

THE PUBLIC HEALTH SERVICE IN OCCUPATIONAL HEALTH

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The PUBLIC HEALTH SERVICE
in
OCCUPATIONAL
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The United States Public Health Service was one of the first groups in this country to undertake research in the field of occupational health. Although extensive work did not get underway until several years later, initial studies were made in the mining and steel industries in 1910. Notable also among early studies was an investigation of unsanitary conditions and the high rate of tuberculosis among the workers in the garment-making industry.

In 1914, recognition of the magnitude of the industrial hygiene problem led to the establishment of the Office of Industrial Hygiene and Sanitation, the forerunner of the present Occupational Health Program.

To facilitate the direct application in industry of the data built up through decades of research, the Public Health Service has helped to organize official occupational health programs in State and local governments throughout the country. Today, official occupational health programs are found in 39 States, the District of Columbia, Hawaii, Puerto Rico, and 20 local health departments.



FORTY YEARS OF SERVICE

Since the inception of the Occupational Health Program, thousands of workers have benefited from studies of such problems as chest diseases in the mining, granite, cement, and cotton textile industries; lead poisoning in the pottery, storage battery, and other industries; radium poisoning in the watch industry; pneumonia in the steel industry; lung cancer in the chromate-producing industry; industrial fatigue; illumination; and noise. The program's study of skin diseases, a leading occupational health problem, has reached into practically every segment of American industry.

An outstanding contribution of these studies has been the development of a unique type of epidemiologic approach to occupational diseases. This technique consists of determining the various substances and conditions to which large groups of workers are exposed on their jobs and then relating these occupational exposures to their health status.

While great strides have been made in the control of occupational disease in the past half century, continuous vigilance is required. New hazards are posed by materials and processes being constantly introduced by a dynamic technology. Occupational disease research therefore continues a primary responsibility of the Occupational Health Program. In recent years, however, the program has also become more active in stimulating the development of preventive health services in industry to improve and maintain the health of the worker. The program's major activities now encompass research and field studies, promotion of preventive health services in industry, and training and consultation services, all directed toward the achievement of greater health protection for the production force of the Nation.

The Occupational Health Program is a part of the Public Health Service of the U. S. Department of Health, Education, and Welfare. As a branch of the Division of Special Health Services, it operates under the Bureau of State Services. To carry out its work, the program has three functioning units:

The central office in Washington, D. C., provides overall direction to the program.

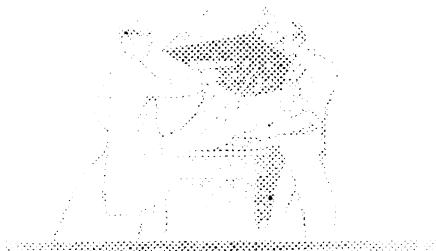
The Occupational Health Field Headquarters in Cincinnati, Ohio, conducts research and provides consultative services.

The Occupational Health Field Station in Salt Lake City, Utah, provides service to the Western States.

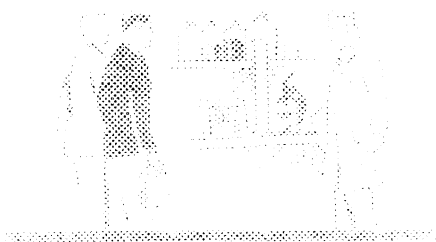


THE OCCUPATIONAL HEALTH PROGRAM . . .

STUDIES HEALTH HAZARDS on the site and in the laboratory.



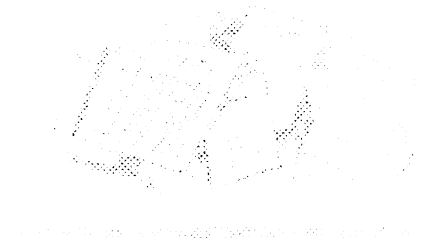
PROVIDES TECHNICAL AND CONSULTATIVE ASSISTANCE to State and local health departments.



ENCOURAGES DEVELOPMENT OF PREVENTIVE HEALTH SERVICES for employees.



PUBLISHES REPORTS on occupational health problems.



PROVIDES SPECIALIZED TRAINING of State, local, and industrial health personnel.



COOPERATES WITH OTHER GOVERNMENTAL AGENCIES concerned with, or interested in, the health, safety, and welfare of workers.



HOW PROBLEMS ARE SOLVED

Millions of tons of raw materials are poured daily into the manufacture of thousands of products used in factories and homes. Many of these materials are introduced without full knowledge of the harmful effects they may have.

