Vol. 6 No. 3
June/July 1984

# WOHRC NEWS

WOMEN'S OCCUPATIONAL HEALTH RESOURCE CENTER
SCHOOL OF PUBLIC HEALTH COLUMBIA UNIVERSITY

## NEWS BRIEFS

**• ON JUNE 15, the final day of a court-ordered deadline, OSHA issued a new standard to protect an estimated 140,000 workers exposed to ethylene oxide (EtO), a substance linked to cancer, reproductive damage, and other health hazards.**

Three days later, the Service Employees, Clothing & Textile Workers, and the State, County & Municipal Employees joined the Public Citizen Health Research Group in petitioning the U.S. Circuit Court of Appeals for the District of Columbia for judicial review of the standard.

OSHA is continuing its rulemaking on the issue of short-term exposure limit. This is a sensitive point, because WOHRC among others has submitted testimony that a short-term limit is essential based on scientific data.

### New Limits

The regulation limits worker exposure to one part EtO per million parts of air (1 ppm) averaged over an eight-hour day, a 50-fold reduction from the agency's previous 10 ppm standard adopted in 1971.

According to the new ruling, EtO exposure must be limited through engineering and work practice controls for operations where they are feasible. The standard lists several specific activities where such controls are infeasible and other methods of protection are permitted.

Other key provisions of the standard require exposure monitoring, signs and labels, regulated areas, emergency procedures, the use of personal protective equipment and recordkeeping. Two very important parts of the rule require training for workers and medical exams.

### Impact of Standard

Based on current exposures OSHA estimates that the new standard will reduce the number of EtO-related cancer fatalities among workers by 86 percent over the next 50 years, preventing between 457 and 871 deaths. The total cost of the standard to industry—including both capital costs and operating expenses—is estimated to be more than $35 million per year.

EtO is a colorless gas with an ether-like oder. It is primarily used as an intermediate in the manufacture of other products—particularly ethylene glycol, a major component of anti-freeze. Most worker exposures, however, occur when EtO is used as a sterilant in hospitals and in firms that manufacture medical products.

The standard is expected to go into effect by the end of August. Employers must implement feasible engineering controls within a year of the effective date and comply with all other provisions within 180 days of the effective date.

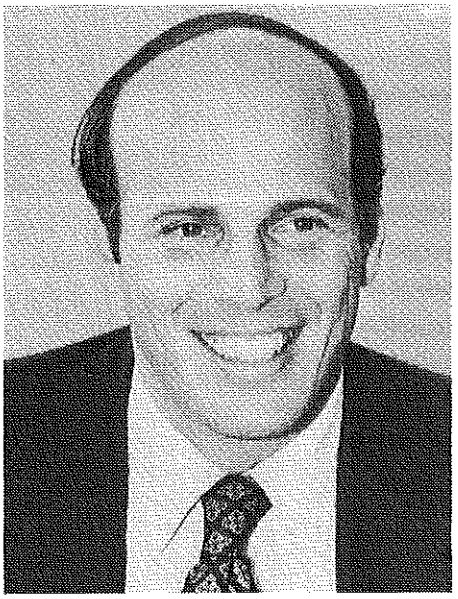
• • •

• **GOOD NEWS:** The WOHRC Fashion Show of Personal Protective Equipment will be the centerpiece of the American Occupational Health Nurses Association meeting in Kansas City in May.

• • •

• **MORE GOOD NEWS:** The Women's Committee of the American Conference of Governmental Industrial Hygienists is sponsoring a large mailing of a new WOHRC subscriber flyer. □

## Experts Project Disability Compensation



Robert Steingut

The next 50 years of disability compensation for occupational diseases was the subject of a major international conference held June 6-9 in New York City sponsored by the New York State Workers' Compensation Board and the Collegium Ramazzini.

According to Workers' Compensation Board Chairman, Robert Steingut, the conference was "the first of its kind to be held anywhere."

