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DISABILITY COMPENSATION FOR ASBESTOS-ASSOCIATED DISEASE IN THE UNITED STATES

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SUMMARY

Congressional legislation such as the Coal Mine Health and Safety Act (1969) and the Occupational Safety and Health Act (1970) reflected increasing national interest in the health of America's workers. While these have primarily focused on issues of prevention, there has been increasing concern about conditions faced by those who became disabled or who survive workers whose deaths resulted from occupational disease or injury.

The Black Lung Benefits Reform Act of 1977 directed the Department of Labor to examine several issues concerning occupational diseases. This report, prepared for the Assistant Secretary for Policy, Evaluation and Research, describes and analyzes disability compensation experiences resulting from occupational diseases caused by asbestos exposure. Six major issues are addressed:

1. Clinical and epidemiological information reviewing the relation of asbestos exposure to human disease;

2. Estimates of the number of workers who were exposed to asbestos in relation to their work 1940-1980, and the proportion who may be expected to develop occupational asbestos disease in the future;

3. Criteria for the diagnosis of asbestos-associated disease;

4. Adequacy of workers' compensation and other types of public and private compensation programs in providing income benefits to those who suffer occupational asbestos disease;

5. Tort litigation against manufacturers of asbestos products.

6. Economic costs to Society and to workers and their kin resulting from disability and premature death of workers caused by asbestosis, lung cancer and mesothelioma and other cancers attributable to occupational exposure to asbestos.

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Asbestos-associated diseases

Asbestos is a virtually indestructible fiber which, when inhaled into the lungs, tends to persist indefinitely. The major health effects now linked to asbestos exposure include asbestosis, a chronic lung disease, and various types of cancer. Once established, asbestos disease may progress even after exposure is terminated and no specific treatment exists. The latency period before initial clinical problems averages 10-20 years.

The two major asbestos-related cancers are lung cancer and mesothelioma. Lung cancer resulting from asbestos exposure has a latency period of 15 to 40 or more years and may result from relatively low-dose exposure. Mesothelioma is an otherwise rare form of cancer of the lining of the lung and abdominal cavity and has no known cause other than exposure to asbestos. In many cases, it appears that very little asbestos can produce the disease. Asbestos exposure is also associated with increased risk of cancer of the esophagus, larynx, oropharynx, stomach, colon, rectum and with kidney cancer.

Population at risk of asbestos-related disease

Estimates of dose-response relationships and mortality and morbidity projections from exposure to asbestos are primarily derived from studies of workers occupationally exposed to asbestos. We estimate that there are presently more than 21 million American workers, survivors of over 27.5 million workers in primary and secondary manufacturing industries, shipyards, construction work and a number of other industries and occupations who, in the past forty years, were significantly exposed to asbestos. Among these workers, we estimate that 8,200 to 9,700 excess deaths from asbestos-associated cancer will occur for each of the next twenty years, aggregating over 200,000 deaths by the end of the century, due to asbestos exposure from the 1940's to the present. Still other cancer deaths will occur among family contacts of asbestos workers and as the result of exposure in consumer use of asbestos products, from environmental exposure, and from exposure while in the Armed Forces. They have not been included in these projections nor have anticipated deaths of asbestosis.

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More recent exposures to asbestos; i.e., those exposures first occurring in the 1960's and 1970's, have been found to be associated with significant prevalence of asbestosis. Given the long latency periods of asbestos-associated cancer deaths it is too early to project the number of such deaths resulting from more recent exposures. Asbestos exposures beginning in the 1960's and 1970's will be reflected in asbestos-associated disease that will first become manifest in the decades 1980-2010 or later.

Dose-response and age at first employment

Review of eight studies of asbestos-exposed workers demonstrated a linear dose-response relationship for lung cancer and other asbestos disease with no evidence of a threshold below which excess disease does not appear. Under conditions of exposure in one factory 30 years ago, less than one month of work was sufficient to significantly increase the risk of death.