Finding the exact nature of a hazardous substance or process is not a simple job. The occupational health laboratory must draw upon the skills of the physician, the engineer, the chemist, the toxicologist, the statistician, the physicist, the physiologist, and the nurse to relate the illness to the cause. A comprehensive investigation calls for a detailed study of workers right at their job—under actual conditions of exposure and disease. The results of the on-the-site and laboratory studies are correlated to seek an answer to the problem.

Once a dangerous process or substance has been determined, protective techniques are developed to guard the health of the workers involved. This is the final aim of an occupational health study.

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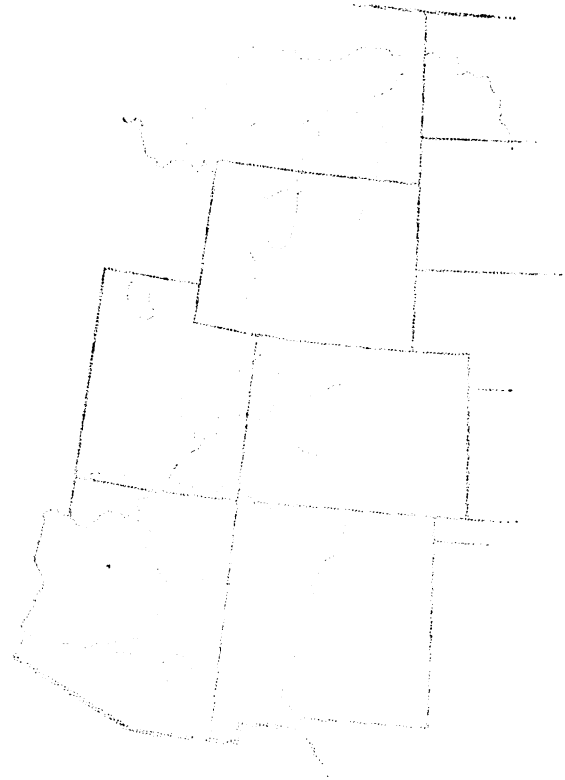


URANIUM MINING—*A Typical Study*

Beneath the steep valleys, stark cliffs, and bare peaks of the Colorado Plateau lies the atomic fuel storehouse of the Nation. It is a vast, rugged region, stretching from Wyoming and the Dakotas, across Colorado and Utah to Arizona and New Mexico. There, thousands of miners dig uranium ore to feed a growing atomic industry.

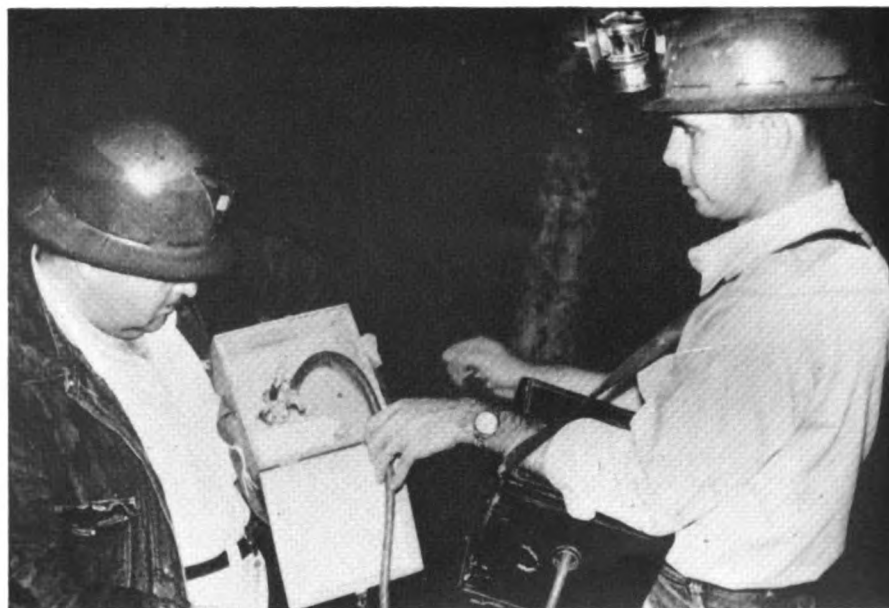
In addition to the usual health hazards of hard-rock mining, the uranium miners face further dangers, such as the possible toxic effects from other elements with which uranium occurs and from the radioactive properties of the ore.

