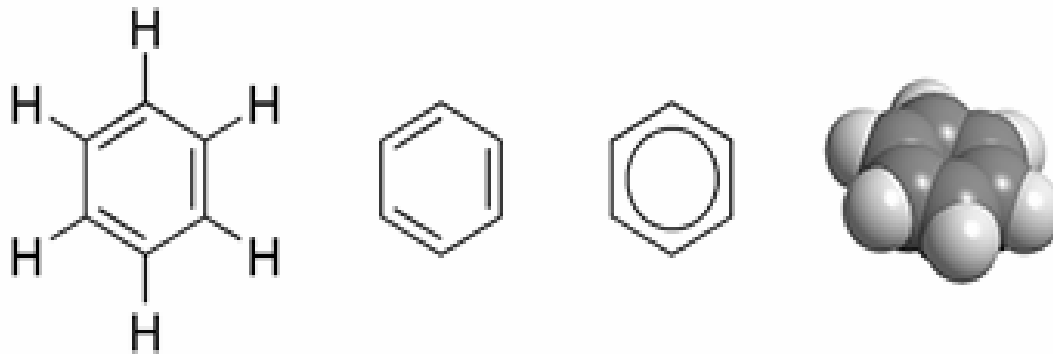


BENZENE LITIGATION: AN EMERGING MASS TORT



Presentation to the Casualty Actuarial Society

Daniel D. Bodell, Esq.

Top-Ten Reasons Benzene Litigation Is An Emerging Mass Tort

- Industrial Exposures-Large pool of potential Litigants
- Common compound
- Some Scientific Support on Causation
- Signature Disease- Acute Myeloid Leukemia (AML)
- History of Work Comp case awards
- Latency Period
- Recruitment by Plaintiff Bar
- Some 7 figure verdicts
- Multiple defendants
- Mealeys has a Litigation Reporter on it

Web Recruitment a Mass Lit Hallmark



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Law Firms Dominate Benzene Web Searches

Benzene Cases-Plaintiff Wins

- *Ryan v. BP Amoco NoCV223271 Mo Cir Jackson* : \$13.3 million in compensatory damages. Sept 2005 Environmental case. Resident next to Spring Creek Refinery died from leukemia
- *Camizzi v Akso Products Inc. et. al. BC 289503, Calif Super, Los Angeles County*: Missionary and part time aircraft painter awarded \$2.2 million for leukemia alleged from benzene in paint
- *Mason v. Texaco, 948 F.2d 1546 (10th Cir. 1991)*. Otis Mason died of leukemia caused by exposure to benzene, an industrial solvent and gasoline component, for which the jury awarded \$34 million.
- *Watts et.al.. v. Radiator Specialty No.2002—364 Miss Cir Ct2004* \$2million NHL Liquid Wrench. Judge granted defense motion for jnov. Dr Barry Levy involved. Appeal filed.
- *Mobil Oil v. Ellender 968 S.W. 2d 917 (Tex 1998)* \$6.00 mil punitive, \$622,88 compensatory AML failure to warn/ conscious indifference toward the safety of contract workers Beaumont Refinery

It Takes Some Substantial Early Verdicts to Fuel litigation

What is Benzene ?

- Benzene, also known as benzol, is a hydrocarbon liquid and an effective solvent. Highly flammable, colorless, with a sweet odor. Benzene evaporates quickly and dissolves slightly in water. Most people can smell benzene in air at 1.5-4.7 ppm and smell benzene in water at 2 ppm. Most people can begin to taste benzene in water at 0.5-4.5 ppm. One part per million is approximately equal to one drop in 40 gallons. Benzene is found in air, water, and soil. Benzene comes from both industrial and natural sources.
- Various industries use benzene to make other chemicals, such as styrene (for plastics), cumene (for various resins), and cyclohexane (for nylon and synthetic fibers). Also used in manufacturing of some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides.
- Because of its wide use, benzene ranks in the top 20 in production volume for chemicals produced in the United States.
- Benzene is a natural constituent of [crude oil](#), but it is usually synthesized from other compounds present in petroleum
- Used as a substitute for lead, benzene now makes up 1 to 2 percent of every gallon of gasoline and it is released as a by-product of fuel combustion.