Noting that "basic humanitarian values dictate that we compensate the victims of occupational disease and their families," Chairman Steingut called attention to the fact that legislation is now pending in Albany to give workers two years instead of one from the date of discovery of work-related disease to file their claims.

"I hope that 1984 will be the year in which New York State will join 24 other states in providing a date of discovery statue of limitations in occupational disease cases. To do otherwise, would be unthinkable."

Dr. Irving J. Selikoff, Director of the Environmental Sciences Laboratory at the Mount Sinai School of Medicine, and president of the Collegium Ramazzini, an international association of scholars devoted to the study of occupational diseases said of the need for the conference, "we are in the midst of a crisis for the various compensation systems throughout the world."

The conference drew experts in business, labor, insurance, law, medicine, government and academia. WOHRC Director, Dr. Jeanne Stellman presented a discussion of the impact of reproductive, genetic, and environmental stress as an emerging problem in occupational disease.

Conference participants gave attention

*continued on page 2*

**According to the National Council of Compensation Insurance stress now accounts for 11% of all occupational disease claims. For the legal aspects of stress see P.5.**

## PUBLICATIONS

**"WORKERS AT RISK: VOICES FROM THE WORKPLACE" Dorothy Nelkin & Michael S. Brown, University of Chicago Press, $20.**

### COPIES AVAILABLE FROM WOHRC

The objective of industrial medicine and hygiene is, of course, to make the workplace safe and healthful for workers through understanding the hazards, developing control technologies and administration of clinical programs. Sometimes, however, it is easy for researchers studying workplace problems or administrators who develop policies or run occupational health programs to lose touch with individual human beings—the workers themselves.

In their new book, "Workers at Risk," Dorothy Nelkin, a prolific writer and scholar in public policy, particularly in the area of science and technology, and Brown, a Cornell doctoral candidate, present a comprehensive picture of the perceptions of workers who are exposed to chemicals on the job.

"Workers at Risk" largely consists of the words of workers themselves and the text is peppered with sociological and historical background.

With support from the National Science Foundation, 75 workers drawn from a variety of industries were interviewed and more than 3,000 pages of transcript sifted through to pull together chapters on problems on the job, coping, resources and controlling the risks.

One particularly striking point was the analogy drawn by so many workers between the chemicals they work with and Agent Orange—all references to the herbicide were supplied by the workers.

Several of the workers likened their experiences to those in Vietnam and there was no uncertainty among those interviewed that Agent Orange *did* wreak havoc among the Vietnam Vets, just as there was the certainty that their jobs today were damaging them.

Nelkin and Brown have presented a powerful documentary. They show the systematic destruction of self-worth in some, counterposed by the strength of social activism in others.

The authors did not intend to carry out a survey of the actual conditions on the job, but rather they concentrated on examining how workers feel, think and react to the world around them. They have done a remarkable job. □

# Popular Duplicating Machines Can Cause Adverse Effects

Small offices and in particular, the nation's schools often rely on "spirit duplicators" utilizing methyl alcohol to reproduce printed material in that familiar purple ink. But, as a NIOSH report published earlier this year in the "American Industrial Hygiene Association Journal" notes there can be potential health hazards. However, there are ways to reduce methyl alcohol exposure at relatively little cost.

The largest group at risk would appear to be teachers aides—there are some 300,000 of them in the U.S.—who may use spirit duplicators for long periods of time in confined spaces.

The duplicator works by using a master copy of printed material with a reverse image printed on it in an alcohol-soluble dye. Once the master is placed on the copier drum, it is passed over paper which has been moistened by an alcohol-saturated wick. The alcohol on the paper dissolves a small portion of the dye and transfers the characteristically purple image to the finished sheet.

According to the report, exposure to the operation can occur through inhalation of evaporated methyl alcohol; through skin absorption during the handling of freshly duplicated paper, or by touching the liquid itself.

Signs and symptoms of mild to moderate methyl alcohol toxicity include headaches, dizziness, nausea, temporary blurring of vision, and behavioral disturbances. Severe exposure can result in metabolic acidosis, cyanosis, blindness, coma and even death.