Concerned over the possible health effects of these exposures, Colorado health, mining, and industrial commission officials, in 1950, requested a comprehensive study of the industry by the Occupational Health Program. This study was developed with the close cooperation of the National Institutes of Health of the Public Health Service as well as the Atomic Energy Commission, the U. S. Bureau of Mines, and other Federal agencies, the health departments of the States concerned, and the uranium mining industry.

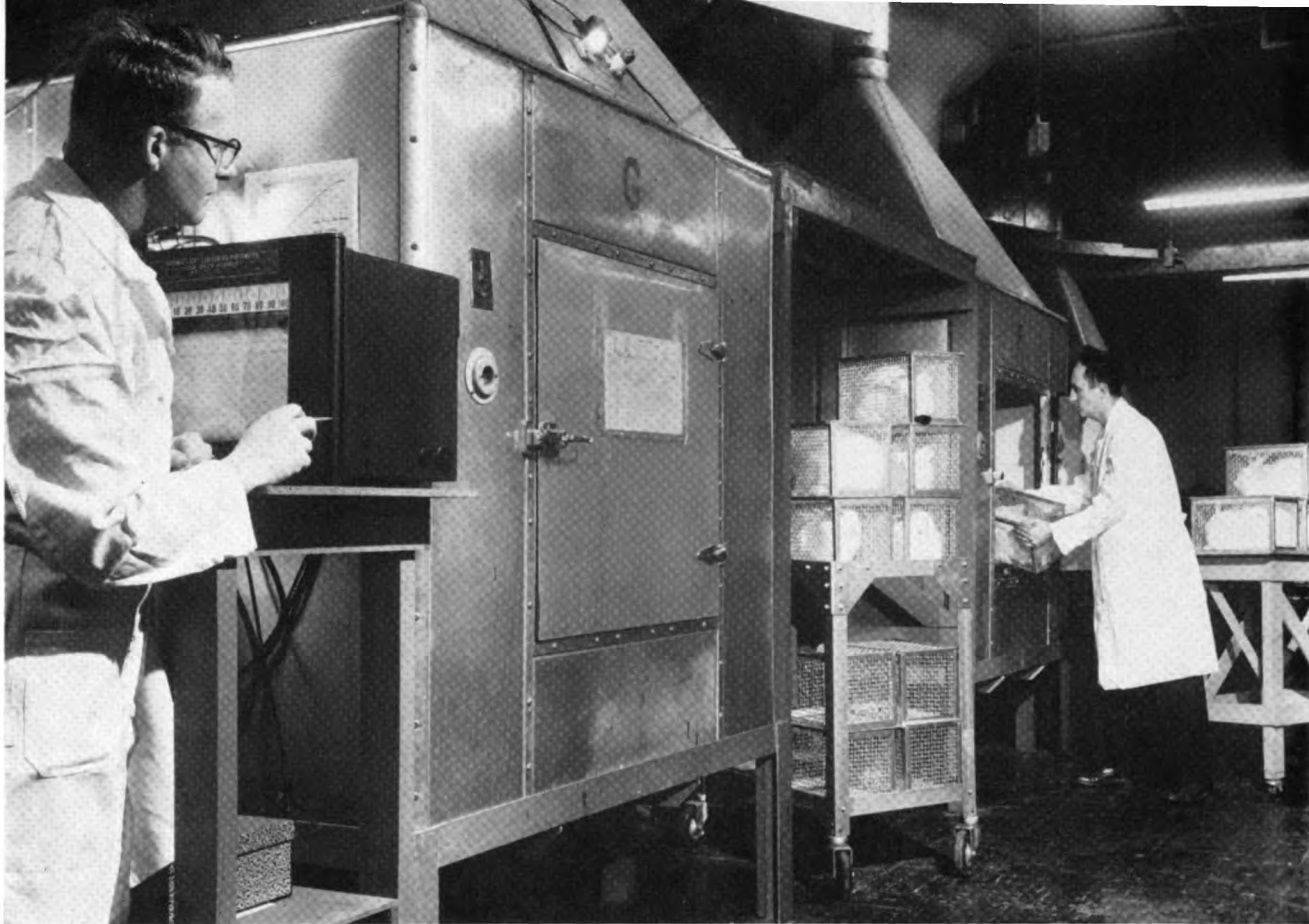




In 1950 and 1951, more than 1,100 miners received physical examinations with special attention to occupational history, chest X-rays, and blood and urine analyses. Further examinations were made in 1953 and 1954.



