials and hear the defense first, as a matter of judicial economy. See Rivkin, supra note 150, at 1237-38. Asbestos courts have not been uniformly responsive to this suggestion. Compare Tefft v. A.C. & S., Inc., Nos. C80-924M, C81-179M, C81-533M (W.D. Wash., filed Sept. 15, 1982) (granting Phase I trial) with Zeserman v. Pittsburgh Corning Corp., No. 81-1295 (E.D. Pa., filed Mar. 23, 1983) (denying Phase I trial). Phase I motions are pending in Maine and Connecticut.

160. In addition to its potential liability under the FECA, the United States is a defendant in approximately 1,000 suits brought under the Federal Tort Claims Act, 28 U.S.C. §§ 1346(b), 2671-2680 (1976) (for injuries resulting from asbestos exposure). Asbestos Litig. Rptr. 4,863 (Apr. 23, 1982). However, these claims have not been particularly successful. See, e.g., Stewart v. United States, 486 F. Supp. 178 (C.D. Ill. 1980) (claim of asbestos plaintiff under FTCA barred because government's decision to sell asbestos fell within discretionary function exception to the Act).

161. For example, in the Eastern District of Texas, pending asbestos suits account for more than 15% of the total case load. Asbestos Litig. Rptr. 5,220 (July 23, 1982). Moreover, because of the long latency periods of asbestos-related diseases, pending cases may very well represent "only the leading edge of the storm." Smith & Channon, supra note 34, at 142.


163. 1B J. Moore & T. Currier, Moore's Federal Practice ¶ 0.441[2] (2d ed. 1982). Collateral estoppel is to be distinguished from the related doctrine of res judicata, under which a judgment on the merits in a prior suit bars a second suit involving the same parties
tional requirement for the application of estoppel was mutuality of parties. Under the mutuality doctrine, neither party could use a prior judgment as an estoppel against the other unless both parties were bound by the judgment. 164

Mutuality was abandoned in California in 1942, 165 and a number of jurisdictions have followed suit. 166 In *Parklane Hosiery Co. v. Shore*, 167 the United States Supreme Court abandoned the requirement of mutuality for cases involving the "offensive use" of collateral estoppel. Offensive use occurs when the plaintiff seeks to foreclose the defendant from litigating an issue the defendant previously has litigated unsuccessfully in an action with another party. 168

*Parklane* replaced the federal rule of mutuality with one that grants trial courts broad discretion to determine the applicability of offensive collateral estoppel. This discretion is bound only by the express limitation that when the application of offensive estoppel would be unfair to a defendant, a trial judge should not allow its use. 169

A number of asbestos suits already have been tried to conclusion. Many of these suits, including the leading cases of *Borel v. Fibreboard Paper Products Corp.* 170 and *Karjala v. Johns-Manville Products Corp.*, 171 have resulted in judgments against various manufacturers of asbestos products. Plaintiffs in subsequent suits have argued that these manufacturers should be estopped from relitigating issues decided in *Borel* and *Karjala*. 172

Much of the asbestos litigation is taking place in federal courts, on the basis of diversity jurisdiction. A threshold issue, therefore, is

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164. IB J. MOORE & T. CURRIER, supra note 163, ¶ 0.412[1]. The asserted rationale for the mutuality doctrine was that it was unfair to allow a party to use a prior judgment when he himself would not be bound by it. See Semmel, *Collateral Estoppel, Mutuality and Joiner of Parties*, 68 COLUM. L. REV. 1457, 1468-71 (1968).


168. Id. at 326 n.4. "Defensive use occurs when a defendant seeks to prevent a plaintiff from asserting a claim the plaintiff previously has litigated and lost against another defendant." Id. Eight years prior to *Parklane*, the United States Supreme Court had allowed the use of nonmutual defensive collateral estoppel in a patent invalidity case. See Blonder-Tongue Laboratories, Inc. v. University of Ill. Found., 402 U.S. 313 (1971).