Some Current or Historical Benzene Products

crude oil

**refined petroleum
products**

asphalts

charcoal lighter fluid

cigarette lighter fluid

cleaners

contact cements

gasoline

glues

hydraulic fluids

inks

lacquer thinner

mineral spirits

paints and coatings

(some)

pesticides

rubber cement

solvents

The USEPA and the International Agency for Research on Cancer (IARC) classify benzene as a Group A or Group 1 human carcinogen.

The EPA has set the maximum permissible level of benzene in drinking water at 0.005 milligrams per liter (0.005 mg/L)

OSHA has set a permissible exposure limit of 1 part of benzene per million parts of air (1 ppm) in the workplace during an 8-hour workday, 40-hour workweek. (1978), down from 10 ppm in 1971. The short term exposure limit for airborne benzene is 5 ppm for 15 minutes.

Occupations With Current Or Historical Benzene Exposure Potential

Adhesive production
Barge Workers
Chemical Workers
Dock Workers
Gasoline distribution workers
Industrial plant workers who use solvents
Installers using glues, solvents
Newspaper Press Workers
Offshore Oilrig Workers
Painters
Paper and Pulp
Pesticide Manufacturing
Plumbers Pipefitters
Printers
Refinery Workers
Rubber Workers
Shoe / Leather workers
Synthetic Rubber Production
Tankermen
Truck Drivers

What's the Exposure in People Terms?

- As many as 238,000 people may be occupationally exposed to benzene in the United States currently.
Source: NIOSH
- Although benzene far less common than it once was, just as with asbestos there is a latency period between exposure and disease manifestation and a case presenting today may come from a worker who was exposed to historically higher workplace levels.
- The total number of current and former workers with appreciable occupation exposures is no doubt far over the current estimates.

Significant Number of Potential Recruits

The Medical-Epidemiological Background

- **A considerable number of human studies provide evidence linking benzene and cancer. Initially, increased risks of leukemia, chiefly acute myeloid leukemia (AML), were reported among workers with high levels of benzene exposure in the chemical, shoemaking, and oil refining industries.**
- **Long term studies of workers at three Ohio plants (Pliofilm which made rubber sheeting with a benzene solvent evaporative) going back to the 1940's provided the first epidemiological evidence that benzene was carcinogenic.**
- **The National Cancer Institute and Chinese Academy of preventative medicine conducted a long term study of over 74,000 workers at 672 factories in 12 cities and found elevated risks of hematologic neoplasms even at exposure levels less than 10ppm**
- **There is a lengthy history of control of benzene by both OSHA and European governmental agencies**

How Does Benzene Cause Disease/Injury?

It is postulated that it is metabolites of benzene, called quinones which are the instrument of harm and these generally react with the hematopoietic tissues. These cells, found within the bone marrow, produce blood cells. The Leukemias fit into the general class called neoplasms of the Lymphopoietic and Hematopoietic tissues. Cancers such as lymphomas (solid tumors) multiple myelomas (cancers of the plasma cells and lymphoid leukemias originate in the lymphoid line of cells in areas such as the lymph nodes.

Clinical and epidemiological evidence consistently indicate that acute myeloid leukemia (AML) and its variants can be caused by benzene exposure.

Many plaintiffs suffering from multiple myelomas (MM) have filed benzene suits. Though some statistics suggest a link, the science is not generally supportive of benzene causation of MM. Likewise, plaintiffs have also filed suits linking their Non-Hodgkin's Lymphoma (NHL) to benzene exposures. Controversy still exists as to the role of benzene and NHL development.