At the same time, a number of mines were surveyed. Samples of the air breathed by the workers were collected and analyzed. Radon, a radioactive gas several times as heavy as air, together with the products which result from the radioactive decomposition of radon, appears to be the most serious health threat in uranium mining.



In the Occupational Health Field Headquarters laboratories in Cincinnati, Ohio, tests are performed on animals. The animals daily spend 7½ hours, corresponding with the workday of a typical miner, in a controlled, dust-laden atmosphere. Purpose of these tests is to determine the long-range toxic effects of such dusts on animals.



On the basis of study results thus far, recommendations have been made to reduce dust and radiation levels in the mines. The control techniques recommended by the program have already been applied by many of the operators. But to assure complete safety, the study will be continued for the next several years, with periodic reexamination of the miners and checks of the working environment.

RESEARCH IS CONTINUOUS

As new materials and processes are developed, new hazards arise. Old operations, believed to be safe, may have hidden, long-term dangers.

The development of atomic power, alone, presents a major field of investigation, from the men who mine uranium to the workers who handle the disposal of radioactive materials.

Among hazards of well-established, familiar operations, vibration and sound are receiving increasing attention. For many years, men have worked in noisy factories, yet little information has been developed on the precise effect of sound on hearing.

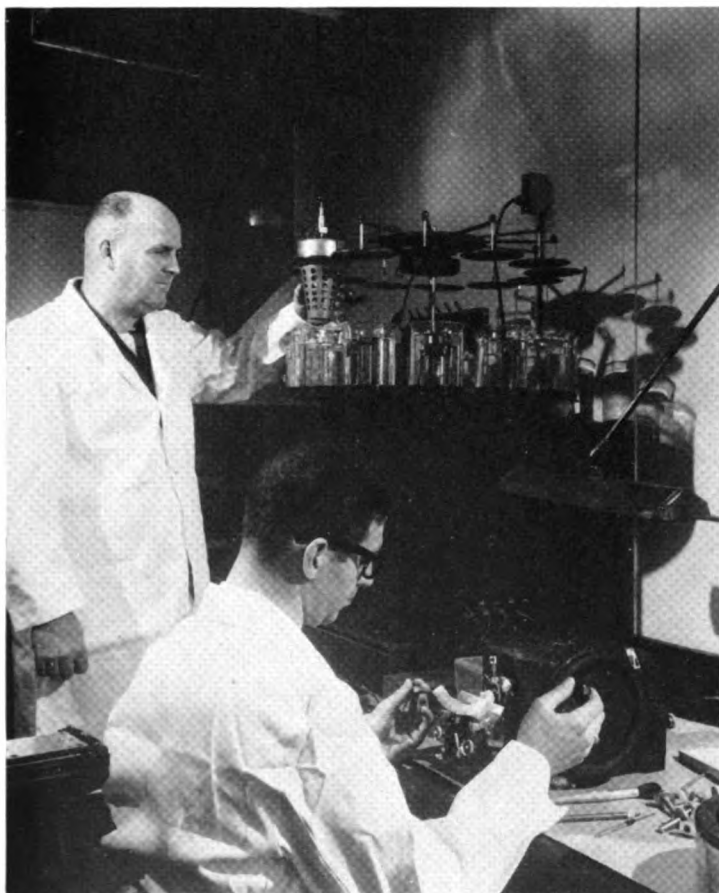
Similarly, more needs to be known about what vibration does to the nerves and blood vessels of the hands as well as its effects on internal organs.

Constant research is therefore necessary to keep pace with these developments and, where possible, to anticipate hazards before signs of ill health appear among the workers.

