

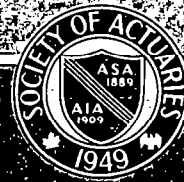


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Hazardous Wastes Create Risk for Society, Insurers

by Jack F. Sulger

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While most of our attention these days centers on a litany of three-letter acronyms — HMO, PPO, DRG, etc. — legislative developments deal with the treatment and effects of hazardous wastes could easily have an enormous impact on the health insurance industry before we become aware of them.

Where is this activity occurring? Why are those of us involved in health insurance generally unaware of it?

The answers to these questions and others are explored in this report, which discusses the possible consequences to health insurers due to the accidental release of hazardous substances into the environment, as well as government efforts to protect the victims of such accidents.

Exposure to hazardous substances, transmitted through the air, water or ground, is a threat to all of us. While to date there has not been in the United States a catastrophic release of such materials on the scale of the accident in Bhopal, there do exist many sites where these materials have been stored and are now seeping into the environment.

The issue of who will pay the cost of cleaning up these sites is being addressed by state and federal governments in legislation designed to fix the liability for existing sites and to assess taxes to cover costs associated with new sites. The stakes are enormous: responsible producers and their

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Asset/Liability Management

by Joseph J. Buff

This article gives a brief summary of how asset/liability management for life insurance companies has evolved over the last decade. The subject has important origins in the Report of the Committee on Valuation and Related Problems (1979) chaired by Charles Trowbridge, where various risks, including the C-1 risk (asset defaults and equity value fluctuations) and the C-3 risk (interest rate risk) were defined. Change in technologies for measuring and managing investment risk has been especially rapid in the last few years, and important regulatory changes are also underway. Undoubtedly, both the technical practices and the regulations will continue to progress in the years ahead.

Relating Assets to Liabilities

Ultimately, the success or failure of an insurance enterprise depends on how surplus changes over time. Surplus, of course, is the excess of assets over liabilities (however the two are valued). So, right away we see that business success depends on managing the assets and the liabilities. The breakthrough to asset/liability

management is realizing that the two sides of the balance sheet can't be considered in isolation. The reason is that in the real world of competition, and given the volatility of the stock and bond markets, both assets and liabilities are affected by some of the same external forces. What's more, contract design and policyholder behavior have a direct impact on cash-flow requirements and hence on investment requirements. Likewise, investment opportunities have a direct bearing on pricing, competitiveness, and persistency. But how are actuaries to tackle this problem, since it is difficult to predict the future events which will shape corporate success or failure? A two-part general approach has emerged.

First, since most critical events basically result from asset or liability cash flows, we can focus on projecting those cash flows (such as bond calls, policy lapses, premium dump-ins).

Second, since we cannot be sure what path interest rates, lapses, etc., will follow in the future, we should

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insurers are rightly concerned that their share of these costs will be a disproportionate one. Hence, the current focus of their attention.

But cleaning up such sites is not the only issue. Several bills before these bodies seek to provide victims' assistance, generally in two forms: (a) recovery of property losses; and (b) medical benefits to those exposed. Because these features have been overshadowed by the need to settle the liability issue on existing sites, insurance industry groups have not yet focused on their impact.

Background

To appreciate the magnitude of the problem, consider that the EPA has inventoried nearly 19,000 uncontrolled hazardous waste sites, some requiring emergency action as immediate threats, but all of them [will require] corrective action eventually. The most serious of these sites have been placed on the National Priorities List (NPL), which included 584 sites as of October, 1984, with another 248 probables, and an ultimate total of about 2,000.

The cost to clean up these sites has been placed at \$16 to \$22 billion by the EPA. However, the Office of Technology Assessment, an advisory board to Congress, puts it closer to \$100 billion for 10,000 sites. Given the current pressure for federal funds, this work is going to be slow.

Another source of exposure to hazardous materials is through the sudden discharge or spill of such materials. A study was made early in 1985 to determine what proportion of the population live near chemical manufacturing plants, so as to get an idea of the size of this risk. Although the study assumed that the presence of a single plant in [any] Metropolitan Statistical Area (MSA) would put its entire population "in proximity," the results indicate the potential. It was found that 75% of the U.S. population is threatened by exposure to the release of certain chemicals.