The experience of this group of asbestos workers also suggests that the initial asbestos exposure of workers at older ages does not reduce cancer risk relative to those first exposed when younger. Long-term observation of deaths from asbestos-associated diseases indicates that increased cancer mortality will be as burdensome for those initially exposed at older ages as for younger workers.

Diagnosis of asbestos-associated disease

Inaccurate categorization of site in cancer among asbestos-exposed workers is not uncommon, particularly for mesothelioma. Medical and pathological review in all deaths of asbestos-exposed workers, as well as detailed occupational histories, are advantageous to properly establish cause of death. Accuracy in establishing cause of death from asbestos-associated disease and evaluation of impairment are of concern in proceedings of workers' compensation adjudication agencies and in courts of law in tort litigation.

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While skills and experience is required for the pathological diagnosis of malignant mesothelioma, considerable progress has been made utilizing gross appearance, histology, histochemistry, cytology and electron microscopy.

There is much less uncertainty in the diagnosis and categorization of other neoplasms which occur in excess among asbestos-exposed workers (lung cancer, cancer of the esophagus, stomach, colon-rectum, oropharynx, larynx and kidney). They are the same kinds of cancers as occur among people not exposed to asbestos; however, these forms of cancer occur with increased frequency among workers exposed to asbestos.

Insofar as asbestosis is concerned, the fibrotic changes in pulmonary parenchyma (lung tissue) and contiguous pleura (membranes covering the lung and lining the chest) are generally evaluated by studying the presence or absence of changes on the X-ray, often using the classification recommended by the International Labour Office and adopted by the National Institute for Occupational Safety and Health (NIOSH), the ILO U/C Classification of Radiographs of Pneumoconioses. Histological material, when available, may add information but biopsy simply for legal purposes is not warranted since the procedure is not without some risk. Results of pulmonary function tests can be useful in assisting in the evaluation of disability, although there is incomplete correlation between the numerical results of such tests and clinical pulmonary impairment, just as there is between disability and radiological change. Imperfect correlations exist in both directions; there may be little radiological/physiological alteration with significant disability as well as comparatively normal clinical status, with no dyspnea, in the presence of abnormal findings.

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Smoking and asbestos

Asbestos exposure, even in the absence of tobacco smoking, increased the risk of lung cancer about four or five times, compared to other nonsmoking workers. Among asbestos-exposed workers who also smoke, an immense increase in risk occurs, more than 50 times that of a nonsmoker

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not exposed to asbestos, and five times that of other smokers. Some asbestos-associated cancers such as mesothelioma, stomach, colon-rectal and kidney cancer do not share a synergistic effect with smoking. Smokers, nonsmokers and ex-smokers are at similar risk of death from both pleural and peritoneal mesothelioma, for example. Smoking adds to the risk of disability and death from asbestosis.

Workers' compensation for occupational asbestos disability and death

Disability. Among the 995 asbestos insulation worker deaths that were studied, the average period of disability prior to death from an asbestos-associated disease was 20.5 months. However, the length of disability varied considerably with the specific illness. Workers who died from mesothelioma were disabled for less than one year while those who died of asbestosis were disabled for three and one-half years. Disability due to lung cancer averaged about a year and a half before death.

Three out of every ten disabled asbestos workers applied for workers' compensation disability benefits. The proportion of workers filing disability claims approached 50% in cases of long-term disability (greater than one year). However, the likelihood of a worker receiving a workers' compensation award before his death was not high. Slightly more than half of those asbestos insulators disabled more than one year who had filed workers' compensation claims received benefits before their deaths. Overall about 15% of all disabled asbestos workers received workers' compensation benefits prior to their death.

Many workers disabled from asbestos-associated disease received either old-age or disability insurance benefits from Social Security during some part of their terminal illness. The importance of these benefits was most evident to those whose disability lasted more than 12 months. For those disabled 12-23 months, 24-35 months, or 3 years or more, the proportion receiving Social Security benefits rose to 66%, 77% and 83% respectively. Few of the disabled asbestos insulation workers (less than 15%) received benefits from both Social Security and Workers' Compensation during their terminal illness.