171. 523 F.2d 155 (5th Cir. 1975).

whether a federal court sitting in diversity should apply the *Parklane* rule of collateral estoppel, or instead should follow the law of the jurisdiction in which it sits. This issue is of some importance, because only a slight majority of states has rejected the mutuality requirement.\textsuperscript{173}

The importance of the issue has not always been matched by careful judicial analysis. One federal district court held that state law controls, but did not discuss the problem.\textsuperscript{174} A second district court justified its reliance on state law in part on the basis of a dictum by that circuit's court of appeals which subsequently was repudiated by the appellate court.\textsuperscript{175}

One reason to apply the *Parklane* rule in diversity actions is that if the rule is not applied, the integrity of federal court judgments may be undermined. A supervening interpretation of the state law of collateral estoppel could result in the relitigation of issues that otherwise would have been finally decided. A second reason to apply *Parklane* is that it is important to maintain uniformity in the federal judicial system. These arguments seem persuasive,\textsuperscript{176} but because some asbestos courts continue to reject this view\textsuperscript{177} the applicability of estoppel is accordingly limited.

A second limitation on the application of estoppel in asbestos litigation is that *Parklane*, while it abandoned the requirement of mutual-


\textsuperscript{176} According to the *Restatement (Second) of Judgments* § 87 reporter's note b (1982), the "better reasoned" view is that *Parklane* does apply in federal diversity actions. Two other situations are to be distinguished. Where the claims or defenses in question in the second action are governed by federal substantive law, federal law also controls the question whether such claims or defenses are barred by res judicata, even if the first suit was brought in state court. 1A (Part 2) J. Moore, W. Taggart, A. Vestal & J. Wicker, *Moore's Federal Practice* § 0.311[2] (2d ed. 1982). Where the first action was brought in state court and did not involve federal matters, the federal district court is required to follow the res judicata law of the forum state. *Id*. Presumably both of these rules also apply in cases of collateral estoppel.

\textsuperscript{177} *See* Amader v. Johns-Manville Corp., 541 F. Supp. 1384, 1385 (E.D. Pa. 1982); Maloney v. Johns-Manville Sales Corp., No. C79-167 (N.D. Ohio, filed July 26, 1982). In Bertrand v. Johns-Manville Sales Corp., 529 F. Supp. 539, 542 n.3 (D. Minn. 1982), the court found it unnecessary to resolve the issue because the state and federal law were "essentially identical."
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ity, left undisturbed the requirement of privity. Thus manufacturers who were not parties or privies to prior federal decisions such as Borel cannot be estopped by those decisions in subsequent federal diversity actions. It might be argued that privity exists because all of the manufacturers have similar legal positions, but it has been held that estoppel based on similarity of interests violates the due process rights of defendants.

A third limitation on the application of estoppel relates to Parklane's holding that offensive use may be allowed only when it would not be unfair to a defendant. The Supreme Court gave as one example of unfairness the situation in which "the judgment relied upon as a basis for the estoppel is itself inconsistent with one or more previous judgments in favor of the defendant."

Of the one hundred and eighty-five asbestos trials concluded by February 1983, ninety resulted in plaintiffs' verdicts and fifty-one resulted in defendants' verdicts. This statistic alone does not indicate that juries have found that asbestos is not an unreasonably dangerous product for purposes of strict liability, since the cases have been submitted to juries for general verdicts rather than for special verdicts. But even if an inconsistent verdict has not yet been returned, it is likely that such a verdict eventually will be returned, because not all exposure to asbestos causes disease. In fact, virtually everyone living in an industrial community has some asbestos in his or her lungs, while the incidence of asbestos-related disease in the general population is virtually nil. The result of an inconsistent verdict, according to Parklane, is that application of estoppel would be unfair, and thus may not be allowed.

The Supreme Court also observed in Parklane that it would be unfair to apply estoppel "if a defendant in the first action is sued for small or nominal damages [since] he may have little incentive to defend vigorously, particularly if future lawsuits are not foreseeable."