A Caveat On Exposure Levels

- Benzene levels in various workplace studies, dating back to the 1940's and '50's were high (ex. The Pliofilm Ohio plant). Current OSHA standards (1ppm reduced from higher historical limits) make current day comparisons and domestic studies difficult. Clean Air Act and OSHA standards have also led to the reformulation and reduction of or elimination of benzene in many products.
- Benzene litigation continues to grow due to the gaining popularity of "trace benzene" cases in California and other jurisdictions. In "trace benzene" cases, plaintiff's counsel frequently chooses to sue the manufacturers and distributors of all products the plaintiff used at work, including products with benzene content as small as 0.001%.
- Many studies are foreign as US workplaces generally OSHA compliant

Acute Myeloid Leukemia (AML)

- **AML is a blood cancer in which stem cells (myeloid cells) produce abnormal blood cells known as "myeloblasts" or leukemia cells. These do not mature into healthy white blood cells, instead these abnormal "blast" cells multiply out of control displacing or crowding out healthy blood cells, thus causing low numbers of red and white blood cells, and platelets.**
- **The leukemia cells can spread outside the blood to other parts of the body, including the central nervous system (brain and spinal cord), skin, and gums. Sometimes leukemia cells form a solid tumor called a granulocytic sarcoma or chloroma.**
- **Bone marrow failure occurs as cancerous cells replace normal bone marrow. The bone marrow is part of the body's immune system. Problems with the immune system can make it harder for the body to fight infection. Patients with AML have an increased risk of bleeding as healthy blood cells drop. They become more prone to infection as the immune system is compromised.**
- **The goal of treatment is to kill the cancer cells with chemo. Further treatment called consolidation is necessary, which may consist of addl chemo, bone marrow transplant or stem cell transplant. Radiotherapy, and monoclonal antibodies may also be utilized**
- **Approximately 13,400 new cases of AML diagnosed annually accounting for less than 1% of all cancers and 34% of all leukemias. AML has a slight male predominance (1.2:1.0).] AML median patient age at diagnosis is 65 years. Incidence of AML is rare below the age of 40 but increases progressively with age. Overall, the 5-year survival rate in adults under 65 is about 33%.**

AML is the Signature Disease in the Litigation

Multiple Myeloma (MM)

- In multiple myeloma abnormal plasma cells, which produce the fluid portion of the blood, build up in the bone marrow ultimately forming tumors and preventing the bone marrow from making enough healthy stem cells that develop into red and white blood cells and platelets. The tumors within the bone may cause extreme pain and complications
- There is far less consensus as to a causative link between benzene and MM.
- Strong influence of race on the incidence of myeloma and the occurrence of familial clusters of MM cases suggest that genetic factors are involved in causation. Other risk factors for multiple myeloma are autoimmune disorders, chronic immune stimulation, and ionizing radiation)
- Has a longer latency period than AML making it perhaps harder to find in studies
- As a point of reference there are an estimated 15 to 16,000 cases of MM diagnosed annually

Non-Hodgkin Lymphoma (NHL)

56,390 NHL cases diagnosed in the USA in 2005. Non-Hodgkin lymphoma is the sixth most common cancer in males and the fifth most common cancer in females in the United States. The age-adjusted incidence of non-Hodgkin lymphoma rose by 74 percent from 1975 to 2002 - an annual average percentage increase of 2.7 percent.

Lymphoma is a general term for a group of cancers that originates in the lymphatic system. Non-Hodgkin lymphoma represents a diverse group of cancers, with the distinctions between types based on the characteristics of the cancerous cells. The groups are often classified as indolent or aggressive, low, intermediate and high grade. Non-Hodgkin lymphoma is a group of diseases and not just one type. Each histologic grouping is diagnosed and treated differently, and therefore expectations are that causations will be ultimately prove to be individualistic and not blanket.

Aplastic Anemia

- Aplastic anemia is caused by bone marrow failure, resulting in hypoplasia with an inadequate number of all cell lines. Severe aplastic anemia typically has a poor prognosis and can progress to leukemia. Fatal aplastic anemia following benzene exposure was first reported in workers in the nineteenth century.
- Relatively rare, only several thousand cases per year diagnosed in US.