In 1980, NIOSH conducted an investigation to determine if methyl alcohol was responsible for the ill health effects among aides in a school district in the State of Washington and if there was any relationship to the deaths of three former aides supposedly because of "liver damage." While the study did not provide evidence that methyl alcohol exposure caused the three deaths, measurements of airborne methyl alcohol exceeded NIOSH recommendations.

Most importantly, the researchers were able to significantly cut exposure by means of an inexpensive ventilation system and to make the following recommendations useful wherever duplicators are employed:

- Provide local exhaust ventilation with good enclosures unless measured air concentrations indicate that existing ventilation is adequate;
- Prevent re-entry of exhausted vapors through nearby open windows or doors;
- Allow duplicated papers to air dry for at least 24 hours before collating and stapling;
- Use soap and water or waterless hand cleaner to wash hands NOT duplicator fluids. □

**CONFERENCE** *continued from page 1*

to the most important issues occupational diseases pose for disability compensation systems today: the difficulty of translating scientific evidence into legal standards of eligibility and proof of causation; the particular problem of long-latency diseases such as cancer and heart disease; the issue of federalization; the question of tort systems vs. no-fault systems; prospects for new legislation; the international dimensions of the problem.

In summary, the participants noted that although occupational disease as opposed to work accidents are rarely compensated, "the costs to society, and to employers, of occupational disease are already being borne even if they are not compensated." □

© 1984
WOMEN'S OCCUPATIONAL HEALTH RESOURCE CENTER

**WOHRC STAFF**

Barbara Aufiero, MPH
Eugenia Donahue
Mary Sue Henifin, MPH
Susan Klitzman, MPH
Amalia Pretel
Amy Rosenberg, MPH
Barry Snow, Ph D
Katherine Warren

**Executive Director**
Jeanne M. Stellman, Ph D

**Editor**
Susan S. Lichtendorf

(Subscription information on page 6)

# WOHRC FACT SHEET

**WOMEN''S OCCUPATIONAL HEALTH RESOURCE CENTER**

# Working Women & Cigarettes

**In the 1980's it is expected that lung cancer will overtake breast cancer as the number one cause of cancer death among women. And, there is an abundance of research linking the main cause of lung cancer—cigarette smoking—with other diseases such as chronic bronchitis, emphysema and heart disease. While these grim facts are well publicized, little attention is paid to the fact that working women who smoke cigarettes may be at even greater risk than other female smokers. Also ignored is the fact that there are differences in male/female smoking and quitting.**

It wasn't that long ago that the debilitating and possibly lethal diseases associated with cigarette smoking seemed to be a male problem.

Then, the media seized on stories like the death of movie star Betty Grable from lung cancer, and scientific journals began reporting such alarming statistics as these: comparisons of mortality rates from the 1950's and the 1970's show a 239% leap in lung cancer deaths among women.

The disturbing facts about women and smoking began to grab attention in the very years that new cigarette brands aimed at the female market appeared.

It was doubly ironic that some of these brands were advertised with slogans such as: "You've Come a Long Way, Baby," which took note of the many changes in women's lives and opportunities:

There was irony in the fact that cigarette-related disease could short circuit women's new lives, there was irony in the fact that one of the most striking features of the social and economic change was the mass movement of women into the paid workforce. Women were both smoking more, and, as they began to work out of the home they were exposed to substances that can cause many of the same ailments associated with cigarette smoking.

Both men and women are at risk of debilitating and possibly lethal diseases if they smoke cigarettes, however, there are significant differences in the way that the issue has been approached:

- While attention has been paid to the occupational status of male cigarette smokers, the interaction between a woman's cigarette habit and the work that she is likely to do has largely been ignored.
- Smoking cessation strategies researched and developed with the male smoker in mind are often not appropriate to women because men and women differ in their smoking patterns.

