THE WASHINGTON POST Tuesday, M...

Job-Caused Cancers Are Found Spreading to Workers' Families

By Stuart Auerbach
Washington Post Staff Writer

NEW YORK, March 24—Two hundred years after the first documented cases of occupationally caused cancers, scientists are finding that the hazards of the work place are spreading to the families of workers and people who live near certain factories.

Asbestos workers, Dr. H. A. Anderson reported today, carrying fibers home in clothing and hair, spread cases of fatal lung cancers and lung abnormalities to their wives and children.

Studying the families of 354 asbestos workers, Anderson and his team from Mt. Sinai Medical School here found that 35 per cent of them showed lung abnormalities on X rays comparable to men who had worked in asbestos factories.

Moreover, while studying death certificates of 252 members of the families of asbestos workers, he found two deaths from mesothelioma, a rare form of lung cancer that occurs about once in 10,000 deaths among the general population but kills about one in 20 asbestos workers.

He cited similar findings in 10 foreign countries. "The risk goes beyond the factory, mine or mill gate," he said. "We now know that the wives, children and relatives of many asbestos workers have died of mesothelioma and others will do so also as a result of the practice of asbestos carried into the home on workers' clothes or in some other manner," added Dr. Joseph K. Wagoner, head of field studies for the National Institute of Occupational Health and Safety, a federal agency.

Dr. Irving J. Selikoff of Mt. Sinai hospital, one of the nation's leading experts on occupational illness, called the spread of occupational illness to families "a general rule. It's not a curiosity. It's a common thing."

As examples, Selikoff and Wagoner cited studies showing:

- Autopsy findings that 100 per cent of people who live in cities have asbestos fibers in their lungs, gotten mainly from breathing air near construction sites.
- People who live near orchards where there has been a large amount of spraying with lead arsenate insecticide have 20 per cent more cases of lung cancer than would be expected from the general population.
- Children who live near copper smelters in Takoma, Wash., have unusually high levels of arsenic in their blood and urine, which could foretell future cases

See HEALTH, A10, Col. 3

D. Kitagawa Model 400 Aspirating Pump (Matheson PN 8014-400) has been certified for use with

8. Hydrogen sulfide - Model 120b gas detector tube, TC-84-037, July 23, 1974.

9. Carbon monoxide - Model 100 gas detector tube, TC-84-045, January 15, 1975.

III. RESPIRATORY PROTECTIVE DEVICES

The following respiratory protective devices have been approved by the U.S. Department of the Interior, Mining Enforcement and Safety Administration, and the U.S. Department of Health, Education, and Welfare, National Institute for Occupational Safety and Health, since July 19, 1974.

Self-Contained Breathing Apparatus

18. SurvivAir® part numbers 9038-00, 9038-02, 9838-00, and 9838-02 demand-type one half hour compressed-air self-contained breathing apparatus. Approval TC-13F-44, issued to SurvivAir Div., U.S. Divers Co., August 30, 1974.

19. SurvivAir® part numbers 9038-20, 9038-22, 9838-20, and 9838-22 pressure demand-type one-half hour compressed-air self-contained breathing apparatus. Approval TC-13F-45, issued to SurvivAir Div., U.S. Divers Co., August 30, 1974.

20. MSA® part numbers 457150, 95061, 457151, and 95068 demand-type 15 minute compressed-air self-contained breathing apparatus. Approval TC-13F-46, issued to Mine Safety Appliances Co., January 10, 1975.

21. MSA® part numbers 95063 and 460262 pressure-demand type 15 minute compressed-air self-contained breathing apparatus. Approval TC-13F-47, issued to Mine Safety Appliances Co., January 10, 1975.

Gas Masks

3. MSA® part numbers 461481, 461482, 461483, 461484, 461485, and 461486 gas masks (with part number 461480 canister) for respiratory protection against vinyl chloride. Approval TC-14G-84, issued to Mine Safety Appliances Co., December 30, 1974.

4. Scott part numbers 601211-17 and 601221-17 gas masks (with part number 084-VCL canister) for respiratory protection ag inst vinyl chloride. Approval TC-14G-85, issued to Scott Aviati n, December 30, 1974.

Job-Caused Cancers Seen Hit

HEALTH, From A1

of cancers. "Why wait 20 years to see if cancer shows up before cleaning up the air?" said Dr. Samuel Milham Jr. of the Washington State Department of Health, who conducted that study.