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179. Hardy v. Johns-Manville Sales Corp., 681 F.2d 334, 340 (5th Cir. 1982). See also Comment, supra note 2, at 1333 & n.124.
181. ASBESTOS LITIG. RPRTR. 6,252 (Feb. 25, 1983). Thirty-eight cases were settled during trial, there were three mistrials, and two verdicts were too complex to classify. Id.
184. See, e.g., H. HINSHAW & J. MURRAY, supra note 11, at 730 (there is no evidence of an increased incidence of mesothelioma due to random exposure to asbestos).
plaintiff in *Borel* recovered $68,000 in 1973.\textsuperscript{186} While $68,000 is not a nominal sum, standing alone or in comparison to the $82,000 average award in asbestos trials to date,\textsuperscript{187} the *Borel* award is nominal in comparison to the total amount of liability that the *Borel* defendants face now, and will face in future years. Similarly, while it might be argued that in 1973 future suits were foreseeable, since the *Borel* defendants were aware that other workers had been exposed to asbestos and might develop asbestos-related diseases, arguably the present tremendous volume of asbestos litigation was neither foreseeable nor foreseen.\textsuperscript{188}

In addition to refusing to estop litigation concerning the unreasonably dangerous nature of asbestos products, several courts also have refused to estop litigation on the issue of whether asbestos exposure can cause mesothelioma or asbestosis.\textsuperscript{189} One reason given for this position is that defendants ought to be free to present state of the art evidence relating to their particular products.\textsuperscript{190} Such an approach is untenable. While the medical community is divided on some aspects of the various asbestos-related diseases, all authorities agree that asbestos can cause these diseases. One court that refused to estop the use of state of the art evidence held: "It is clear that it is appropriate to estop litigation on the issue of whether asbestos dust can cause diseases such as asbestosis and mesothelioma. This proposition is so firmly entrenched in the medical and legal literature that it is not subject to serious dispute."\textsuperscript{191}

In summary, collateral estoppel is not a viable mechanism for conserving scarce judicial resources in asbestos suits. This is because: (1) some courts have declined to follow the better reasoned view that *Parklane* should apply in diversity actions, which means that mutuality may be required; (2) privity does not always exist; (3) inconsistent ver-

\textsuperscript{187} See ASBESTOS LITIG. RPTR. 4,972 (May 28, 1982).
\textsuperscript{188} But see Flatt v. Johns-Manville Sales Corp., 488 F. Supp. 836, 841 (E.D. Tex. 1980) ("The court is convinced that the estoppel effect of the *Borel* judgment was foreseeable to Johns-Manville, . . . ").
\textsuperscript{190} See *Hardy* v. Johns-Manville Sales Corp., 681 F.2d 334, 347 (5th Cir. 1982). For a similar reason the *Hardy* court refused to take judicial notice of the fact that asbestos causes cancer. *Id.* at 348. See also Erlenbach, *Offensive Collateral Estoppel and Products Liability: Reasoning with the Unreasonable*, 14 ST. MARY'S L.J. 19, 46 (1982) (*Hardy* decision has effectively made collateral estoppel in asbestos cases a dead letter).
\textsuperscript{191} Bertrand v. Johns-Manville Sales Corp., 529 F. Supp. 539, 544 (D. Minn. 1982). Of course, the fact that asbestos can cause these diseases does not necessarily mean that it did cause them in a particular case. Thus, estopping litigation on this issue still would leave to be tried the issue of whether the plaintiff's exposure was sufficiently great to have caused his alleged condition of asbestosis or mesothelioma. See Baldwin, *Asbestos Litigation and Collateral Estoppel*, 17 FORUM 772, 781-82 (1982).
dicts almost inevitably will result, which means that fairness considerations militate against estoppel; and (4) some courts refuse to estop litigation of the issue of whether asbestos can cause diseases. The net result is that the parties are forced to relitigate the asbestos liability wheel in each asbestos suit that goes to trial, and millions of dollars that otherwise might have gone to asbestos victims are consumed by attorneys' fees and related legal expenses. This inefficiency of the status quo is the final reason for adopting a federal compensation law.

The Legislative Response

The United States Congress is very much aware of the asbestos problem. Two key bills addressed to the problem have been introduced. In the 98th Congress, Representative George Miller introduced the Occupational Disease Compensation Act of 1983. Previously in the 97th Congress, Senator Gary Hart introduced the Asbestos Health Hazards Compensation Act of 1981.