•Typical Pleadings in a Benzene Lawsuit

- Plaintiff worked with and was exposed to various benzene containing, or alternatively aromatic hydrocarbon-containing chemicals, solvents and/or paints, manufactured, processed, supplied and/or sold by defendants.
- Plaintiff was exposed to said products by means of inhalation and dermal absorption from direct dermal contact by said products.
- Plaintiff's exposure to the defendants aromatic hydrocarbon-containing chemicals, solvents, paints and/or fuels was the proximate cause of his development of AML, or less commonly multiple myeloma (MM), or NHL

BURDEN OF PROOF

- Plaintiffs in toxic exposure cases often attempt to substitute less burdensome, alternative expert opinions in lieu of precise dose-response and exposure levels (such as mathematical models and comparisons to subjects in epidemiological studies).
- Chemical–exposure plaintiffs must prove both general and specific causation. National Academy of Sciences/World Health Organization causation methodology:
 - Level of exposure to toxin must be established.
 - Must prove that toxin is capable of causing disease
 - Proof that the level of exposure was sufficient to cause

Summary judgments not a cinch. Battling experts may generate a triable issue of material fact, preventing entry of summary judgment.

Benzene exposures are not solely occupational but ubiquitous

EPA: Benzene is the most significant air toxic for which cancer risk could be estimated, contributing 25 percent of the average individual cancer risk identified in this assessment. Based on EPA's national emissions inventory, the key sources for benzene are onroad (49%) and nonroad mobile sources (19%), and open burning, prescribed fires and wildfires (14%).

Air quality in "hot spots" will have to be dramatically improved. Benzene levels would have to be reduced by as much as 40 percent in Houston to comply with EPA limits. Houston Business Journal – 9/27/2006

Exposures are not solely occupational product related

Benzene in Cigarette Smoke

- **A “confounding factor” in the etiology of and epidemiological study of other cancers, cigarette smoking is associated with an increased risk of leukemia. Benzene, an established leukemogen, is present in cigarette smoke. Cigarettes have been found to release between 50 and 150 micrograms of benzene per cigarette, so smoking and second-hand smoke are important sources of exposure to benzene. Cigarette smoke accounts for about half of the US national exposure to benzene and for about 89% of total benzene exposure among smokers. Secondhand smoke may account for up to 10% of benzene exposure among nonsmokers.**

“The cancer culprit: New research shows that benzene in cigarettes is responsible for a significant proportion of deaths from leukemia and acute myeloid leukemia.”

Conclusions

- Large numbers of potential litigants: some 85,000 AML and other hematopoietic/lymphomatic cancers develop annually. If just 2% +/- have suitable occupational exposures that could produce 1000 to 2000 potential cases annually (~11,000 welding fume cases filed to date, ~30,000 silica cases filed to date)
- There is some scientific support to causation and a grave and often fatal disease(s) is involved. Unlikely to see unimpaireds, only certifiably diagnosed cancer victims as plaintiffs.
- Major jurisdictional differences
- Significant defense costs: Commonly multi-defendant actions. Consider what the total cost to the insurance industry may be.
- Major asbestos firms moving in: Simmons Cooper/Madison County, Baron & Budd
- We're Going to See More of it

Lead-Based Paint

2007 Casualty Loss Reserve Seminar

Emerging Mass Tort Claims

Peter Suranyi

Disclaimer

My comments at the conference/seminar are illustrative only and do not represent the official position of Swiss Reinsurance America Corporation, nor are they intended to refer to any specific pending matter.

Where are we

- Lead paint litigation is beginning to fade
National Law Journal, August 20, 2007
- Today everyone is exposed to environmental lead
US Department of Health and Human Services Agency for Toxicity and Disease Study

Where are we going

- With the plaintiffs success at the trial level in Rhode Island and at the appellate level California, it seems as though momentum is building behind lead paint litigation.

Mealey's Litigation Report: Lead January 2007

- Which is it? Where are we going?

Lead is everywhere

- Lead Paint in Toys, Jewelry manufactured in China
- 1 Potentially hazardous amounts of lead have recently been found in the following types of consumer products by the United States Consumer Product Safety Commission

Where

organic chocolate candies, imported candy wrappers, vinyl lunchboxes, water pipes, food packaging, paint on children's toys including baby rattles, toy jewelry, enameled or ceramic pots and dishware, crystal decanters, hair dyes, ammunition, stained glass, automobile batteries, make-up, pool cue chalk, colored newsprint, candle wicks, and imported kettles.