• People living within a quarter mile of a beryllium processing plant near Philadelphia are dying of berylliosis, a lung disease similar to black lung in coal miners. Wives of workers living further away from the plant died as a result of inhaling the dust from the beryllium, a light-weight metal, while washing their husbands' clothing.

In another paper presented at a meeting here on occupational carcinogenesis (cancer caused by work) sponsored by the New York Academy of Science, Dr. Peter F. Infante of the Ohio State Department of Health reported that mothers living near plants making polyvinyl chloride gave birth to a greater number of defective children than the state or county average. The same communities in Ohio also had a greater than expected incidence of deaths among adult men from cancers of the nervous system.

Dr. Thomas H. Corbett of the University of Michigan Medical Center also reported an unusually high rate of birth defects among children of operating room nurses who worked while pregnant and children of wives of anesthesiologists. He implicated some of the gases, especially isoflurane, used as anesthesia. He said the gas may cause changes in male sperm.

In a speech opening the four-day meeting Wagoner said that 200 years after Percival Pott, an English doctor, reported an increase in cancer of the scrotum among chimney sweeps in London as a result of breathing carbon products from the burning of coal, thousands of coke oven workers in American steel mills are inhaling the same sub-

Seen Hitting Families

gases, especially isoflurane, used as anesthesia. He said the gas may cause changes in male sperm.

In a speech opening the four-day meeting Wagoner said that 200 years after Percival Pott, an English doctor, reported an increase in cancer of the scrotum among chimney sweeps in London as a result of breathing carbon products from the burning of coal, thousands of coke oven workers in American steel mills are inhaling the same substances. They are dying of lung cancer at 15 times the rate of the general population, he said.

In 1971, he continued, decades after studies showed that miners in ther Erz mountains of Central Europe were dying of lung cancers blamed on radioactivity, "thousands of American uranium miners were still working in radiation concentrations of such magnitude as to triple their prospects of dying of lung cancer."

He said that American dye workers "are literally sloshing" in chemicals known as aromatic amines that were found to cause cancer 80 years ago. "As a result," said Wagoner, "these workers are now, and will continue to be, afflicted by bladder tumors at an epidemic rate.

"As recently as 1974," he continued, "50 per cent of former employees at one benzidine plant in the United States were reported to have developed bladder cancer."

WASHINGTON POST
3/30/75

Cancer: A Work Hazard Industry Is Forced to Face

By Stuart Auerbach
Washington Post Staff Writer

NEW YORK—Now there is no doubt: Cancer is a hazard of the workplace.

For four days last week, representatives of industry, government, labor unions and science heard reports implicating more and more substances used in industry — including such common metals as aluminum, cadmium and lead—as cancer-causing agents. Moreover, new studies showed that workers in industries previously thought to be free of cancer-causing agents—such as steel mills and saw mills —have increased rates of cancer.

Although reports linking cancer with certain occupations have been around for 200 years, this was the first meeting devoted solely to that problem.

"Until now," said Dr. Edward P. Radford of Johns Hopkins University School of Hygiene and Public Health, "society as a whole, industry in general, labor unions in particular have not accepted the notion that things in the workplace can cause cancer."

Documented cases of cancer caused by industrial pollutants were considered "few and unusual situations," he continued.

"By and large, when you proposed that something in the workplace is producing cancer, the reaction you got was: 'It must be something else . . . smoking, or it's in the community. But it's not that's in the workplace." This was the common reaction.

"We are now finding that a lot of things in the workplace can cause cancer."

One thing that came clearly through four days of reports on cancer-causing chemicals is that the world —and especially America— is now paying a price for the great number of chemical compounds that have been introduced since World War II.

Asbestos, one of the most potent cancer-causing agents, was rarely used before the 1940s. Until then, the total production of asbestos in the world was 50 million tons; now that much is produced in just one year.

Other commonly used chemicals—such as chloromethyl methyl ether (CMME), its relative, bischloromethyl ether (BCME) and polyvinyl chloride—weren't identified as cancer-causing agents until 20 to 30 years after they came into widespread use.

This illustrates the long latency period of cancer. Unlike other illnesses, it takes 15 to 30 years to develop in the body.