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Mortality. The average age at death from asbestos-associated disease among nearly 1,000 asbestos insulators studied was 61.8 years. Of those who died of mesothelioma, the average age at death was 60 years; those who died of lung cancer were slightly older (61.6 years). The average age at death from asbestosis was 65, usually after a significant period of disability.

Some reference to asbestos or asbestosis was made on 21% of the death certificates of the workers whose cause of death was related to asbestos. The presence of this information on the death certificate was highly skewed by cause of death, with 92% of the deaths from asbestosis being so noted on the death certificates, in 20% of the deaths from mesothelioma and lung cancer and much less commonly in deaths from other asbestos-associated neoplasms. Where autopsies were performed, there was little increase in the likelihood that asbestos would be mentioned on the death certificate, perhaps in part because the death certificate is generally prepared before the results of the autopsy are known. Mention of asbestos on the death certificate increased the likelihood that survivors knew of the relationship between asbestos exposure and the workers' illness. However, the majority (74%) of widows of asbestos insulators who were aware of the association of their husbands' deaths to asbestos work indicated that this knowledge most often came from information other than that customarily available on the death certificate.

Understandably, awareness of the work-relatedness of the disease was a critical factor in whether or not claims for workers' compensation were filed during disability or by survivors after death. Among survivors of the asbestos insulators, 53% of those who were aware at the time of death of the relation of their husbands' disease to previous employment sought workers' compensation benefits. Only 26% of those not so aware at the time of death subsequently learned of the occupational origin and filed claims for death benefits. Overall, only 36% of the deaths from asbestos-associated disease among the nationwide insulators cohort resulted in the initiation of workers' compensation claims by survivors.

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There was considerable variation in the proportion of widows filing claims depending on the state in which the former asbestos worker was last employed; e.g., in Michigan 59% of the widows filed claims; New Jersey, 76%; New York, 73%; and Ohio, 76%; in contrast to Illinois, 14%; and Indiana, 13%. This could reflect variations in both the legal compensation environment of the states and the effectiveness of information and advocacy networks within the areas.

While a high proportion of the survivors of the insulators were aware of the relationship between asbestos and their husbands' diseases and knew they might be eligible for workers' compensation, this was not so for workers exposed in other circumstances. Among survivors of asbestos factory workers whose exposure to asbestos ceased a number of years before manifestation of disease and death, claims for workers' compensation death benefits were filed by only 14% of the surviving widows. (The factory opened in 1941 and closed in 1954). Those widows who did not file claims indicated that lack of advice concerning eligibility for workers' compensation was more of a reason for not filing a claim than ignorance of the asbestos etiology of their husbands' diseases.

The age of the worker at death (and the widow's age) was a significant factor as to whether workers' compensation benefits were sought among all groups of workers and survivors studied. Survivors of those who died after age 65 (and particularly after age 70) sought workers' compensation considerably less often than survivors of workers who died when younger.

Outcome of workers' compensation claims

Nearly all of the survivors of the asbestos insulators who filed workers' compensation death claims ultimately received benefits. However, the process of obtaining benefits involved a considerable amount of contention and sometimes long delays. Nearly half of the survivors' claims were contested by insurers. The most common cause of dispute was that the illness was not work-related. Considerable periods of time passed before survivors' claims were resolved. Overall, two-thirds of the claims filed took more than a year to resolve.

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Of those survivors receiving workers' compensation benefits, two-thirds were awarded benefits, presumably in conformity with state law. The remaining third reached a settlement agreement with insurers. One-time, lump sum payments were made in 69% of the workers' compensation claims resolved by settlement agreement. The mean value of these settlements was $18,900. In contrast, single lump sum payments were made in 18% of the deaths compensated through formal awards of State agencies. The mean value of these lump sum awards was $22,800. In almost 60% of cases where a benefit award was made, benefits were paid for an indefinite period of time. The mean payment for these benefits was $95 a week. The replacement value of these payments is considered below.

Four of every five survivors who received workers' compensation benefits were assisted by an attorney. The cost of this assistance was about $3,800 for the successful claimant.