Mealey's Litigation Report: Lead January 2007

Insurance

- Insurance
- The universe is expanding
- Don't worry about the universe, you're in Brooklyn
- Will they get to insurance?
- Hurdles/Coverage Defenses

Background

- Personal injury lawsuits
- Public nuisance lawsuits

Lead Poisoning

- New York Family receives \$12.75 M Settlement in Lead Poisoning Case

A Brooklyn family will receive more than \$12 million in a lead settlement with the City of New York and various landlord defendants - the largest lead-paint settlement in state history

Mealey's Litigation Report: Lead June 26, 2007

Health Effects

- Studies have shown that ingesting lead paint chips or dust can cause mental retardation, physical problems and death, particularly in young children and developing fetuses.

Defendants

- Property owners / Landlords
- Municipalities
- Housing Authorities
- Lead Paint/Pigment Manufacturers
- Manufacturers of Products with Lead Paint

Product Liability - Who

- Identify the Product
- "In all tort cases, the plaintiff must prove that each defendant's conduct was an actual cause, also known as cause-in-fact, of the plaintiff's injury,"
“Lead pain: Missouri High Court: Causation not Shown in St. Louis Case”, Mealey's Litigation Report: Lead June 13, 2007

Product Liability

- A bedrock principle of products liability law is that the plaintiff must prove that the defendant was an actual cause of his or her harm. Many cases have been dismissed on summary judgment for a lack of evidence identifying which defendant's product the plaintiff was exposed to.

Product Liability/Causation

- actual causation can be established only by identifying the defendant who made and sold that product, as opposed to the city's contention that actual causation could be established simply by showing that the defendants contributed to the public health hazard via evidence of "community wide marketing and sales of lead paint."

Product Liability

“Market-Share Liability; Column; Courts first accepted the theory in DES litigation; Theory not accepted in lead paint and firearms cases”

J. Russell Jackson, *The National Law Journal*,
7/9/07

Alternative Theories of Liability

- Market share liability/risk-contribution liability
- Enterprise liability
- Public Nuisance

Bodily Injury

- “Asbestos and DES cause a signature injury, lead does not”
Paint & Suffering, CLAIMS, Sept. 1993
- Where did the exposure come from?

Arguments Against Paint Industry

- "Everyone else has come to the table to solve this problem," Hines said. "The federal government, the city, the property owners and the landlords are there, but the missing element is the industry that created this poisonous, toxic time bomb."
"Lead paint suit fails".

Milwaukee Journal Sentinel, June 23, 2007

Insurance Coverage?

- Issues/Defenses
- “As Damages”
- Duty to Defend
- Trigger
- Allocation
- Limits
- Etc.....

“So Who Pays”

“So, Who Pays?

So, in lead paint cases, which insurers pay?

The answer depends on the facts and the evidence. The key is not to assume that all policies within the time frame of the allegations in the complaint are on the hook.

“So Who Pays”

At the outset of a claim, a cost sharing agreement will allow for the payment of defense. Thereafter, as the facts are developed and evidence is gathered, decisions can be made as to indemnity obligations and ultimately resolution of the claim.”

“Outside Counsel; News; Lead Paint Cases: Which Insurers Pay?” Louis G. Adolfsen, 28 September 2006, New York Law Journal

Limited Exposure

- Lead paint litigation is beginning to fade

National Law Journal, August 20, 2007

- With the plaintiffs success at the trial level in Rhode Island and at the appellate level California, it seems as though momentum is building behind lead paint litigation.

Mealey's Litigation Report: Lead January 2007

Where are we going?

- No where fast, probably
- Too many hurdles – no legs
- Conservative trend in courts
- Too many threshold legal problems
- Not enough deep pocket defendants
- Too many defenses for insurers

Then again?

- But the then again? is what makes the our role, actuaries, claims, attorneys, finance people, interesting.

Welding Rods Case Study

ARPC, Inc.
Casualty Loss Reserve Seminar
San Diego, CA

September 10, 2007

Discussion Topics

- I. Review of Current Status of Welding Rod Litigation**
 - A. Overall Status**
 - B. MDL Proceedings**
 - C. Other Recent Milestones**
 - D. Status of Studies**

- II. Case Study – Forecast for Single Defendant**
 - A. Estimating Exposed Population**
 - B. Incidence of Key Disease(s)**
 - C. Propensity to Sue**
 - D. Quantifying Awards**

Current Status of Welding Rod Litigation

- Since January 2006, the total number of cases pending against welding defendants has dropped more than 50%.
- All five welding fume trials in 2006 resulted in defense verdicts, including cases in Illinois, Texas and Arkansas.
- Defendants have won 16 of 17 trials to date.
- Plaintiffs have moved to dismiss more than 3,100 cases in the federal MDL in the past eighteen months.
- MDL “proof cases” have been withdrawn in increasing numbers by plaintiffs.