"To prevent cancer in the year 2000," said Dr. Irving J. Selikoff of Mt. Sinai School of Medicine, "we have to identify the problem chemicals in 1975."

Dr. Lorenzo Tomatis of the International Agency for research on Cancer in Lyon, France, reported that his group has studied 196 commonly used chemical compounds and found 17 of them linked to cancer in humans. Another 93 were found to have caused cancer in animals, and 41 more had what he described as "a limited cancer-causing effect' on animals.

Of the 17 chemicals known to cause cancer in humans, Tomatis said 14 are hazards of the workplace. The others are either eaten or used medicinally, such as the hormone stilbestrol recently approved as a morning-after birth control pill.

But with all the new chemical compounds being introduced—one government source estimated 250,000 new substances are synthesized each year—it is almost impossible to catch up with the backlog. Animal tests for cancer take years, though a new, quick screening method using bacteria has been developed by Drs. Joyce McCann and Bruce N. Ames of the University of California at Berkeley.

Until those systems are perfected, however, the only sure proof that something causes cancer is to wait 15 or 20 years and then count the dead bodies.

"One of the most discouraging things about this meeting," said Dr. J. William Lloyd of the National Institute for Occupational Safety and Health, "is that most of what we know of occupational cancer comes from counting dead bodies. We would hope to identify the carcinogen earlier in the game."

To help protect workers from suspected cancer-causing agents, sponsors of the conference are taking an unusual step: summarizing the proceedings in non-technical, everyday language for distribution to people in the factories.

In the past, said Dr. Sidney Wolfe of Ralph Nader's Health Research Group, this information was kept in a tight little circle of "academic, industry and government scientists who have usually waited as long as possible to share their information with the workers.

"I am sick of hearing, 'we shouldn't tell them because it will scare them,'" Wolfe continued.

"The workers, who are really the victims of what we are talking about, have to be made part of the risk assessment."

Tomatis, of the International Agency for Research on Cancer, said manufacturing improvements can cut completely or drastically reduce the occupational exposure of the workers.

"These improvements," he said, "do not represent, in general, too severe a blow to the economy of the factory, but just a marginal loss of profit."

Du Pont Checks Employe Health Records After Studies Link Chemical With Cancer

3-26-75

By BARRY KRAMER
Staff Reporter of THE WALL STREET JOURNAL

Du Pont Co. confirmed that it is searching the health records of all present and former employes at its Louisville, Ky., neoprene plant because of two Russian studies that found high rates of skin and lung cancer among workers who handle chloroprene, the material from which neoprene is made.

Disclosure of this and other actions being taken by Du Pont, the major maker of the synthetic-rubber material, was made by a representative of the National Institute for Occupational Safety and Health at an industrial-cancer conference in New York. Dr. William Lloyd of the institute told the conference, sponsored by the New York Academy of Sciences, that a previous Du Pont survey of worker health, done mostly among current workers at the Louisville plant, hadn't confirmed the Russian findings and that the Soviet data was "flimsy."

Next to Vinyl-Chloride Plant

Nevertheless, a Du Pont spokesman said three Du Pont officials are in Moscow this week getting details of the studies from Russian scientists. Du Pont said it had notified its workers and customers last November about the Russian findings and its doubts about them. The Russian studies also were turned over to the institute at that time, Du Pont said.

The Du Pont neoprene facility is located, literally, right next door to the B. F. Goodrich Co. vinyl-chloride plant where, last year, the first links between vinyl chloride and a rare liver cancer were found. Tight restrictions on the level of vinyl-chloride exposure in factories have since been imposed by the Labor Department.

Both vinyl chloride, which is a gas, and chloroprene, a colorless liquid, are chemical monomers, from which plastics are polymerized in large vats.

Du Pont said it began to look into the cancer potential of chloroprene last year following the vinyl-chloride findings. But it said a survey of 1,360 current Louisville employes and 600 retirees whose records could be obtained easily failed to show any significant increase in cancer. The study did find an increase in lung cancer in 1972 and 1973, but cases weren't found in 1974, leading officials to conclude that the findings had been spurious.

Following meetings with the institute and other government health agencies, Du Pont decided to do a more extensive survey of its employes. Dr. Lloyd of the institute said present and former employes at the plant, which has operated since 1943, could number as many as 60,000 persons. A Du Pont spokesman said the number is far smaller.