The Senate bill would make existing workers' compensation programs the exclusive remedy for injured asbestos workers against their employers and the manufacturers of asbestos products. It also would ensure that compensation under these programs would be adequate, by establishing federal minimum standards. The minimum recovery for total disability or death due to an asbestos-related disease would be 66.667 percent of the average gross weekly wage of the claimant for the highest three of the five years immediately preceding the beginning of the disability or prior to death, and this figure increases if the claimant has dependents.

Since less than half of the states presently provide for weekly death benefits at the rate of 66.667 percent of wages, benefits would increase significantly. The amount of the increase would vary from state to state, but according to one study average wage replacement rates would double from forty percent now to eighty percent.

192. It typically costs defendants $150,000 to put $28,000 in the hands of a successful claimant. ASBESTOS LITIG. RPRTR. 5,320 (Aug. 13, 1982). That is, 80 to 90 cents of every dollar spent in asbestos litigation is consumed by attorneys' fees and related legal expenses. Id. at 5,176 (Oct. 22, 1982). But cf. id. at 4,679 (Mar. 12, 1982) (for every 6 cents that is paid to an asbestos victim, 7 cents is paid to an attorney involved in the litigation); id. at 5,903 (Dec. 10, 1982) (over the next 3 decades defense costs will be $25 to $30 billion to pay for $38 billion in asbestos claims).


194. S. 1643, 97th Cong., 1st Sess. (1981). As this Comment went to press, Senator Hart had not yet re-introduced his bill in the 98th Congress.

195. Id. § 10(a).

196. Id. § 4(a)(3).

197. Id. § 4(a)(5).

198. 1979 Hearings, supra note 12, at 166 (statement of Sheldon W. Samuels). But see 1982 Hearings, supra note 27, at 486 (statement of Robin Obetz) (state wage replacement rates of 2/3 or greater are standard).
cent under the proposed federal minimum standard. 199

Similarly, the Senate bill would establish a minimum wage replacement standard of 66.667 percent for partial disabilities caused by exposure to asbestos. 200 This standard is to be contrasted with the present practice of many states of omitting or qualifying benefits for such disabilities. 201 Of equal importance to the partially disabled worker, the Senate bill would permit reapplication for an increase in benefits if the disability worsens, 202 which is a feature absent from many existing compensation programs. 203

The Senate bill also avoids existing barriers to compensation for asbestos-related disease, including provisions relating to a claimant's last-injurious-exposure or last date of employment. 204 This is desirable since, as indicated, last-injurious-exposure rules operate unfairly to bar claims for asbestos-related disease. 205 The bill replaces these rules with a discovery rule. 206

Under the Senate bill, compensation programs fully in compliance with the federal minimum standards would be fully certified by the Secretary of Labor. To the extent that a program was not in full compliance, a claimant would be entitled to supplemental compensation. 207 A worker's last employer would be required to pay compensation, but that employer would be entitled to reimbursement from other responsible parties. 208 A particular formula for allocating liability would be devised by a newly-created Apportionment Criteria Commission. 209

The House bill would make compensation from a national Toxic Substance Employee Compensation Insurance Pool the exclusive remedy for injured asbestos workers against their employers. 210 This Pool would be funded by employers which exposed workers to asbestos, and by enterprises involved at any stage in the commercial or industrial production of asbestos. The proportion of funding to be provided by the two groups would be determined primarily on the basis of the proportion of workers' compensation payments made to liability payments made during a representative period prior to the effective date of the Act. 211

199. 1982 Hearings, supra note 27, at 474 (statement of Prof. William G. Johnson).
201. See supra notes 44-45 & accompanying text.
203. See supra note 46 & accompanying text.
205. See supra notes 33-34 & accompanying text.
207. Id. § 5(b).
208. Id. § 7.
209. Id. § 8.
211. Id. § 11(c)(3)(A).
Individual employers and commercial enterprises would contribute to the Pool according to multi-factor formulas. For example, asbestos enterprises would contribute based on a market-share formula which takes into account the relative asbestos content of the enterprise's products, the risk posed by the products, and the enterprise's prior asbestos litigation experience. Non-contributing enterprises would be subject to civil actions brought by the Secretary of Labor, as well as to civil penalties. The total amount of funds in the Pool would be determined annually by the Secretary on the basis of the past experience of the Pool, anticipated obligations, and actuarial projections.