Of about two thirds of the women in the workforce, millions face unrecognized occupational hazards while tens of thousands are employed in high-risk industries involving exposure to numerous dusts, chemicals, radiation, and other toxicants.

Despite some social gains and increased opportunities, about one third of all female workers are still employed in the ten "traditionally female" professions: secretary; retail sales clerk; bookkeeper; registered nurse; sewer/sticher; household worker; cashier; waitress; elementary school teacher; typist.

In some of these jobs, women face occupational exposure to health hazards which can be magnified in their effects by cigarette smoking. Many are also faced with job stress related to such factors as low status with little control over their activities and boring repetitive work. Such job stress may be one of the reasons why women are locked into the cigarette habit.

In 1979, the yearly Surgeon General's Report on smoking and health listed six ways in which cigarette smoking can interact with the occupational environment to increase risk of illness or injury:

- A working environment may facilitate body absorption of the toxic components of cigarette smoke;
- Cigarette smoking can transform workplace chemicals into more toxic substances;
- A worker can be doubly exposed to the toxic constituents of tobacco smoke and to the same constituents in the workplace;
- The synergistic effects of all agents can pose a grave health problem to workers;
- The health effects from environmental exposure can be concurrent with similar health effects from smoking;
- Accidents can be caused by smoking in an industrial environment.

## WORKING WOMEN AT RISK

### Cancer Risks

The best known occupational carcinogen is asbestos which is especially relevant because of the well-known synergism with cigarette smoking. Large numbers of women are exposed to asbestos at work. For example they are exposed to asbestos in the textile industry where the workforce is predominently female; they may even be exposed to asbestos in the nation's primary and secondary schools where there are some 2.1 million female teachers.

In addition to asbestos exposure, textile workers can be exposed to bis-chloromethyl ether (BCME), one of the most powerful lung carcinogens known, which is given off in small amounts in cloth finishing work.

Large numbers of women are self-employed as artists, jewelers and craftspersons routinely using ceramics and ceramic enamel which exposes them to arsenic compounds, which are also lung carcinogens.

Vinyl chloride monomer (VCM) one of the most widely used chemicals in the U.S. is a proven human carcinogen, causing angiosarcoma of the liver and may well be a lung carcinogen in humans as it is known to be in animals at very low doses.

Until recently, VCM was used as a propellant for household and cosmetic products which were used by millions of women, such as beauticians and cosmetologists, who use hairsprays extensively and household workers, who use cleaning and furniture polishing products. Women who smoke are further exposed because trace amounts of VCM are also found in cigarette smoke. Although VCM is no longer used as a propellant the result of exposure may not be known for years because cancers often take long periods of time to develop.

Many women are occupationally exposed to ionizing radiation, especially from medical and dental x-rays and radioisotophes.

The synergistic effect of dual exposure to ionizing radiation and cigarette smoke has been documented for men in studies of uranium miners; it is widely believed that this effect will hold true for other radiation exposures as well. The 1980 Biological Effects Ionizing Radiation report concluded that cigarette smoking probably reduces the latency period of radiation-induced cancers.

Just as cigarette smoking causes pulmonary diseases other than cancer, there is a higher risk for other occupational lung diseases in women who smoke than in those who do not.

Textile workers in cotton mills have increased risks for chronic bronchitis, airway obstruction and pulmonary impairment, and cigarette smoking produces a multiplicative effect on these conditions. Workers employed in synthetic fiber, wool, soft hemp and flax mills, and in sisal, jute and kapok processing may develop pulmonary hypersensitivity leading to the onset of chronic lung disease, although these fibers appear to be less potent than is cotton dust.

Thousands of women work in industries in which they are routinely exposed to potent pulmonary sensitizers that may greatly increase their risk for smoking-related chronic lung disease. For example, about 35,000 women use a meat-wrapping process in which a hot wire melts the plastic wrap, sealing the meat package. This process gives rise to such fumes as hydrochloric acid and phosgene, which produce a short-term asthema-like response, as well as recurrent repiratory illness.