Two Acts of Congress

Two acts of Congress were designed to control the threat of toxic waste. The first, the Resource Conservation and Recovery Act (RCRA) of 1976, was aimed at generating standards for newly created waste storage sites; the second, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, was needed to attack the problem of

existing uncontrolled sites. RCRA was amended in late 1984, but CERCLA is just now up for reconsideration.

Under CERCLA, funding was established primarily to study the problem of existing sites, to develop an implementation plan, and where possible, to achieve responsible party clean-up. Where no responsible parties could be identified, fund monies could be used. The initial funding of \$1.6 billion created the Hazardous Substance Response Trust Fund (also known as the "Superfund"). Uncertainties have kept funding low until more can be learned about the problems of waste sites.

During the nearly five years since its creation, the EPA through the Superfund program has achieved the following:

- Identified and monitored nearly 19,000 sites
- Initiated removal actions
- Monitored short-term clean ups by states and responsible parties
- Provided enforcement action, including direct orders and negotiated settlements.

The EPA has not been without its critics in the handling of the program, and its efforts have met with varying degrees of success.

Authorization of this program ended September 30, 1985. Interested parties are calling for many provisions in any extension of it, the most controversial being the inclusion of a federal cause of action for personal injury and property damage. Such a provision would allow access to federal courts; other proposals would reduce the plaintiffs' burden of proof.

Another feature, the imposition of joint and several liability, has been tried by the EPA in assessing responsible parties for clean up costs. Under this approach each defendant is liable for all damages, not just a proportionate share. Thus, if only one defendant is identified, but responsible for say 1% of the damage, that defendant could be held responsible for the entire amount.

Needless to say, this treatment has been assailed by producers and insurers alike as an effort to seek out "deep pockets" (those with funds) where some truly responsible parties may no longer exist. Insurers contend that it is impossible to price liability policies with this provision, where coverage may be applied to the conduct of persons not party to the

contract and from whom no premium was ever collected.

Impact on Health Insurers

Beyond the issue of liability for cleaning up a site, there is the matter of indemnifying individuals for medical care incurred due to exposure to the hazardous substance. Recovery may be either direct reimbursement from the responsible party, or through a victims' assistance program established by the state or federal government. In either case, insurers providing health care coverage in a contaminated area will be affected.

Functions most directly affected will be the underwriting and rating of health policies, both group and individual. Of course, we all hope that by taking every possible precaution, no major health-threatening spill will ever occur. But once it does, the health actuary must be ready to analyze its financial consequences, and answer questions such as these:

- Should the event be treated as a catastrophic [one even] on the largest size group risks?
- How does one separate claims that would have occurred from those that did?
- What are the long term effects of the exposure?
- Should area rates forever bear the burden of a greater health hazard?
- Or are special underwriting rules needed?

Fortunately, there has been no significant harmful exposure here in the United States. We will leave the answering of such questions to other papers.

Victims' Assistance Programs

Today, some form of health coverage, public or private, is available to all individuals. Nevertheless, in the event there is a release of toxic substances, some coverages may run out and some people may no longer be insured.

Proposed amendments to Superfund and related state legislation would also include some form of health coverage through a victims' assistance program, as another layer on top of the current landscape of health coverages now in place. The question then becomes how to provide such coverages without assuming total responsibility for all health benefits in that geographic area.

Equity in such situations will be difficult to maintain. Individuals need

Hazardous Wastes Cont'd.

coverage and should not be required to pay too much in premiums or through coinsurance payments. Local employers will probably see an increase in their health care costs for employees and dependents, but at the same time might obtain a windfall if allowed to escape totally the burden of providing health coverage. The government, state or federal, wants to provide for those in need but at a reasonable cost.

One solution proposed by my Company to a Senate committee staff is outlined below. It provides health coverage in an area where a catastrophe has occurred. We ignored the question of eligibility because it could be highly dependent on the circumstances of the accident.

Our plan was comprehensive, with a \$500 deductible per person, \$1,500 maximum deductible per family, with 75 percent coinsurance, and an out-of-pocket limit of \$2,000 per person (\$5,000 per family). Various other provisions would apply as to covered expenses.