Claims for compensation from the Pool would be filed with existing federal Offices of Workers' Compensation Programs. Barriers to compensation such as last-injurious-exposure and minimum-exposure rules would be replaced with a discovery rule. Compensation from the Pool would be provided in accordance with specified federal standards. The wage replacement standard for total disability would be eighty percent of the national manufacturing average weekly wage for the month in which the onset of the disability occurred, or eighty percent of the national average construction wage for asbestos workers injured in the construction industry. The standard for partial disability in workers who are still employed would be 66.667 percent of the differences between the employee's average weekly wage during the year immediately prior to the onset of the disabling condition and the employee's average weekly wage after such onset.

The House bill, introduced in May 1983 as the carefully revised version of an earlier draft on which hearings were held, is superior to the Senate bill in several respects. First, by establishing a national compensation pool rather than relying on existing state compensation programs, the House bill probably makes it more likely that adequate compensation will be provided to asbestos victims. Second, the House bill is much more specific than the Senate bill in key areas. For example, the Senate bill provides very little guidance to the Apportionment Criteria Commission in devising a formula to allocate liability, while the House bill specifies the apportionment factors to be taken into account.

212. Id. § 11(c)(3)(B).
213. Id. §§ 11(f)(1)-(2).
214. Id. § 11(c)(1).
215. Id. § 7(a).
216. Id. §§ 7(b)(3), (c).
217. Id. § 5(b).
218. Id. § 5(d)(1)(B).
220. 1982 Hearings, supra note 27.
consideration.\textsuperscript{221}

Third, the House bill’s discovery rule is superior to the Senate version of the same rule. Under the latter, a claim for benefits must be filed within three years after death or an initial medical determination of total disability due to an asbestos-related disease, whichever occurs first.\textsuperscript{222} Thus, the claims period could begin to run on a medical determination of disability, even if the claimant has no reason to know of the diagnosis of his disease. In contrast, under the House bill, the claims period does not begin to run until the claimant knows or should know of the relationship between the disease and workplace exposure to asbestos.\textsuperscript{223}

Finally, the House bill, unlike the Senate bill, avoids the placement of liability on a workers’ last employer, by providing that all payments will be made by the Pool. As indicated, it is inequitable to assign liability to a last employer without regard to whether previous employers contributed to a claimant’s disease.\textsuperscript{224} The Senate bill’s initial assignment of liability to the last employer (who is eligible to seek reimbursement)\textsuperscript{225} does not represent much of an improvement over the status quo.

The Senate bill, however, is superior to the House bill in several key respects. First and foremost, the former, unlike the latter, provides for the allocation of liability to the United States. Among the factors the Senate bill’s Apportionment Criteria Commission is directed to consider is “the party or parties responsible for establishing the criteria to which product specifications were designed and products were manufactured.”\textsuperscript{226} This provision clearly encompasses insulation products purchased by shipyards for use aboard naval vessels. While the Senate bill requires the federal government “to make contributions in proportion to its share of responsibility,”\textsuperscript{227} the House bill specifically excludes the United States from participation in the Pool.\textsuperscript{228} Thus only the Senate bill helps to rectify the failure of the status quo to assign liability to all responsible parties.\textsuperscript{229}

