ANALYSIS AND PERSPECTIVE

CAUSATION IN TOXIC TORTS:
WHY RULINGS IN MANY CASES ARE AND WILL BE UNFAIR

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Causation fairness in tort law is a concept designed to allow injured parties to recover while preventing defendants from paying for injuries that they did not cause. However, the newly developing field of toxic torts currently leaves the legal system no option but to be unfair on the causation issue. This is so because cancers caused by a toxic chemical or agent (like ionizing radiation) cannot be scientifically distinguished from the many background cases of naturally occurring cancer. This article explores the dilemma posed by the fundamental unfairness of causation rulings in toxic tort cases and suggests some solutions.

The American Cancer Society tells us that “about 73 million Americans now living will eventually have cancer; about 30 percent, according to present rates. Over the years, cancer will strike in approximately three out of four families.” Consequently, there is a huge background of naturally occurring cancers in any population exposed to a toxic chemical or agent. Many of these agents will produce cancers that are scientifically indistinguishable from the naturally occurring cancers. For example, “cancers induced by radiation are indistinguishable from those occurring naturally; hence, their existence can be inferred only on the basis of a statistical excess above the natural incidence.”

The traditional evidentiary test required for a disease caused by exposure to some agent is to have a medical doctor, who is an expert on the disease, testify “to a reasonable degree of medical certainty” that the disease was caused by exposure to the agent.

In situations where the toxic agent causes diseases that are indistinguishable from naturally occurring cases of the same disease, this traditional test cannot be met. In fact, evidence of any harm at all will only be observable in group statistics. For example, if radiation does cause some cancers in a group of exposed people the existence of their radiation-induced cancers “can be inferred only on the basis of a statistical excess above the natural incidence.”

Three hypothetical examples can illustrate the difficulty of determining causation in toxic tort cases.

A Nine Percent Chance

In the first hypothetical let us assume a group 1,000 people, among which one can expect 300 naturally occurring cancers.

Let us then assume that the group was exposed to a toxic agent that produced 30 excess unidentifiable cancers. From the total of 330 cases of cancer no one can tell whether a particular individual is one of the 300 naturally occurring cancers or one of the 30 cases caused by exposure to a toxic agent. However, an “odds analysis” can be performed. For any person with cancer the “odds” are 30 out of 330, which is one in 11, or nine percent, that the individual’s particular cancer was caused by the toxic agent.

If such evidence is accepted by the courts as sufficient to prove causation to “a reasonable degree of medical certainty,” then every single person in the group of 330 with cancer can recover because they each share the same statistical “odds.”

Such a result would be grossly unfair to the defendant because it forces him to pay full damages to 300 persons who have a naturally occurring cancer that the defendant did not cause.

A Fifty Percent Chance

In the second hypothetical let us also assume a group 1,000 people that contains 300 naturally occurring cancers. The group is exposed to a toxic agent that causes 300 additional indistinguishable cancers for a total of 600 cancers out of 1,000 people. This would be viewed as an epidemic. For any single person with cancer, the “odds” are 300 out of 600, or 50 percent, that exposure to the toxic agent caused that person’s
particular cancer. The odds for each of the 600 people are the same.

If such statistical evidence is accepted by the courts as enough to prove causation to "a reasonable degree of medical certainty," the defendant will be treated unfairly. Just as in the first hypothetical, the defendant will have to pay full damages to 300 people who have a cancer that he did not cause.

On the other hand, if these "odds" are not sufficient to prove causation, then the defendant will have been allowed to cause 300 cancers without paying one penny in compensation. That is unfair to the plaintiffs.

A Seventy-One Percent Chance

In the third hypothetical let us assume a final group of 1,000 people who express 300 naturally occurring cancers. The group is exposed to an extremely strong toxic agent that causes 700 excess cancers. In other words, every single member of the group dies from cancer. For any single one of the 1,000 people who have cancer the "odds" are now 700 in 1,000 or one in 1.4 or 70 percent that the person's particular cancer was a case that was caused by the exposure rather than one that was a naturally occurring case of cancer.