There are at least one-half million women working in the plastics and rubber manufacturing industries where they are exposed to such potent pulmonary sensitizers as toluene diisocyanate (TDI) and other isocyanate-starting materials for polyurethane foam, talc dust and carbon black used in the rubber industry.

Female laundry workers have been found to be at risk for pneumoconiosis from the contaminants of clothes.

In terms of cardiovascular disease, studies involving women workers are practically nonexistent. However any excess risk for CVD is probably exacerabated by exposure to cardiopathogenic chemicals such as carbon disulfide, nitroglycerin and synthetic estrogens. These chemicals are handled by a large number of women in the manufacture of viscose rayon, explosives and drugs.

| Occupation | % Current Smokers By Age | | | |
|---|---|---|---|---|
| | 40-49 | 50-59 | 60-69 | 70+ |
| Nurses | 26 | 22 | 18 | 8 |
| Teachers | 17 | 15 | 11 | 3 |
| Managers | 28 | 24 | 21 | 10 |
| Social Workers | 30 | 23 | 16 | — |
| Retail Sales | 23 | 19 | 19 | 14 |
| Bookkeepers | 25 | 22 | 18 | 24 |
| Sewers/Stitchers | 29 | 19 | 13 | 11 |
| Beauticians | 35 | 23 | 17 | 23 |
| "Housewives" | 22 | 19 | 1 | |

Furthermore, studies have shown that in women who use oral contraceptives, smoking is a powerful synergistic risk factor for myocardial infarction and possibly subarachnoid hemorrhage.

Men and women differ greatly in their smoking habits and this causes a dilemma because smoking cessation strategies are almost invariably devised with the male smoker in mind.

In targeting a quit smoking program, for example, a health agency might aim at a high risk group based on socio-economic classification. This is simple to do for male smokers because in general, men in higher income and educational groups smoke less. This would make men in lower groups the proper target for quit smoking efforts. However, socio-economic classification doesn't hold true for female smokers. Women least likely to smoke are teachers and household workers who represent opposite ends of the social spectrum.

A definitive explanation for this social difference between the sexes has not been formulated. However, stress is probably involved, related to the working woman's dual role as homemaker and income producer and to frustration at having lower paying, less satisfying jobs than men.

Many women smoke to relieve external stress, whatever the source, and women as a group have a more difficult time quitting than do men. An American Cancer Society survey showed a greater decline in the number of doctors who smoke than that of nurses over a 13-year period and reveals a much higher smoking rate among nurses than among other women, even though nursing is one of the most professional of the traditional "female" occupations listed above.

For a brief glimpse of where the female smokers are in the workforce, the accompanying chart shows recent figures for a sample of 160,000 women over 40 with common jobs. This chart reflects unpublished 1984 data from the American Cancer Society:

While this data is useful because it is so current, it's important to remember that younger women are far more likely to smoke than women over 40. For example, unpublished data from the Health Interview Survey done by the National Center of Health Statistics in 1976 showed that of the 20-44 age group, 33.8% of women with white collar jobs smoked while 43.7% of women with blue collar jobs were cigarette smokers.

Hazardous work and a dangerous habit are a nasty mix, but knowing the jobs women do and where the female cigarette smokers are located in the workforce is a first step towards properly targeting smoking withdrawal efforts to save lives. □

*Much of the above material was adapted from "Women's Occupations, Smoking, and Cancer and Other Diseases," Steven D. Stellman, Ph.D., Jeanne M. Stellman, Ph.D., "CA—A Cancer Journal for Clinicians," Jan/Feb 1981 Vol. 31, No. 1. (reprints are available from WOHRC for $1.50) and "Smoking Habits and Employment Patterns of Women and Their Relation to Development of Smoking Cessation Strategies," Jeanne M. Stellman Ph.D.*



**Women's Occupational Health Resource Center**
**School of Public Health**
**Columbia University**
**21 Audubon Ave., 3rd Floor**
**New York, New York 10032**

# LEGALLY SPEAKING . . . Compensable Stress

**By Leo Uzych, J.D., M.P.H.**

Job-related physical and mental stress is associated with significant health harms to workers, including the vast numbers of work accidents. There are tremendous economic costs as well: $26 billion is spent annually in disability payments and medical bills. It is not surprising therefore that the issue of compensable stress on the job is receiving attention.