Product liability lawsuits

Among survivors of the asbestos insulators, 16% filed third-party lawsuits against manufacturers of asbestos products. Lawsuits, like workers' compensation claims, were more likely to be filed by younger survivors. Widows aged 45-59 were more than twice as likely to file suits as widows aged 65 and over.

The incidence of third-party lawsuits has grown dramatically in recent years. Survivors of 3% of the insulators who died between 1967 and 1968 filed third-party suits. This increased to 32% of the survivors of those who died between 1975 and 1976. Twenty-five percent of those who filed workers' compensation death claims also chose to institute third-party lawsuits compared to 10% of those who did not seek workers' compensation. However, 57% of those who filed tort suits had active or closed workers' compensation claims.

There were variations in the initiation of tort suits depending on the state in which the worker was last employed. Among states where a significant number of asbestos-associated deaths occurred, the incidence of lawsuits was highest in California, Missouri, Ohio, and Texas.

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The most common outcome of third-party tort suits was an out-of-court settlement agreement between plaintiffs and defendants. Settlements for deaths occurring from 1967 to 1976 ranged from $1,000 to $300,000 with an average settlement of $72,000. The average legal fee in these settlements was $28,500; the average ratio of legal costs to total recovery was 37%.

Economic costs of asbestos-associated disease

Disability. Upon becoming disabled from asbestos-associated disease (shipyard workers in Massachusetts and Maryland, asbestos insulators in New Jersey and New York and former workers of a Paterson, New Jersey asbestos factory), few relied primarily on income support from workers' compensation. The primary source of support for long-term disability among these workers was Social Security either through its disability insurance program or through early retirement.

Private pension plans (both company-administered and Taft-Hartley types) were also major income sources through long-term disability coverage and early retirement provisions. Only among the asbestos insulators in New Jersey and New York were workers' compensation benefits a significant source of income during disability from an asbestos-associated disease (primarily asbestosis). Among the shipyard workers studied, recognition of occupational asbestos disease was more recent than among the insulators. Therefore potential claims for workers' compensation may not have been initiated due to lack of recognition of asbestos-impairment.

The cost in lost economic output (social cost or lost wages) attributable to asbestos-associated disabilities was $172,213 per worker. The total private losses (lost wages after deduction for taxes) borne by disabled workers and their households due to asbestos-associated disease were calculated to be an average of $127,151 per household. These losses were partially replaced by various compensation programs (particularly Social Security disability insurance and private pensions). For those disabled from all causes in the shipyard cohorts, approximately

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62% of wage and household losses were compensated by one or both of these sources. These estimates of losses do not include the costs of medical care or welfare.

Mortality. Deaths of 515 asbestos insulation workers from asbestos-associated disease from 1967-1976 resulted in a loss of economic output (social cost) of $347,392 per worker from the time of the workers' death until he would have been 65. The total private cost (lost wages after deductions for taxes and consumption by workers) borne by the deceased worker's survivor is $163,236 per household. In addition to the losses due to the workers' death, economic costs also resulted from the workers' period of disability before death. These costs amounted to $45,865 in social costs and $35,963 in private costs per household. These additional disability losses, which are considerably less than among the other cohorts studied, reflect shorter periods of disability from cancer in contrast to the more extended disability due to asbestosis among the living workers examined. Workers who suffer cancer die too soon after initial disabling symptoms--sometimes surviving only weeks or months--for prolonged disability.

These estimates do not include the costs of medical care or welfare payments, but do consider economic losses associated with lost wages, income taxes and a deduction for consumption by the worker. These losses were partially compensated by a number of public and private survivorship programs, including Social Security, workers' compensation, union welfare and pension programs and veterans' benefits. However, 25% of the widows whose husbands would have been less than age 65 in 1979 (the year for which data on compensatory incomes are available) received no current private or public transfer payments or income from previous workers' compensation or tort suit lump payments.

Overall, public and private transfer payments replaced 40% of the private losses for those who received them. If those who did not receive current transfer income are included, the average for all widows whose husbands died from asbestos-associated disease was much lower, approximately 20%.

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