Second, the Senate bill, unlike the House bill, avoids the use of

\begin{itemize}
\item \textsuperscript{221} H.R. 3175, 98th Cong., 1st Sess. §§ 11(c)(3)(A)-(C) (1983).
\item \textsuperscript{222} S. 1643, 97th Cong., 1st Sess. § 4(a)(15) (1981).
\item \textsuperscript{223} H.R. 3175, 98th Cong., 1st Sess. § 7(b)(3) (1983).
\item \textsuperscript{224} See supra notes 60-63 & accompanying text.
\item \textsuperscript{225} S. 1643, 97th Cong., 1st Sess. § 7 (1981).
\item \textsuperscript{226} Id. § 8(c)(3).
\item \textsuperscript{227} Id. § 9(c)(2).
\item \textsuperscript{228} H.R. 3175, 98th Cong., 1st Sess. §§ 3(6), (17) (1983).
\item \textsuperscript{229} The Senate bill, however, only partially corrects the inequities of the status quo. There is good reason, considering that cigarettes are co-carcinogenic with asbestos in the induction of lung cancer, see supra note 135, to require the tobacco industry to make some contribution to asbestos victims. Neither the Senate bill nor the House bill provides for such contribution.
\end{itemize}
presumptions in determining a claimant's eligibility for compensation.\textsuperscript{230} The use of presumptions has been one of the most criticized features of the Black Lung Benefits Act;\textsuperscript{231} their use under that Act has resulted in the compensation of undeserving claimants.\textsuperscript{232} The House bill's presumptions could produce similar results.\textsuperscript{233} Finally, the Senate bill, unlike the House bill, provides for the compensation of members of the households of asbestos workers, members who themselves become disabled by virtue of coming into contact with exposed workers.\textsuperscript{234} This provision is important because the incidence of asbestos-related disease in the household contacts of asbestos workers is not insignificant.\textsuperscript{235}

\textsuperscript{230} The Senate bill provides: "In no event shall there be any presumption of asbestos-related disease based solely on the length or degree of exposure to asbestos." S. 1643, 97th Cong., 1st Sess. § 4(a)(17) (1981). In contrast, the House bill establishes irrebuttable presumptions that mesothelioma and asbestosis resulted from exposure to asbestos if the claimant shows that the injured employee was exposed to asbestos in the course of employment. See H.R. 3175, 98th Cong., 1st Sess. § 6(c)(1)-(2) (1983). In the case of lung cancer, the presumption is rebuttable, unless radiological or histological evidence of asbestotic changes to the lung or pleura is produced. \emph{Id.} § 6(c)(3).


\textsuperscript{232} A study conducted by the General Accounting Office concluded that 88.5% of claims for black lung compensation are approved solely because of statutory presumptions; in these cases medical evidence was inadequate to establish disability or death from black lung. See 1982 Hearings, supra note 27, at 484 (statement of Robin Obetz). See also Solomons, \textit{A Critical Analysis of the Legislative History Surrounding the Black Lung Interim Presumption and A Survey of its Unresolved Issues}, 83 W. VA. L. REV. 869, 915 (1980).

\textsuperscript{233} For example, exposure to asbestos is not the only known cause of mesothelioma. In southern Turkey, endemic mesothelioma has been related to zeolites, which like asbestos are fibrous hydrated silicates. Baris, Artvinli & Sakin, \textit{Environmental Mesothelioma in Turkey}, 330 ANNALS N.Y. ACAD. SCI. 423 (1979); Kannerstein & Churg, \textit{Mesothelioma in Man and Experimental Animals}, 34 ENVTL. HEALTH PERSP. 31, 31 (1980).

Various recent studies show no evidence of asbestos exposure in 15% of patients with mesothelioma. W. PARKES, \textit{supra} note 10, at 277. See also R. George, R. Light & R. Matthay, \textit{supra} note 6, at 530 (only half of mesothelioma patients have a documented history of asbestos exposure); Newhouse, \textit{supra} note 11, at 253 ("No contact with asbestos can be traced in approximately 30% of the patients with mesothelioma...[I]t must be accepted that mesotheliomas are not invariably related to asbestos exposure."). \textit{But see} Craighead, Abraham & Pratt, \textit{supra} note 135, at 584 ("Malignant mesotheliomas of the pleura and peritoneum either are exceptionally rare or never occur in patients not exposed to asbestos.").

The House bill's presumption as to lung cancer is even more problematic, considering the relationship between smoking, asbestos and lung cancer. \textit{See supra} note 135.