If the courts accept such odds as 70 percent as being sufficient to prove causation to "a reasonable degree of medical certainty," this will be unfair to the defendant, who still has to pay fully for 300 cases of naturally occurring cancer.

On the other hand, if the courts do not accept the 70 percent "odds" as sufficient proof, then tort law is saying that a person can literally cause 100 percent of the cancer deaths in a group of people and yet escape paying any damages simply because among the 1,000 deaths there were many cases of naturally occurring cancer that cannot be specifically identified. That is not fair and society would not accept it as being just.

Note that the "odds" cannot ever be 100 percent even though everyone dies from cancer since there are so many cases of naturally occurring cancer.

Science Cannot Produce Evidence Required By Law

The core problem is that science is unable to separate naturally occurring cancers from those caused by exposure to the toxic agent. Thus, science is unable to produce the evidence that law needs to resolve equitably such toxic tort cases. The approach that is currently available is a gross statistical analysis of group numbers.

Without more precise person-specific scientific information there is nothing the law can do that will not result in unfairness to either the plaintiff or the defendant. It must be recognized that until the ability to produce adequate scientific evidence improves, these particular types of toxic tort cases will result in unfairness to someone. But which party should bear this unfairness? That is a matter of social policy, not legal analysis.

A Rough Form of Group Justice

One possible social policy solution is to recognize that the tort system is incapable of doing individual justice under the present state of scientific knowledge. Once the goal of individual justice is abandoned, society can substitute the goal of group justice. This would do rough justice to the group as a whole.

In the first hypothetical the "odds" were only nine percent that anyone assumed to have had cancer developed that disease from exposure to the toxic agent. Since it is impossible to identify those few valid cases and fully compensate those individuals, perhaps the legal system should force the defendant to pay for nine percent of the damages of all the individuals in the group who developed a cancer.

In the second hypothetical the defendant would pay half of the damages suffered by all those who developed cancer. In the third example the defendant would pay 70 percent of the damages of all members of the group.

Traditional Analysis Cannot Identify Those Harmed

In other words, the law recognizes that the defendant is actually harming people but traditional tort law analysis of the proximate causation issue simply is not capable of identifying those "harm"ed individuals. Consequently, when valid epidemiological evidence is offered proving that excess cancers do in fact exist, the law should assume proximate causation for social policy reasons, and use the "odds" analysis to limit the damages awarded so that the defendant does not have to pay for more harm than he really caused.

This is not individual justice but it is a rough form of group justice that may be better than the result obtained under strict adherence to traditional principles of tort law. However, there are many problems raised by this proposed solution.

How could such a drastic change in tort law be effected? Can courts adopt the analysis themselves or is legislation required? What undesirable side effects would be created?

While the group justice concept seems quite simple, its implementation would be very complex. For example, the exact "odds" necessary to fairly distribute damages will not be known until every member of the original group dies. At that point it is too late to personally compensate any of the persons who suffered from the excess cancers. In other words, precise group justice can only be accomplished after the injured persons are no longer alive to benefit from the award. So why go to all of this effort to change the law when the beneficiaries would not be around to enjoy the benefits anyway?

Reducing the Accuracy

Any attempt to set the percentage of damages to be awarded while the victims are still alive would reduce the accuracy of that number. The natural cancer rate actually would change from state to state and from group to group. The natural rate is not known with precision and anyway is subject to normal biological and statistical variation.

It is commonly assumed that the natural rate could easily vary by 10 percent just due to statistical factors alone. Thus, in every group of 1,000 persons there will not be exactly 300 cases of naturally occurring cancers.
With only a 10 percent variation on a 30 percent rate the effective rate would be anywhere from 27 percent to 33 percent. Consequently, the 330 total cancers in the first hypothetical was 33 percent of the group assumed and therefore all assumed cancers could be attributed to natural rather than man-made causes.