Study Called Flawed

Dr. Lloyd said the Russian study (made at a Yerevan, Soviet Armenia, plant built with Du Pont technology during World War II) was seriously flawed because it lacked a breakdown of the amount and duration of exposure, other chemicals that workers were exposed to, smoking habits, a breakdown by age and sex, and other variables considered essential by U.S. biostatisticians in evaluating such a study.

Du Pont said it also warned its neoprene customers last November that levels of unreacted chloroprene monomer in neoprene could reach high levels in closed spaces. Neoprene is widely used in the automotive industry and in making cable sheaths, hoses, fabrics, adhesives and technical rubber articles. U.S. production in 1973, much of it by Du Pont, was 385 million pounds.

In addition to the Louisville facility, Du Pont also produces neoprene at Laplace, La., and makes chloroprene monomer from chlorine and butadiene at Laplace and at Victoria, Texas.

Chloroprene and neoprene also are made by Petro-Tex Chemical Corp., Houston. A spokesman for Petro-Tex said that the major western makers, including British Petroleum Co. of Great Britain and Bayer A.G. of West Germany, as well as Du Pont, "are undertaking a serious look at the developments published in Russia." J. P. Lockwood, president of Petro-Tex, said, "We're following very closely the actions of Du Pont . . . to determine if there are, in fact, carcinogenic implications in this product." There are an estimated 2,500 neoprene workers and a larger number of workers who fabricate neoprene into various products in the U.S.

Chloroprene has been known to be highly toxic almost since its commercial introduction by Du Pont in 1936 and has caused, among other things, liver, lung and kidney damage in humans. The Russian reports are the first to link it with cancer, however.

Known industrial carcinogens, such as vinyl chloride and asbestos, usually have a latency period of about 20 years after first exposure before the first excess cases of cancer begin showing up.

Du Pont has also begun laboratory animal carcinogenicity tests, which would indicate cancer-causing potential, if any, in a much shorter time. Results aren't yet available.

Other Conference Reports

Other reports at the New York industrial-cancer conference include:

—Further confirmation, from New York University Medical Center, that workers in six of the seven U.S. chemical plants making a resin called chloromethyl-methyl ether have a significantly increased risk of developing respiratory cancer and that this applies especially to those with long and heavy exposure to the chemical. The resin is usually contaminated with the potent carcinogen bis-chloromethyl ether, or BCME.

—Confirmation by the National Institute for Occupational Safety and Health that it had discovered spontaneous formation of BCME in some textile plants. The cancer-causing chemical forms when mists of hydrochloric acid and formaldehyde mix. The institute said it was investigating the extent of textile-worker exposure to the chemical.

—A finding by the Ohio Department of Health that suggests that women living in communities with polyvinyl-chloride manufacturing facilities give birth to an excess number of children with congenital malformations. The findings don't make a direct link between the malformations and polyvinyl chloride, which is made from vinyl chloride, but the researchers who made the findings said further studies were in order.

—A study from New York's Mount Sinai Hospital found that wives and others in close contact with asbestos workers also may risk developing asbestos-caused lung cancer. They found lung changes associated with the disease in 35% of the 254 household contacts of asbestos workers they examined, and four cases of lung cancer.

Workers' Families Face Risks of Cancer, Too

By Judith Randal
Washington Star Staff Writer

NEW YORK—Not only do workers whose jobs expose them to hazardous chemicals risk dying of cancer or developing other disabling chronic illnesses, but members of their families and sometimes even their neighbors run these risks as well.

At a meeting being held here this week by The New York Academy of Sciences, several such situations are under discussion and the consensus of the experts present is that, with some 20,000 new chemical compounds a year being introduced into the environment — and millions already a part of it — there are bound to be more.

Yesterday, for example, Dr. Henry Anderson of the National Institute for Occupational Safety and Health told the meeting that there is evidence from nine countries suggesting that a rare type of lung cancer that occurs among asbestos workers also attacks their wives, sons and daughters more often than one would expect.

ANDERSON AND HIS colleagues at the agency, which is a part of the Department of Health, Education, and Welfare, have recently undertaken a study of 1,064 men who were exposed to asbestos at an unidentified U.S. factory between 1941 and 1954.