\textsuperscript{235} One study found that 10% of shipyard workers' wives had asbestosis. Schechter, \textit{supra} note 5, at 30-31. It also has been estimated that after 20 years of exposure to asbestos workers the death rate among family contacts from mesothelioma is 1% and after 30 years it is 2%. \textit{Hazard of Asbestos Exposure: Hearings Before the Subcomm. on Commerce, Trans-
One possible argument against passage of either bill is that each represents a "bail-out" of the asbestos industry, inasmuch as the exclusivity clauses in the bills prohibit third-party suits. However, as indicated, the asbestos industry probably was unaware of the hazards to insulation workers prior to the time that the industry began issuing warnings.\textsuperscript{236} Thus, the bills do not reward the industry for past omissions. Moreover, the industry does not escape liability under the proposed legislation, since even manufacturers who filed chapter 11 bankruptcy petitions are required to contribute to the House bill's Pool.\textsuperscript{237}

Even if the bills do represent a bail-out, the interests of injured asbestos workers still are best served by replacing inadequate tort compensation with workers' compensation benefits at specified minimum levels. Tort compensation is inadequate because, as indicated, plaintiffs may be barred by inequitable statutes of limitations,\textsuperscript{238} or where the state of the art\textsuperscript{239} or government contract defenses\textsuperscript{240} are allowed, or where they are unable to establish causation by identifying the particular manufacturers who produced the asbestos to which they were exposed.\textsuperscript{241}

Where plaintiffs have been able to surmount these obstacles, the amounts recovered frequently have been inadequate. On average, successful claimants receive approximately $80,000,\textsuperscript{242} but this figure is inflated by several very large awards,\textsuperscript{243} and much of the money is used to cover legal expenses.\textsuperscript{244} Indeed, a leading union of asbestos insulators has concluded that third-party litigation "is a hit or miss system which [does not serve] the interests of asbestos workers. . . . Litigation is not the answer."\textsuperscript{245}

A second possible argument against the bills is that Congress should not enact legislation concerning specific diseases, since such an approach fragments occupational disease benefit systems. However, in the absence of federal minimum standards applicable to compensation for all occupational diseases, asbestos-related diseases merit special

\textsuperscript{236} See supra notes 110-15 & accompanying text.
\textsuperscript{238} See supra notes 64-89 & accompanying text.
\textsuperscript{239} See supra notes 90-109 & accompanying text.
\textsuperscript{240} See supra notes 144-60 & accompanying text.
\textsuperscript{241} See supra notes 116-43 & accompanying text.
\textsuperscript{242} ASBESTOS LITIG. RPRR. 4,972 (May 28, 1982).
\textsuperscript{243} 1980 Hearings, supra note 2, at 228 (statement of Laurence J. Cohen).
\textsuperscript{244} See supra note 192.
\textsuperscript{245} 1980 Hearings, supra note 2, at 228 (statement of Laurence J. Cohen).
treatment by virtue of the sheer numbers of workers involved. Additionally, the Senate bill is designed to be a model program for the enactment of federal minimum standards for workers' compensation coverage of all occupational diseases246 and the House bill contemplates that the Pool will provide compensation to workers who suffer death or disability due to occupational exposure to toxic substances other than asbestos.247

A final argument against the bills is that they may be expensive or cumbersome to administer. However, only a minimal amount of new federal machinery is called for by the bills, since existing workers' compensation programs remain the vehicle for providing benefits.248 Also, at least under the House bill, administrative funds would be provided by the Pool,249 rather than by the federal government. Finally, since the federal government is in large part responsible for the asbestos problem, it ought to assume an active role in resolving it.

Conclusion

Millions of American workers have been exposed to asbestos, and thousands of these workers are dead or dying. These workers and their survivors are denied adequate compensation under presently available remedial systems. These systems also fail to assign liability to all responsible parties, and they fail to operate efficiently.

The only solution to the national problem of asbestos-related disease is the enactment of a federal compensation law that would both establish minimum standards for workers' compensation programs and make these programs the exclusive remedy for asbestos claimants. Both the Senate and the House bills would accomplish these objectives, but each is superior to the other in certain respects. A compromise bill should be enacted.

Gideon Mark*

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248. For example, under both bills appeals of compensation awards would be made to the existing Benefits Review Board, established pursuant to the Longshoremen's and Habor Worker's Compensation Act. See S. 1643, 97th Cong., 1st Sess. § 6(a)(1) (1981); H.R. 3175, 98th Cong., 1st Sess. § 9(b) (1983).
* Member, Third Year Class.