

mission's 1976 data base to identify chemicals used in industry but did not consult NOHS data, NIOSH stated.

The omitted substances in this case were 4-biphenylamine; dianzo methane; hydrazine sulfate; thiourea; and certain estrogens.

Substances in Category I which should be evaluated to determine if they satisfy the necessary criteria were hematite, nickel refinery dust, gamma isomers of hexachlorocyclohexane, and testorone, NIOSH said. Another 50 classifications should be reexamined for this reason, the institute added.

The NIOSH review found substances appearing in both Category II and Category III: 2-naphthylamine, 2-phenanthrenecarboxylic acid, 1-ethyl-1,2,3,4-tetrahydro-7-methoxy-2. In other instances, chemical abstracts numbers were incorrect or misassigned, NIOSH said.

NIOSH offered to explain the methodology of its review of the list and offered assistance to OSHA in the classification of carcinogens.

Anson Keller, project officer for the proposed carcinogens policy at OSHA, confirmed the NIOSH recommendations had been received but said he could not comment immediately on them.

Carcinogens

ASBESTOS ASSOCIATION CALLS HEW REPORT ON OCCUPATIONAL CANCER 'UNSUPPORTABLE'

In a letter to the Secretary of Health, Education, and Welfare, the asbestos industry charged that a federal report on occupational cancer was based on "scientifically unsupportable assumptions."

The Asbestos Information Association/North America sent HEW Secretary Joseph A. Califano, Jr., comments December 13 on the federal report, "Estimates of the Fraction of Cancer in the United States Related to Occupational Factors."

The "Estimates" paper released by Califano in a speech in September said previous estimates of the contribution to cancer incidence in the United States of occupational exposures were low and that the occupational factor probably was closer to 20 percent (Current Report, September 14, p. 459).

The posthearing record on the OSHA cancer policy closed December 19 following extensions of more than two months for receipt of additional comments. Work to prepare the unusually large record for certification by the administrative law judge was proceeding smoothly and was expected to take another week, hearing officer Tom Hall said January 2.

Overestimate Charged

The asbestos industry group, summarizing its criticisms, said the population at risk of dying from asbestos-caused cancer was "grossly overestimated" in the government report. The AIA accused the authors of ignoring "the likelihood that minimal, short-term exposures" to cancer-causing substances would carry far less risk for workers than sustained, long-term heavy exposures.

"The very important objective of protecting the health of employed persons will not be served either by underestimating or exaggerating the risks to which they are exposed," AIA President T. A. Dougherty wrote to Califano. A copy of the letter also was sent to the Labor Department where the Occupational Safety and Health Administration has included the "Estimates" paper in the record of a

proposed carcinogens regulatory policy (Current Report, September 21, p. 517).

Contributors to the asbestos association's comments were William Weiss, professor of medicine at Hahnemann Medical College in Philadelphia; Philip E. Enterline, professor of biostatistics at the University of Pittsburgh Graduate School of Public Health; and Hans Weill, professor of medicine at Tulane University School of Medicine. Comments also were included from Paul Kotin and Gerald R. Chase of the health, safety, and environment department of Johns-Manville Corporation.

Heavily Exposed Groups

According to Weill, the HEW estimates of relative risks for future cancer are based on workers who were heavily exposed in the past in jobs as insulators. "These same relative risks are being applied to working populations who have recently been exposed to far lower levels of asbestos dust, a procedure which ignores the demonstrated and uniformly agreed upon dose-relatedness of environmental carcinogenesis."

Weill said the experience of heavily exposed workers of the past was being projected onto a cohort of four million workers regarded as heavily exposed now but that this projection was not based on fact.

Weiss, of Hahnemann, commented: "The 'fallacy' of 'one effect — one cause' explanations is developed by misdirected discussion." Weiss continued that the synergistic relationship of asbestos and smoking in causing lung cancer is well established. But lung cancer is rare in asbestos workers who do not smoke, he claimed, and thus smoking is the primary factor and asbestos an enhancing factor, Weiss concluded.

Weiss cited a study of Irish insulators presented at a recent New York Academy of Sciences conference. According to Weiss, the study concluded that smoking is the "important factor." The "survival curve" for the insulators who did not smoke was similar to that of the general population, Weiss reported.

Concerning the paper's estimates of cancer from arsenic exposure, Weiss declared that "the same sin is committed as in the estimate of asbestos risk." The high risk assigned part of a cohort of smelter workers who received 15 or more years' exposure to arsenic was applied to 1.5 million workers, he said. "Do all arsenic workers have the same risk as half the smelter workers? This question is not even considered by the authors," Weiss commented.