In considering the legal aspects of compensible stress it is important to keep in mind the fact that there are differences in the compensation statutes of the various states either by reason of statutory text or as interpreted by the courts which can affect the scope of application of an individual decision. With this caveat in mind, let's look at some recent decisions.

In April of this year the Massachusetts Appeals Court affirmed a judgment of compensable personal injury in the case of a training specialist who suffered an emotional breakdown after learning that she was to be laid off from one department and transferred to another.

While reaching this decision, the Court formulated several controlling principles. The applicable compensation statute does not require that an injury occur "by accident." Entitlement to compensation does not depend upon the forseeability of harm or on the fault of the employer. Also, the employer must take the worker "as is" with existing disabilities, and regardless of whether a "reasonable" person would have suffered in the injury.

• **SAIF v. SHILLING**—In January of this year, the Oregon Court of Appeals upheld a finding of compensable emotional disability. In the course of her employment, an office worker often tended the office alone, contending with long lines of people needing help. She often worked during her break periods. The Court determined that these were "real" pressures. The issue of whether the claimant was relatively more "susceptible" than others did not preclude her claim for resultant emotional disability.

• **CRANE v. SAN JUAN COUNTY**—In November 1983, the New Mexico Court of Appeals decided that hemorrhage and consequent loss of vision caused by high blood pressure is also a compensable injury under the applicable state workers' compensation act. The case involved a secretary. According to the testimony of a medical expert, her high blood pressure was caused by job-related tension. The Court upheld a finding that her injury arose out of and in the course of her employment.

On the basis of recent court rulings, stress associated with increased workloads, poor relationships and work-related incidents with fellow workers, may further provide a basis for compensation under the provisions of the applicable state workers' compensation act.

Recent caselaw also supports compensation for certain injuries occurring off the employer's premises. In several cases involving off-premises heart attacks, workers' compensation benefits were granted under circumstances where substantial evidence showed that the pertinent injury was the direct result of job-induced tension. □

**CEREMONY AT NIH:** Dr. Edward Brandt Jr., Assistant Secretary of the Human Health Serivces Administration presents a Public Health Service Special Recognition Award to Dr. Jacqueline Messite, Coordinator, NIOSH Region II, for bringing national attention to the Public Health Service in the field of occupational health through her noteworthy work in New York, New Jersey and Connecticut.

# Zeroing In On Organizational Stress

A conference/workshop with a special approach to stress management in the helping professions was held by the United Church Board for Homeland Ministries and WOHRC in Chevy Chase, Md. in May.

The Board has many programs in such crucial social areas as child care, aging, community outreach, hospice, racial and ethnic concerns, and help for the handicapped. Attending the sessions were key administrators of the Board's programs who must deal with the issue of stress and burnout among personnel.

The conference was coordinated by James McDaniel, Board Secretary for Health and Human Services and WOHRC Director, Dr. Jean Stellman. Among the speakers were Dr. Sheila Gorman Dr. Leon Warshaw; and Dr. Robert Karashek.

Dr. Stellman commented, "the purpose of the meeting was to give these administrators a greater understanding of how organizational factors relate to stress and the ability to get the job done.

"Our approach was different in the sense that we did not emphasize how an individual can cope with job stress. Rather, we concentrated on changes in organization to get at one of the root causes of job stress."

An understanding of stress and effective approaches to reduce its impact and prevent burnout were recommended.

The Board was an initial sponsor of WOHRC. This conference marked the start of large scale WOHRC programming for professionals supported by a gift from the Board. □

*Work History*

# Women & Children in the Mines

In mid 19th Century England, Anthony Ashley-Cooper, Seventh Earl of Shaftesbury stood in the House of Commons and spoke for two hours about the conditions of mine workers. The effect was overwhelming; many Members of Parliament were reduced to tears.