In the years since then, two of the men have died of the rare cancer — called mesothelioma — and so have two of their children. In addition, a man and a woman, also the children of asbestos workers in the study sample have been found to have the same kind of tumor and are undergoing therapy.

Like most carcinogens, or cancer-causing substances, asbestos does not act at once. A lag time of 25 to 30 years is typical. Besides, the tumors are unlikely to appear before middle age. Thus, since many of the children of the workers in his study are still under 50, they still have before them many years of high mesothelioma risk, Anderson said.

Interviewed after his presentation, Anderson said that asbestos is by no means the only harmful chemical that may silently injure family members who live close to the factories where their breadwinners work or otherwise have contact with the job environment.

RELATIVES OF PEOPLE who work with polychlorinated biphenyls have been exposed to these solvents when the men bring them home in their clothes, and so have developed an unusual form of acne, he said. And far more serious, it has been shown that people whose homes were in the vicinity of a Pennsylvania beryllium plant shared with the factory workers a definite risk of developing berylliosis, a serious and progressively dangerous lung disease.

Other reported examples linked to occupational exposures which resulted in family or community health risks included the following:

• A high rate of cancer among women doctors and nurses in operating rooms and a high rate of birth defects among their children. According to data presented by Dr. Thomas H. Corbett at the University of Michigan Medical Center, experiments on pregnant mice exposed to one type of anesthetic produced cancers in the animals and their offspring while pregnant mice exposed only to room air remained tumor-free, as did their offspring. Corbett suggested that similar experiments should be conducted to test other types of anesthetics for their potentially harmful effects.

• A suspiciously high rate of lung cancer among women in Anaconda, Montana where there is a copper smelter employing only men. Thought to be responsible is the arsenic which is a byproduct of the smelting process and a sizable component of the local air pollution.

• Polyvinyl chloride, the plastic whose production is linked to a rare form of cancer may also be associated with birth defects. There is as yet no clear-cut proof, Dr. Peter Infante, of the Ohio Department of Health reported. But women in the three towns in Ohio where there are PVC plants gave birth to more children with malformations than would have been expected based on the birth defects rate of the rest of the state of the years 1970-1973.

W. STAR
3/26/75

Cancer Chemical Curbs Backed

By Judith Randal
Washington Star Staff Writer

NEW YORK—An official of the National Institutes of Health denies that enforcement of measures requiring industry to protect employes from cancer-causing chemicals would have a seriously adverse effect on the economy.

"We hear increasing criticism that regulatory efforts are severly inflationary," Dr. David P. Rall yesterday told the first major conference ever held on occupational cancer. "These criticisms are based on a poor understanding of that segment of the regulatory apparatus . . concerned with substances that are potentially hazardous to the public's health."

Rall, director of NIH's National Institute of Environmental Health Sciences, said that his and other agencies have been told by the Ford administration to file statements on the inflationary impact of any regulatory programs they propose and that President Ford's Council of Economic Advisers has made it clear that it takes a dim view of programs that would be costly to industry.

"THE THRUST of this criticism is oriented totally to short-term costs and benefits and ignores long-term problems," Rall argued, adding that savings made now would be outweighed by the future expense of caring for people whose cancers were due to the chemicals they had encountered on their jobs in the 1970s.

Rall called "total nonsense" the idea that worker protection would impose unbearable costs on consumers. While the prices of some products might rise, he said, this does not take into account the consequences of the unregulated use of toxic substances.

"When regulatory decisions result in the consumers of the product paying the true and total cost — including safety testing and occupational environmental control costs — it is difficult for me to see how this can be considered inflationary," he said.

Rall's point of view strongly resembles that of Dr. Charles C. Edwards, who recently resigned as assistant secretary for health at the Department of Health, Education and Welfare. Before leaving, Edwards had prepared a report criticizing the government for not putting more emphasis on disease prevention and saying that the failure was a major reason for the nation's medical bills now totaling $100 billion a year and continuing to rise.

UNLESS PREVENTION is recognized as being as important as treatment, Edwards said, there will soon be an additional annual cost of $100 billion to the economy traceable to the fact that people who become seriously ill unnecessarily are not able work.

Another government official at yesterday's meeting — Dr. Edward Fairchild of the National Institute for Occupational Safety and Health — reported that the rate of occupationally related cancers is rising, in part because an average of 700 new compounds a year enter the marketplace without first being tested in animals for their tumor-causing potential.