RESEARCH DEMANDS MANY SKILLS



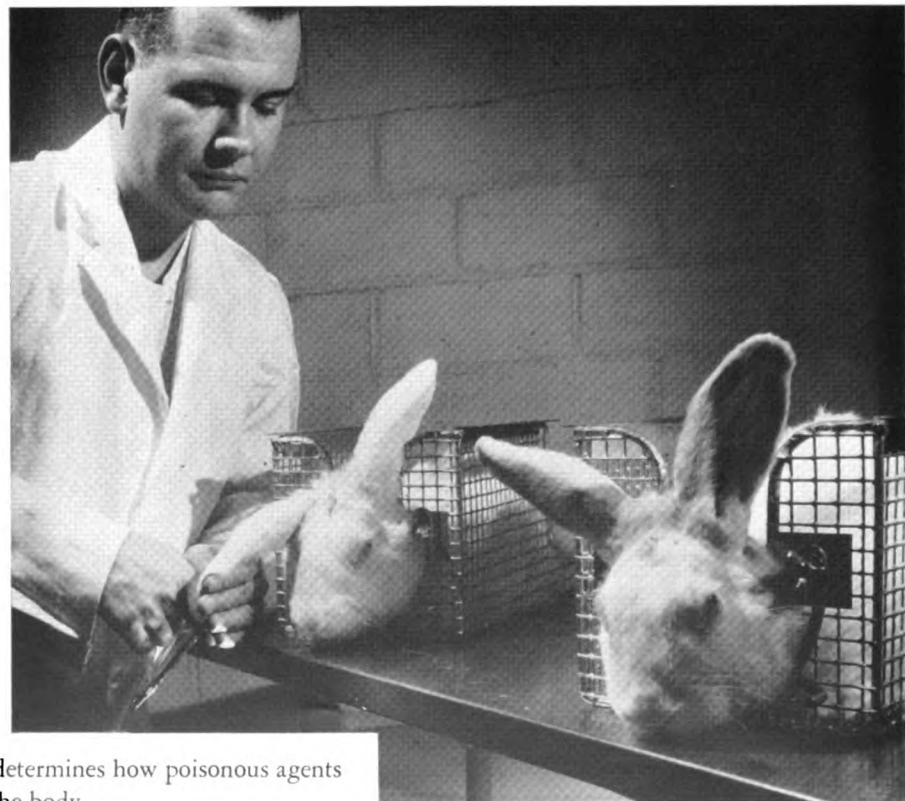
Skin disease continues to be industry's most common occupational health problem. Dermatologic work therefore receives special emphasis in the Occupational Health Program's clinical research activities.



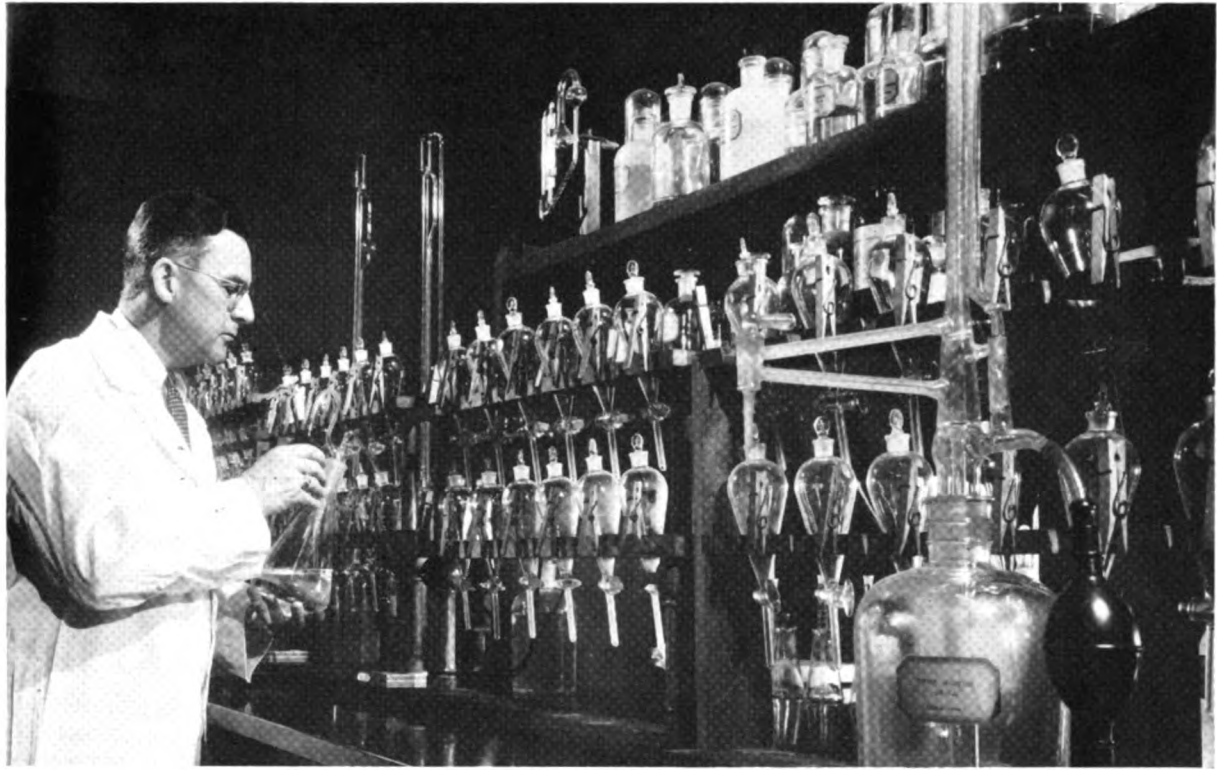
Pathologic research helps to determine the nature and extent of health damage caused by occupational factors.