And no wonder: working conditions were horrendous, but especially so for women and children.

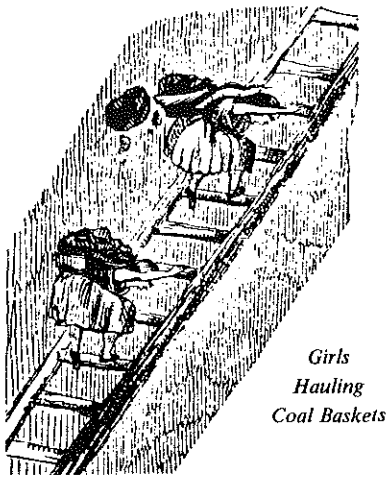
The employment of girls and women was confined to certain mining districts. In Yorkshire the women were hired by the men and were content with smaller wages than men wanted. But that was far from the only abuse:

A woman, almost naked, could be harnessed like a horse to a coal truck, and urged to outdistance her rivals;

According to historians, in Scotland women were also used to carry coal in baskets on their backs up steep ladders and along the passages from the workings to the pit bottom. In some cases, girls of six were found carrying half a hundredweight of coal.

The employment of women offended an instinct that was still more powerful. The picture of men and women working together in the mines, almost naked, under repulsive and degrading conditions, outraged the sense of decency of the House of Commons even more than the story of human misery had outraged its sense of pity.

Of the cruelty to which children were exposed, employed by men, brought up in this rough school, screened from notice and hard pressed to earn their living, ample proof was forthcoming. These children, mostly, boys, worked from 12-16 hour days; in some cases children had been known to remain in the pit for 36 hours while working double shifts.



*Girls Hauling Coal Baskets*

Lord Shaftesbury made his speech, which was based on a report of conditions in the mines, in the hopes of passing new protective laws. Although the Bill he proposed was bitterly opposed by the great coal owners in the House of Lords, a law was indeed passed, but in weakened form.

The employment of women and girls underground was indeed absolutely prohibited, but boys were still allowed to enter the mines at the age of ten, the employment of parish apprentices was still to go on, and boys were allowed to act as winding enginemen at fifteen.

Although provision was made for the appointment of inspectors, they were not allowed to examine the underground workings but only the state and conditions of the persons working in the mines.

The first wave of reform was to take women out of the mines. Now that women are once again finding employment as miners, there is reason to remember to plight of their sisters in the past and be glad of the outrage they provoked!

*This feature based on information from "The Diseases of Occupation," Fourth Edition, Donald Hunter, M.D., Little Brown & Co. 1969. replaces the usual "Work History" column by Prof. Vilma Hunt who is on vacation.*

This material has been funded in whole or in part with Federal funds from the Occupational Safety and Health Administration, U.S. Department of Labor, under grant number USDLE9F3D375. These materials do not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. Two features in this issue, "Legally Speaking," and "Experts Project Disability Compensation" were not supported by this funding.

**Columbia University**
**WOMEN'S OCCUPATIONAL HEALTH RESOURCE CENTER**
**School of Public Health**
**21 Audubon Ave., 3rd floor**
**new York, NY 10032**
**Telephone: (212) 694-3737**

*Address correction requested*

☐ Please send me more information about the Women's Occupational Health Resource Center:

I would like to become a WOHRC subscriber. This includes 6 WOHRC Newsletters/year, Factsheets and announcements of other WOHRC publications as they appear during the year.

☐ $12 individual ☐ $25 professional
☐ $25 institutions, libraries, corporations
☐ $30 Friend ☐ $50 Contributor
☐ $100 Supporter
☐ Please send information on group bulk rates.

Please make checks/money orders payable to: WOHRC, Columbia University. (Indicate any change of address.)

Non-Profit Org.
U.S. Postage
**PAID**
New York, NY
Permit No. 3593