WASHINGTON STAR 3/27/75

Unions Seek Help

Cancer Hazards on Job

By Judith Randal
Washington Star Staff Writer

NEW YORK—Mingling with the hundreds of scientists here at a meeting on occupationally related cancer is Larry P. Williams, a 31-year-old maintenance man who works at the Gadsden, Ala., tire plant of the Goodyear Rubber Co.

Until recently, neither Williams nor his fellow workers thought much about health in connection with their jobs. But like more than a dozen other unions representing millions of workers and the AFL-CIO itself, the United Rubber Workers has recently become sensitive to the potential hazards of the workplace. So Williams, who serves on the local union's safety and health committee, is here to keep abreast of developments.

Dr. Irving J. Sellikoff of the Mount Sinai School of Medicine — an expert on asbestos-related cancer and one of the leading figures in 1973 revelations linking worker exposure to polyvinyl chloride to a rare form of liver cancer — terms the new union interest in such problems "a revolution."

IN JUST the last five years, he told reporters at the conference yesterday, "an extraordinary group of young labor leaders" have turned to the scientific community to help them identify industrial hazards and find ways to protect worker health.

"Why, when the first findings about vinyl chloride were announced, seven unions were in our office within a week asking what they could do to further our research," he says. "This is something that never could have happened before."

One of the advantages of working with unions, experts like Sellikoff say, is that those which are organized along craft lines like the typographers, paper makers, roofers and painters were often organized as burial societies in the 19th century and therefore have death certificates and other medically valuable records that go back almost 100 years.

The experts are also pleased about gaining access to an entire union with membership that is dispersed in a number of plants and localities because it gives them an opportunity to detect health patterns they otherwise might miss.

See UNIONS, A-7

UNIONS

Continued From A-3

"NO SINGLE company," says Dr. E. Cuyler Hammond of the American Cancer Society, "can provide the scientific community with the wealth of information that collaborative efforts with unions can."

And, through contract negotiations between labor and management, industry is also part of the study team. For while some unions finance the effort entirely through membership dues, a growing number are instead following the example of the rubber workers.

Under their negotiated arrangement, the six major companies in the industry supply a half-cent per man hour worked which supports research on the union membership at the Harvard and University of North Carolina Schools of Public Health. Part of the five-year agreement, which is renewable, is that institutions selected to carry out the research must be accepted by both labor and management.

The focus at the meeting has understandably been on cancer. But the scientist-union collaboration covers the whole gamut of occupational health and involves the teamwork of many kinds of specialists ranging from statisticians to sociologists.

EVEN IF THEY never develop mesothelioma, an asbestos-related lung cancer, for instance, workers in this industry have long had an unusually high rate of suicide because of the respiratory difficulties they typically face after long exposure to the mineral.

And workers in the synthetic textile industry who are exposed to a compound called carbon disulfide frequently become impotent as a result.

All this and more is grist for the research mill. Indeed, trends that develop in industry can, say many scientists, serve as a forewarning for the public at large.

MOST of the findings reported so far have concerned only men. However, as more women enter the labor force increasing attention is being paid to them. Many blue collar women, for example, work during the first three months of pregnancy, the period in the development of the fetus when it is most likely to develop birth defects.

Meanwhile, governments have also become interested in these problems. In the United States, agencies like the Labor Department's Occupational Safety and Health Administration and the Health, Education and Welfare Department's National Institute for Occupational Safety and Health work with both unions and industry. And in Sweden, one-half of 1 percent of that nation's total wages — about $20 million a year — is now earmarked for occupational health research.

BUT PERHAPS the biggest change is that many rank-and-file workers are becoming sophisticated about the dangers they may face in their work. Williams, for example, talks as easily as any scientist about cancer-causing substances as "carcinogens," and will go home to report to fellow union members that a new test promises to identify such agents in only 48 hours.

"As a result of the University of North Carolina studies," he says, "we think we have reason to suspect we've got a high incidence of some forms of cancer. The plant changes compounds often. With the traditional animal tests it takes two years to find out whether these new formulas are potentially dangerous. That's too long to wait."

The meeting on occupationally related cancer is sponsored by the New York Academy of Sciences. The Department of Health, Education and Welfare and two private organizations have supplied the financial support.