Frequently, instruments for the measurement and analysis of sound, radiation, or toxic materials are lacking. It then becomes necessary to devise new equipment and techniques.



Toxicologic research determines how poisonous agents cause their injury to the body.



Analytic research is performed by the chemist to devise or improve methods of identifying and measuring toxic agents.



The physiologist helps to determine whether body organ functions have been impaired by occupational exposures.

IMPROVING WORKER HEALTH

In addition to protecting the worker from health hazards associated with his job, the Occupational Health Program also recognizes the importance of off-the-job influences on the health of the worker. The program therefore has an active interest in the promotion of privately financed employee health services to protect and maintain the total health of the worker.

As part of the continuing effort to develop information that will facilitate the establishment and expansion of such employee health services, a constant program of research is carried out. This research focuses on the development and testing of methods to determine the cost to the employer of employee illness and injury, and on the development of comparable methods to determine the actual costs to management of providing health services to employees. To foster the application of research findings, the program works with various groups, including the Council on Industrial Health of the American Medical Association, trade associations, and labor organizations.

Consultation is also provided by the program on industrial medicine and industrial nursing. Through this activity, the program further assists health departments, voluntary agencies, universities, and professional organizations to improve and expand medical and nursing services in industry.

Public Health Service interest in employee health programs centers largely on their role in the early detection and prevention of disease.

Industry itself is increasingly realizing the value of preventive measures to protect its employees from nonoccupational health influences as well as diseases related to the job.

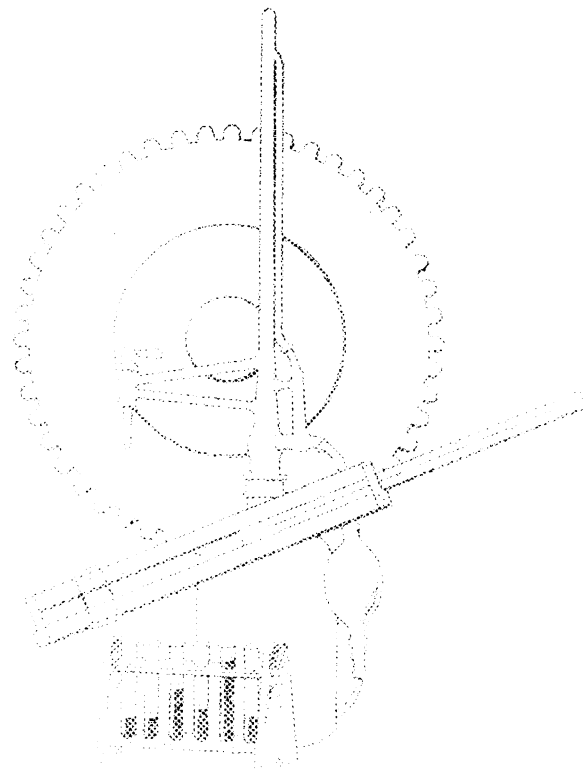
Sickness impairs a worker's productivity regardless of its origin. The detection of disease in an early stage, when it can be more readily arrested or cured, is therefore of prime economic importance to industry, particularly in view of the advancing age level of the population and the increasing incidence of chronic and degenerative diseases.

The workplace is being recognized more and more as a unique medium for the application of modern preventive health practices. Designed to prevent or reduce disabling illness, employee health services contribute to the worker's well-being and prolong his period of productivity.

TRAINING PERSONNEL

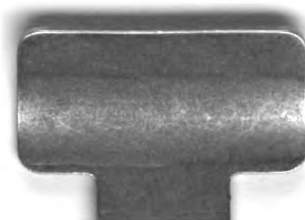
The technical training services of the Occupational Health Program consist mainly of short intensive courses on the prevention and control of occupational diseases. Emphasizing new techniques and other developments in this field, these courses fill a need that is to date unmet by professional schools, private organizations, and State official agencies.

Among the regular training activities are short courses offered each year for industrial hygiene engineers and chemists, designed primarily for staffs of State and local occupational health units. These courses are held at the Occupational Health Field Headquarters in Cincinnati.





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