If a defendant was forced to pay nine percent of the damages of each of the 330 persons, he might have to pay damages although he did not cause even one case of cancer.

A Statistical Change Without An Actual Change

Another problem with the group justice concept is that the calculated percentage may be a statistical illusion due to too small a group of plaintiffs. If a particular rare disease occurs at random in 10 out of every 1,000 individuals, the natural rate of that disease is one percent. Those 10 normal cases will not be distributed equally among the 1,000 individuals.

For example, if 20 of the 1,000 individuals lived in each of the 50 states, what is the chance that the 10 cases would each appear in a different state? What is the chance that two or more of the rare cancers would appear in the same state?

If two cases happened to appear in the same state, then the rate for that state would be two out of 20 or 10 percent. If only one case of the rare cancer appears in a particular state (and they must appear in some state), then the rate for that state is one out of 20 or five percent. Note that the rate changed from one percent to ten percent to five percent without any actual change in the number of actual cases of the cancer. Only the size of the group we happened to select for examination was changed.

Obviously, the smaller the number of plaintiffs in a group the less valid any statistical analysis will be. Once again, the "odds ratio" device used to do rough group justice is actually yielding an inaccurate and unfair result. These are only six examples; further analysis will yield many more.

Tort Law Will Struggle With Fairness

Unfortunately, in the newly developing field of toxic torts the law is forced to consider questions that look far beyond the ability of science to provide answers. Until science can definitely identify which agent caused each cancer, the law will be unable to provide perfect fairness or perfect justice to all of the litigants before it.

True, the traditional analysis is unfair to some of the litigants. However, any attempt to change the legal system's causation standards for social policy reasons ultimately also will be unfair to some of the litigants.

While we all need to continue to explore how tort law can best contribute to solving the problem of toxic agents in the environment, we also need to be careful that any attempted improvements do not substitute one form of unfairness for another. The struggle to introduce fairness into the legal system's determination of causation in toxic tort cases can be expected to continue for decades.

BNA ANALYSIS

ENVIRONMENTAL EXPOSURE

Radiation

BILL TO INCREASE LIABILITY FOR ACCIDENTS REPORTED BY SENATE ENVIRONMENT SUBCOMMITTEE

Liability of nuclear power plant operators and federal government contractors involved in disposal of high-level radioactive waste for claims arising from accidents would increase from $665 million to about $2.3 billion, under amendments to the Price-Anderson Act reported by a Senate Environment subcommittee June 25.

The bill, S. 1225, reported by the Senate Environment and Public Works Nuclear Regulations Subcommittee, also would expand the government's indemnification of high-level radioactive waste disposal operations to cover the liability — up from the $500 million ceiling under current law.

The measure stipulates that all indemnified claims arising from disposal of non-defense related radioactive waste would be paid from the nuclear waste fund — a contingency fund supported by a per-kilowatt fee on nuclear power plants — but includes no provision for increased funding of the account.

Claims arising from defense-related, high-level radioactive waste would be paid for by general revenues, under the measure.

In addition, the bill would extend by 25 years the authority of the Department of Energy to enter into agreements of indemnification with contractors engaged in high-level radioactive waste disposal, taking the cutoff date from Aug. 1, 1987, under current law to Aug. 1, 2012.

Reactor Liability

Additional liability for nuclear power plant licensees would be paid for through an increase in the standard deferred premium that may be charged retroactively to all licensees following a nuclear incident, under the bill.

The increase, from the current level of $5 million to not less than $15 million and not more than $20 million, would raise up to an additional $75 million per nuclear plant into the pooled liability fund established under the Act. Based on an assumption of 115 reactors, the total amount available to the fund would be $2.3 billion.

Under the bill, the Nuclear Regulatory Commission would be required to promulgate formal rules making within one year of enactment that would establish a level in the $15 million to $20 million range at which to set the maximum standard deferred premium for each licensed reactor.

A separate provision of the bill would increase the aggregate liability for a single nuclear incident for