Other Overestimates Alleged

Enterline echoed the doubts of the other commenters over figures on workers who had received heavy asbestos exposure. He said the "Estimates" paper apparently applies "heavy exposure" to the type of exposure experienced by 17,800 insulation workers studied by Irving J. Selikoff at the Mount Sinai Medical Center in New York and referred to in the paper. Of the seven to 10 million workers alive today who are or were exposed to asbestos, four million were estimated in the paper to have received heavy exposure.

"I question whether there are 4,000,000 workers in the U.S. who have had that type of exposure," Enterline wrote. The University of Pittsburgh scientist also said the paper exaggerated the number of asbestos-related cancers.

Enterline differed with the conclusions on the risk-factor for lung cancer of workers exposed to hexavalent chromium. He said the "Estimates" paper relied on a study of workers refining chromite ore who had "an extraordinary risk." But assigning a five-fold lung cancer risk for 1.5 million workers from that evidence was in error, Enterline argued.

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HEW



NEWS

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

FOR IMMEDIATE RELEASE

April 26, 1978

CONTACT: JOHN BLAMPHIN
202/245-6343

STATEMENT OF
SECRETARY JOSEPH A. CALIFANO, JR.
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Scientific studies have demonstrated that asbestos creates an especially high risk of lung cancer and other serious lung disease for workers who have been heavily exposed to this toxic substance.

The total number of workers exposed to asbestos since the beginning of World War II is estimated at between 8 and 11 million. Of that total, approximately 1.5 to 2.5 million are presently employed, while the remainder -- between 6.5 and 8.5 million workers -- were formerly employed in environments with significant asbestos exposure, including 4.5 million who worked in shipyards during World War II. Of those exposed in the past, a certain number -- which we cannot estimate with accuracy today -- have already died, either from asbestos-related or other causes.

Federal government responsibility for regulating current asbestos exposure is lodged in several agencies -- with the

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Occupational Safety and Health Administration bearing primary responsibility for regulating asbestos levels in the workplace and requiring employers to provide warnings to current employees.

But, to date, there has been no systematic government effort to notify physicians, past workers and others at risk of the hazards associated with asbestos exposure. Such notification is of special importance because the serious diseases associated with asbestos take a long time to develop -- from 15 to 35 or more years -- and because recent studies have underscored that workers exposed in the past, especially those from the war years, may just now be facing immediate, serious health threats.

As part of my responsibility to promote and protect the public health, I am today announcing several steps to inform doctors, workers and others about the increased health risks of asbestos exposure.

- Dr. Julius Richmond, the Surgeon General of the United States, will immediately send an advisory letter to all 400,000 doctors in the nation. This Surgeon General's advisory will set out the nature of the health risk posed by asbestos, describe certain steps doctors may wish to take when diagnosing or treating patients, and tell physicians where they can obtain additional information about

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asbestos-related diseases. [Both the physician advisory and a more detailed National Cancer Institute question and answer paper are attached to this statement.]

- HEW will launch a public information campaign aimed at workers and others exposed to asbestos. Dr. Arthur C. Upton, director of the National Cancer Institute, and Dr. David P. Rall, director of the National Institute of Environmental Health Sciences, will co-chair an HEW team to develop a detailed public information proposal in consultation with other Executive Departments, unions, employers and other interested parties. To the extent possible, the campaign will be targeted on those at the greatest risk. I have spoken with Secretary of Defense Harold Brown, and he has directed the Department of Defense personnel to work with us in taking appropriate steps to inform former military and Federal civilian workers in Naval shipyards.
- The HEW team will consider other measures which the Department might take to deal with the asbestos problem, in addition to preparing the public information campaign. Such measures include: improved surveillance, other means of informing

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affected individuals such as outreach through unions and employers, development of further information for physicians, and additional research.

Asbestos is the term used for a group of fibrous materials that do not burn and are excellent thermal insulators. In the past four decades, asbestos has been used for a great number of purposes -- more than 3,000 uses have been identified -- with two-thirds of all asbestos used in the construction industry. Ship construction has been an activity with especially high use of asbestos, since the substance is effective in insulating boilers, steampipes, hot water pipes and nuclear reactors.