Complications due to pregnancy and treatment of newborns would have to be included, with carefully worded provisions; any exclusions or limitations here could create a politically emotional issue.

For such a plan to apply fairly, we felt that two key elements would be needed: (a) Employers in the area would have to maintain existing coverage; and (b) Benefits available through the victims' assistance program would be secondary (non-duplication basis). The first element avoids the need for the government plan to pick up the entire health bill for the area. The second element reduces government costs without undue hardships for the victims.

Victims' assistance programs have now been introduced at both state and federal levels. An amendment to the bill extending Superfund was proposed along the lines described above. This amendment defined more liberal benefits, but put a limit on the aggregate covered loss per incident.

State assistance programs have been proposed in Massachusetts, Minnesota and California, with benefits tending to be very liberal (up to 100 percent in the Massachusetts bill). However, the victim must prove that the injury or illness was probably caused by the substance in question. Thus, until standards of proof are

established, these benefits may be largely illusory.

Summary

Health actuaries should develop an awareness of how public policy decisions will have a direct impact on the understanding and pricing of health care coverages. This report surveys the current situation in regard to hazardous wastes. Amendments to Superfund are expected this year and will undoubtedly have a major impact. Techniques for incorporating the catastrophe risk into the actuarial process need to be perfected. Readers who have considered this problem are invited to share their thoughts.

[After this article was originally published, an extension to CERCLA was indeed enacted. This latest legislation is known as SARA or, more properly, the Superfund Amendment and Reorganization Act of 1986. It does not contain any provision for reimbursing individuals for medical expenses. More notable in this regard is legislation by states mentioned in the article — California and Minnesota. Both states have allocated fixed sums for claimants who believe their illnesses stem from uncontrolled hazardous substances and who have no other form of reimbursement available.]

Jack F. Sulger is an actuary in the Employee Benefits Department at The Travelers Insurance Company. He is a member of the Society of Actuaries Health Care Economic Committee. His views in the article are his own and not necessarily those of the committee.

"To Unify..." (October 1987 "Dear Editor")

The comparison of the relative size of the actuarial organizations in Mr. Sondergeld's letter to the editor, "To Unify," contained in the October 1987 *Actuary* was not complete, and should have read:

Members (early 1987)

SOA	10,284
AAA	8,418 (6,325 are in SOA, 931 are in CAS, 171 are in CAPP, and 991 are in none)
CAS	1,277 (of which 1,013 are in AAA)
CAPP	889 (of which 859 are in AAA)
CIA	1,335 (1,181 are FSAs)
ASPA	2,200 (about 500 are EAs)

The merger of SOA and AAA would result in a combined membership of 12,377.

Section Election Results

The election results for section council members have been tabulated and section officers have been named for 1987-88. The following lists all section election results:

Financial Reporting Section*Chairperson:*

Arnold A. Dicke

Vice-Chairperson:

Steven A. Smith

Secretary:

Thomas F. Eason

Treasurer:

Paul F. Kolkman

Council Members:

James A. Brierley

David R. Johnston

Richard S. Miller

Robert W. Stein

Virgil D. Wagner

Futurism Section*Chairperson:*

Stephen D. Brink

Vice-Chairperson:

Sam Gutterman

Secretary/Treasurer:

Ronald E. Timpe

Council Members:

Richard S. Foster

Dale C. Griffin

Neville S. Henderson

Barbara J. Lautzenheiser

Robert D. Shapiro

Charles Barry H. Watson

Health Section*Chairperson:*

Howard J. Bolnick

Vice-Chairperson:

David B. Trindle

Secretary:

Roland E. King

Treasurer:

William E. Brooks

Council Members:

David V. Axene

Ted L. Dunn

W. Duane Kidwell

David Llewellyn

Ronald M. Wolf

Investment Section*Chairperson:*

Gregory J. Carney

Vice-Chairperson:

Howard H. Kayton

Secretary:

William Carroll

Treasurer:

Kenneth W. Stewart

Council Members:

Peter J. Bondy

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