* From “Welding Fume Litigation Status Report, August 2007”, Welding Rod Defense Network.

MDL Proceedings

- In July 2005, a federal panel consolidated over 3,800 cases under the US District Court in Cleveland.
- Plaintiffs have moved to dismiss more than 3,100 cases.
- A December 31, 2006 deadline for a Case Administrative Order resulted in more than 1,000 plaintiff dismissals.
- Fraud and weak medicals forced dismissal and replacement of dozens of cases in the MDL sampling exercise.

Other Recent Milestones

- The MDL is requiring agreement on dismissal of many “peripheral” defendants.
- Plaintiff’s failure to read warnings is grounds for summary judgment for the defense (Boyd case, July 2007).
- Over 20 cases scheduled for trial in state courts in 2007 have been postponed, dismissed or otherwise moved off the trial calendar.

Status of Studies

- Only one scientific study, published in 2000, even remotely indicates a link between welding rods, manganese and the onset of Parkinson's disease.
- The following studies found no causal link between manganese exposure and the arising of Parkinson's disease.
 - ✓ 2007 European Commission Study of 959 individuals
 - ✓ 2007 Article reviewing pathology studies on manganese and Parkinson's
 - ✓ 2006 Swedish study of 50,000 welders
 - ✓ 2006 U of Pittsburgh medical study of 12,595 welders in Caterpillar plants
 - ✓ 2006 South Korean study of welders in the shipbuilding industry
 - ✓ 2005 Frigerio study of 392 workers in Olmstead, MN
 - ✓ 2005 South Korean study of 776 workers exposed to manganese

Case Study: Methodology

- Step 1 – Determine the exposed population.
- Step 2 – Estimate timing and number of individuals who may develop Parkinson's Disease within the exposed population.
- Step 3 – Estimate the number who will actually file a claim.
- Step 4 – Calculate the likely award per case.
- Step 5 – Calculate the total likely award across all cases.

Step 1 – Determine Exposed Population

- Source of Welder occupation statistics – Bureau of Labor Statistics.
- Cut-off year for employment is defendant-specific.
- Conversion is required to transform welder employment totals to living population total as of date of forecast.
- As of the 2004, ARPC estimates 2.9 million welders were still alive.

Estimated Number of Employed Welders

Time Period	Average Annual Employment
Pre-1930	205,000
1930's	185,000
1940's	299,000
1950's	336,000
1960's	367,000
1970's	409,000
1980's	424,000
1990's	433,000

* From US Bureau of Labor Statistics

Step 2 – Estimate Arising of Parkinson’s Disease

- Because of the lack of established causality, ARPC uses the general US incidence rate of arising of Parkinson’s Disease.
- Over the next 40 years, ARPC estimates that approximately 200,000 welders would develop Parkinson’s Disease.
- The timing of the arising of Parkinson’s among welders was assumed to be the same as the arising of the disease nationally.
- The forecast assumes NO causal link between Parkinson’s disease and welding.

Estimated Incidence of Parkinson's Disease

Among US Welders

Time Period	Parkinson's Cases
2004 to 2013	47,000
2014 to 2023	49,000
2024 to 2033	53,000
2034 and Later	53,000
TOTAL	202,000

Step 3 – Estimate Propensity to Sue

- Client-specific data is used for this calculation. Assume for example that 5,000 claims had filed alleging manganism or Parkinson's-like diseases in the past three years.
- ARPC's incidence model from Step 2 indicates that approximately 14,000 welders should have developed Parkinson's Disease during this 3-year period.
- Therefore, a reasonable estimate of the propensity of Parkinson's victims to sue the company was 35.7% (5,000 / 14,000).
- Similarly, over the same period, assume another 2,000 claims were filed asserting lesser diseases.
- Therefore, a reasonable estimate of the propensity to sue for lesser diseases is approximately 40% of the Parkinson's rate, or 14.3% (2,000 / 14,000).
- We assume these rates remain constant over the forecast period.