Unfortunately, numerous studies have indicated that exposure to asbestos in settings, like the workplace, where it is concentrated, significantly increases the risk of incurring four serious diseases: lung cancer, asbestosis (a progressively debilitating lung disease that impairs breathing and increases risk of serious illness or death from respiratory infections like pneumonia), mesothelioma (a cancer of the chest and abdominal cavities) and certain gastro-intestinal cancers.

Both the Surgeon General's advisory and public information campaign will suggest certain actions that individuals exposed to asbestos can take to reduce or mitigate the health threat to the greatest extent possible. They will

stress that no single step has a more important effect in reducing risks from two of the most common diseases associated with asbestos -- lung cancer and asbestosis -- than stopping cigarette smoking.

Our best estimates of the increased risks associated with asbestos exposure are based on HEW supported studies of workers heavily exposed to asbestos before the government began to regulate asbestos in the workplace in the late 1960's and early 1970's. As a result of recent government regulation, current workers, without previous exposure, can be expected to face smaller risks than those exposed in the past.

The risks for past workers regularly exposed to asbestos are estimated to be as follows:

Lung Cancer. A non-smoker who has been exposed to asbestos is three to four times more likely to develop lung cancer than a non-smoker who has not been exposed. However, a smoker who has been exposed to asbestos is up to 90 times more likely to incur lung cancer than a non-smoker who has not been exposed, and up to 30 times as likely to incur lung cancer than a non-smoker who has been exposed.

At present, it is estimated that 20-25 percent of workers, both smokers and non-smokers, exposed to asbestos before the era of government regulation die of lung cancer.

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Asbestosis. Only individuals exposed to asbestos contract asbestosis which afflicts approximately 7 percent of the number of workers exposed in the past. Asbestosis is an irreversible and progressively disabling lung disease that impairs breathing, and individuals with the disease are much more likely to die of respiratory ailments, like pneumonia, than individuals who do not have asbestosis. The Surgeon General advises me that clinical experience indicates a person who smokes and has been exposed to asbestos faces a greater risk of developing asbestosis and of dying from a respiratory ailment than an asbestos exposed individual who does not smoke.

Mesothelioma. As with asbestosis, only those individuals exposed to asbestos appear to contract this disease. Approximately 7-10 percent of those exposed to asbestos in the past die of this cancer.

Gastro-intestinal cancer. Individuals exposed to asbestos in the past are estimated to be about twice as likely to die of gastro-intestinal cancers -- including cancers of the esophagus, stomach and colon -- as non-asbestos exposed individuals. Approximately 8 to 9 percent of asbestos-exposed individuals die of these types of cancer.

In addition to the 4.5 million persons who worked in shipyards during World War II, it is estimated that 500,000 to 1.4 million persons have been employed in shipyards

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since the War. Other occupations in which there has been significant exposure to asbestos include asbestos mining and processing; construction work involving insulation; building demolition; roofing; and automotive work in brake and clutch lining installation and repair.

In addition to the Surgeon General's advisory, information will be available to physicians through other means: Ca-The Cancer Journal for Clinicians, a publication of the American Cancer Society, is publishing this week in its March-April issue an article by Dr. Irving Selikoff and Dr. E. C. Hammond on the effect asbestos exposure has had on shipyard workers; the American Medical Association will be publishing a physician advisory in its Journal; and the attached question and answer background paper prepared by the National Cancer Institute will be made available to doctors through the American Cancer Society, the American Lung Association and all state medical societies, as well as through the National Cancer Institute itself.

The actions I am announcing today with respect to asbestos are based on a number of factors, but two of the most important are: the number of individuals affected who are unaware of the risk and the fact that asbestos is one of the most dangerous and insidious substances in the workplace.

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Given the numbers of unaware individuals affected and the serious risks involved, it is imperative that HEW -- the Executive Department primarily charged with developing health policy -- work closely with other Executive Departments and Agencies in devising all appropriate steps to protect the health of our citizens.

If individuals have questions about what they should do in addition to stopping smoking, they should consult their personal physicians.

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Surgeon General
of the
Public Health Service

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

WASHINGTON, D.C. 20201

April 25, 1978

ST0199924

PHYSICIAN ADVISORY - HEALTH EFFECTS OF ASBESTOS

The results of recent studies of shipyard workers have increased concern about the health effects associated with previous occupational exposure to asbestos. This advisory notice will assist you in dealing with inquiries from your patients and other members of the public.

