

200. Many of these qualified persons were loaned to various states to help them establish their own divisions of industrial hygiene, assist in training local personnel, and "sell" the entire field of endeavor to the local officials and population.

Prior to 1936 there were only five state departments of health and three state departments of labor conducting industrial hygiene activities, and these activities were limited. Under the impact of World War II and generous federal grants of funds all the industrial states established industrial hygiene units. In November, 1946, these totaled 52 units, spread over 41 states. The enormous increase in harmful situations along with demands for manpower conservation accompanying World War II made investigational industrial hygiene surveys very much in demand, and led to the hasty training of a number of men for this work. Many of these men had had only rudimentary training in the evaluation of exposures and little or no practical experience in control methods. However, because of, or in spite of, the efforts of this group of novices, and the relatively few seasoned men, industrial health was well promoted during World War II. Industrial health comparisons of munitions workers for 1917-18 and 1941-45, for instance, are striking. Under the stimulus of additional federal funds allocated to states and territories, the development of official industrial hygiene agencies reached an all-time high in 1949 and included all but two of the states.⁸ This peak was in turn followed by a five-year period of retrogression necessitated by economy drives and appropriation cuts, during which about half of the trained personnel were absorbed by private enterprise and local health departments. In many instances they assumed positions of even greater responsibility in advancing industrial health objectives. The present rapidly mounting public and congressional interest in atmospheric pollution indicates that another swing of the pendulum is gaining momentum.

Other important organizations that have been active in the advancement of industrial hygiene include The American Standards Association, The Industrial Hygiene Foundation of America Inc., The John B. Pierce Laboratory of Hygiene (New Haven, Connecticut), The Saranac Laboratories (Saranac Lake, New York), life insurance companies as well as mutual and stock company compensation insurance carriers, and many of the larger private industries. Employee groups are also evidencing an active interest in industrial health. In 1945 a health institute was opened by the United Automobile Workers (CIO) in Detroit to give diagnostic service to union members. Employees no longer regard x-ray examinations or industrial hygiene surveys with the suspicion that was common a few years earlier. This change of attitude is due in part to improved practices, but mainly to educational successes: in short, the average employee now understands the purpose of such health-control work and realizes its value to his well-being. Some states now require pre-employment and periodic medical examinations for persons exposed to potentially harmful materials.

⁸ V. M. Trasko, *Am. J. Pub. Health*, 45, 39 (1955).

II. World War II and Industrial Hygiene Service

Industrial hygiene procedures have largely passed through the period of inquiry into the causes of ill health and are now devoted to anticipating and avoiding harmful situations before they have time to cause injury. Many different organizations played a part in this rapid development during the period of expanded production in 1941-45.

A. OFFICIAL AGENCIES

The Army provided men to make surveys and recommend control measures in Army-owned and Army-operated industrial installations. Similar service was rendered to government-owned, privately operated munitions plants by other government industrial hygiene groups co-operating with the Army. The Navy provided men for its shore establishments, and co-operated with the Maritime Commission in providing service for private shipyards. The United States Public Health Service supplied funds and loaned trained personnel to state and municipal health departments, and also conducted field surveys in industry, especially munitions works. The United States Department of Labor concentrated upon activities of an educational nature. The United States Bureau of Mines greatly expanded its health program in relation to mining operations. During and following the period of reconversion to the manufacture of civilian goods many of the trained men who had been active in government agencies were reabsorbed by industry.

B. INSURANCE AND INDUSTRIAL GROUPS

Life insurance and compensation carriers were rather active in the field well before 1941, and they continued their work as best they could despite the inroads into their personnel from all sides that occurred during the war-production years. Later they expanded their activities and re-employed trained men.

During this period industry became much more active in the field than formerly, partly because of a newly awakened interest as a result of state and municipal activity, partly as a result of organized labor's demands for healthful working environments, partly as a hedge against racketeering, but largely because of a desire on the part of management to make the working environment healthful and attractive. This came about not purely from an altruistic attitude but because management began to realize that the maintenance of a healthful environment pays dividends from the cost-saving viewpoint as well as in employee satisfaction and reduced turnover of the labor force. More and more industrial concerns have come to the conclusion that industrial hygiene is a necessary adjunct to production and not something to be entrusted entirely to overworked government agencies.

Private institutions, such as, for instance, The Industrial Hygiene Foundation, encountered greatly expanded demands for their services during this period. Other