Step 4 – Estimate the Value per Case

- In a recent effort, ARPC conducted jury verdict research to establish a reasonable award for Parkinson's and the less serious illnesses.
- We elected to use three impairment types to estimate the average jury award to be \$766,703.

Plaintiff Jury Verdicts 2000 to 2004

<u>Impairment Type</u>	<u>Number of Plaintiffs</u>	<u>Average Verdicts</u>
Allergies	2	\$755,500
→ Behavioral/Cognitive/Neurological Dysfunctions - 1	123	\$757,627
Behavioral/Cognitive/Neurological Dysfunctions - 2	325	\$10,769
Cancer	10	\$5,435,517
Dizziness/Fatigue/Headaches/Nausea	10	\$3,700
Emotional Distress/Post Traumatic Stress	3	\$33,667
Immune Deficiencies, Respiratory Dysfunctions	3	\$907,124
Other	1	\$110,000
→ Parkinson's-like Symptoms	7	\$892,857
→ Parkinson's Disease	1	\$1,000,000
Respiratory Dysfunctions	115	\$76,178
Total/Average	<u>600</u>	<u>\$285,890</u>
Behavioral/....1 and Parkinson's Only	131	\$766,703

Step 4 – Estimate the Value per Case (Cont'd)

- ARPC further adjusts the verdict average to account for the discounted value of settlements versus trial awards and the defendant's allocable share of their claimants' ailments.
 - ✓ Experience in the asbestos litigation and settlement arena indicates that settlement values are about one-third of jury verdicts.
 - ✓ The company's "market share" was estimated to be 23%.

Estimate of Average Parkinson's Award

Average Trial Verdict Award	\$767,000
Discount for Settlement	x 33%
Discount for Market Share	x 23%
Net Average Award	<u>\$ 58,215</u>

Step 4 – Estimate the Value per Case (Cont'd)

- The value of minor impairment cases has been shown in other arenas (asbestos, Fen-Phen, Silicone Breast Implants) to be around 4.3%.
- For this example, ARPC estimates the award to such cases to average \$2,500.

Estimate of Average Minor Disease Award

Average Trial Verdict Award	\$767,000
Discount for Settlement	x 33%
Discount for Market Share	x 23%
Net Average Award	<u>\$ 58,215</u>
Discount for Minor Impairment	x 4.3%
Net Average Minor Award	<u><u>\$ 2,500</u></u>

Step 5 – Estimate Total Value of Future Compensation

- Only a certain percentage of the claims filed will actually be compensable.
- Claims may be invalidated based on (1) failure to prove exposure to the client's products as well as (2) inadequate qualifying medical proof.
- ARPC assumed a range of possible rates for compensation and applied those rates to the predictions generated through Step 4.

**Forecast of Amount Required to Settle All Pending
And Future Manganese-Related Claims
(\$Millions)**

<u>Claim Type</u>	<u>Total Number of Claims</u>	<u>Settlement Amount</u>	
		<u>Nominal</u>	<u>Present Value</u>
Future Claims			
10% Compensable	95,245	\$395	\$110
20% Compensable		\$789	\$220
40% Compensable		\$1,579	\$442
Pending Claims			
10% Compensable	12,155	\$28	\$25
20% Compensable		\$57	\$49
40% Compensable		\$113	\$98

Case Study: Methodology

- Step 1 – Determine the exposed population.
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- Step 4 – Calculate the likely award per case.
- Step 5 – Calculate the total likely award across all cases.

Emerging Mass Tort Claims

Summary

Sandra C. Santomenno

September 10, 2007

Summary Remarks – Items to consider

- Years of exposure will be as long as 75-100 years ago – that data may not be in your development triangle
- Claim data should be separated out of regular reserve data
- Work with your claims dept. to determine how many of your insureds are potentially exposed to the litigation
- Work with the claims dept. or claims counsel to try to gather data for an alternative forecast (i.e. use a frequency/severity approach and overlay with coverage terms and exposure years)