Asbestos refers to a group of widely used fibrous minerals. Significant exposure of men and women employed in shipyards is known to have occurred, even among those not directly working with asbestos. Exposure to asbestos can also occur in many settings, such as, direct mining and manufacturing; construction; insulation; roofing; demolition; brake lining; and the manufacture and installation of asbestos pipe, sheets, panels, paper products, friction materials, textiles, floor tiles, paints, and gaskets. The risk has been documented extensively for certain occupational exposures and there are reports that asbestos-associated disease also occurs in household contacts of asbestos workers.

The primary effects of past asbestos exposure are asbestosis, a lung disease, and certain types of cancer, primarily lung cancer and pleural and peritoneal mesothelioma and, less frequently, gastro-intestinal and other cancers. It is now known that the health effects of asbestos appear after a long latent period (15, 25, 35 or more years) after the initial exposure. Exposures as short as a month may result in disease many years later, because the inhaled dust, being mineral, tends to remain in the tissues. It has been noted in studies of heavily exposed workers that approximately 20 to 25 of each 100 deaths among asbestos workers 20 or more years from onset of exposure are found to be from lung cancer, 7 to 10 from mesothelioma, 4 from cancer of the esophagus, stomach, colon/rectum, and some excess cancers of other sites (oropharynx, larynx, and kidney). In addition, in some groups, as many as 7 percent of workers die of a form of pneumoconiosis, asbestosis. Cigarette smoking significantly increases the lung cancer risk of asbestos exposure and aggravates asbestosis.

In dealing with your patients or other individuals who worked in shipyards or believe that they were otherwise exposed to asbestos, you may wish to consider the following issues:

1. Occupational or Exposure History -- A detailed, lifetime history must be obtained. This is time consuming, but important because significant exposures may have been brief (one month) and may have occurred many years ago (i.e., during World War II). Because the World War II work force was comprised of many women as well as men, the potential for female patient involvement should not be overlooked.
2. Careful Management of Lung Disease -- A detailed history for symptoms such as shortness of breath or exertional dyspnea, physical examination, chest x-ray, and pulmonary function tests may be helpful in diagnosing the pneumoconioses associated with asbestos. Early x-ray changes are often subtle so x-rays must be reviewed carefully by experienced readers. Such readings should include a thorough search for pleural changes. Careful attention to and aggressive treatment of respiratory infections may be important in patients with asbestosis. The use of currently effective influenza and pneumococcal vaccines should be considered.
3. Emphasis on Smoking Cessation -- Discontinuation of smoking is an important step in the control of the sequelae of asbestosis and will assist in the prevention of lung cancer. Individuals who smoke and who have been exposed to asbestos have 30 to 90 times the risk of getting lung cancer of individuals who neither smoke nor have been exposed to asbestos and 7½ to 30 times the risk of the non-smoking asbestos workers. Data are available which show that cessation of smoking will significantly diminish the risk of developing lung cancer among asbestos workers.
4. Cancer Surveillance -- The usefulness of screening asymptomatic, exposed individuals for lung, gastro-intestinal and other cancers is now under study in clinical trials. Individuals, however, should be carefully questioned regarding possible symptoms which could be related to cancer: chest pain, hoarseness, hemoptysis, weight loss, melena, etc. If such symptoms are present, an appropriate diagnostic workup should be undertaken.

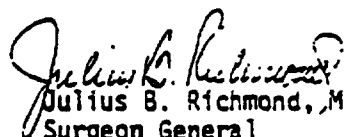
It is important to note that many people exposed to asbestos -- perhaps a majority -- suffer no apparent ill effects. It is hoped that most of your patients will be in this category.

Current use of asbestos is regulated, but attention must be given to proper ventilation and engineering controls and the use of respirators -- all measures of primary prevention. In the past the dangers of asbestos exposure were not fully appreciated; much exposure occurred in previous decades, particularly in shipyards, where individuals often worked in confined quarters.

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A discussion of asbestos and its health effects appears in the March/April issue of Ca, The Cancer Journal for Clinicians and is available through the American Cancer Society, 777 Third Avenue, New York, New York 10017. A more detailed physician information alert will be distributed by the National Cancer Institute through a number of medical journals within the next two or three months including the Journal of the American Medical Association. Additional information including a more detailed series of questions and answers can be obtained by writing to Asbestos, National Cancer Institute, 9000 Rockville Pike, Bethesda, Maryland 20014.

Sincerely,


Julius B. Richmond, M.D.
Surgeon General

Assistant Secretary for Health

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