

HISTORICAL PERSPECTIVES IN OCCUPATIONAL MEDICINE

Victoria M. Trasko: Champion of State-Based Surveillance of Occupational Diseases in the United States, 1937 to 1971

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Victoria M. Trasko (1907-1979), a relatively unknown figure to many currently practicing occupational health specialists, was a pioneer in state-based surveillance of occupational diseases in the United States. To highlight her accomplishments during her career with the United States Public Health Service from 1937 to 1971, this report briefly reviews her publications on occupational disease surveillance. Her span of work includes guidelines for state industrial hygiene programs, numbers of workers in state occupational health programs, compilation of state and local laws related to industrial hygiene, proposals for standardized reporting of occupational disease, and analysis of trends in workers' compensation and mortality statistics for occupational diseases. She pilot tested the first state-based model system for occupational disease reporting in the United States. She documented the great difficulty experienced by states in getting physicians to report cases of occupational diseases, and pointed out that surveillance of other existing data sources was worthwhile, at least for some occupational diseases. She was the first to report on the distribution of silicosis cases in the United States by state, industry, and job title. She was the first to comment on mortality trends for the pneumoconioses and to document problems in comparability between different International Classification of Disease (ICD) periods. © 1992 Wiley-Liss, Inc.

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INTRODUCTION

During a lifetime which paralleled critical years in the development of occupational safety and health in the United States, Victoria M. Trasko (1907-1979) was

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Fig. 1. Victoria M. Trasko, 1907–1979.

a pioneer in the surveillance of occupational diseases. Born during the decade when occupational risks emerged as a major social and political issue in this country, and government health inspectors first entered workplaces, she died in the decade marked by the establishment of the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH).

Several key issues—state-based occupational health programs, occupational disease reporting in general, and silicosis reporting specifically—occupied much of Trasko's career with the United States Public Health Service (1937–1971).

TRASKO—A SPECIAL PERSON

Her quiet and unassuming personality belies the determination with which she tackles a problem. Her faithful pursuit of a goal in the face of obstacles and personal hardships that would have deterred a less dedicated spirit propelled her quest for data in the barren wasteland of occupational disease statistics [Yaffee, 1979: Meritorious Achievement Award Citation, American Conference of Governmental Industrial Hygienists, 1964].

Following graduation from Wilson College in 1930, Trasko spent several years working as a local health department statistician in Wilkes-Barre, Pennsylvania. In 1937, she joined the staff of the newly established United States Public Health Service (PHS) Division of Industrial Hygiene as a junior biometrician. She retired from the PHS in 1971.

Trasko entered the Division of Industrial Hygiene at a time when tremendous growth in federal funding for industrial hygiene was occurring as a result of New Deal social legislation [Trasko and Yaffe, 1959]. Specifically, the Social Security Act of

1935 had authorized increased federal funding and grants to states for industrial hygiene work. Demands for occupational safety and health during wartime industrial production of the early 1940s further stimulated this initial growth.

In the spring of 1941, the staff of the Division of Industrial Hygiene began undergoing a rapid expansion. Some of the new personnel were put to work on health problems encountered in the expanding production of munitions in government arsenals. Others were assigned to staff and build state and local industrial hygiene programs. At that time, the Division occupied its own building in Bethesda as a part of the still-new National Institutes of Health, and these new personnel were brought there for intensive training prior to field assignments.

Many of these individuals had the good fortune to encounter Victoria Trasko—or Vicki, as she was always known—soon after their arrival, and to benefit from the helpful advice and suggestions which she provided, on her own initiative, to deal with such problems as housing, transportation, shopping, and banking which were so aggravated in the Washington area during that hectic period. She also was a valuable source of information about the organization, how it operated, who was who, and what publications to study for orientation in this new field. Of many personnel of the Division who visited state and local programs to provide help, Trasko was unquestionably the one most enthusiastically welcomed.

Some years after the war, Trasko spent time in South America providing guidance to industrial hygiene programs being established in Latin America. In the 1950s, many of the personnel from such programs would come to the Occupational Health Field Headquarters in Cincinnati for training, for periods ranging from a few weeks to a year. Some of them spoke little English and, typically, Trasko, then stationed in Cincinnati, invariably took it upon herself to help them with the personal problems they faced—even lending them money—and would take them to her home for some of her wonderful food. The Cincinnati laboratories had frequent visitors from many nations of the world, and Trasko always took care of making their visits pleasant.

Trasko loved to entertain, and had frequent dinners or cocktail parties for members of the staff and their spouses, as well as out-of-town visitors. She shrugged off compliments on her cooking with, “It’s simple, just use lots of butter.” She loved gardening and this gave her special pleasure during her retirement years.

Both the Public Health Service and the Department of Labor had ongoing industrial hygiene activities during Trasko’s career. Turf wars inevitably occurred, and dealings between these two agencies often were at arm’s length, at least until some jurisdictional guidelines were prescribed with the establishment of OSHA and NIOSH. For many years prior to that legislation, however, Trasko was the one person in frequent contact with the Department of Labor, serving in an advisory capacity on occupational accident statistical matters.

Her quiet, but warm, unassuming personality, her dedication, sincerity, and sound counsel made her welcome wherever she went.

STATE-BASED OCCUPATIONAL HEALTH PROGRAMS

Thus, the information presented in this report emphasizes the crying need for augmented industrial hygiene programs in this country. . . . State and

local industrial hygiene divisions . . . [will need] . . . more trained personnel, budgets increased far beyond the present allotment . . . , and, if necessary, the revision of hampering policies and legislation pertaining to occupational diseases and accidents, and other preventive phases of industrial health [Trasko and Bloomfield, 1942].

As a result of the funding targeted by the Social Security Act of 1935 for the development of state and local industrial hygiene programs, the PHS Division of Industrial Hygiene began aggressive promotion of state and local programs in health agencies. Before 1935, there were only seven state programs, including those in labor agencies. By 1949, all but two states had occupational health programs [Heimann and Trasko, 1964].

To help develop these state and local programs, the PHS Division of Industrial Hygiene conducted training courses for the personnel who would be working in such programs. In addition, the Division loaned a considerable number of its own physicians, engineers, and chemists—and later, a few nurses—to help these programs get organized and functioning. The Division also loaned equipment and provided a great variety of consultative services. From the start, Trasko was one of the consultants most in demand.

Successful planning for the operation of these new programs depended largely on knowledge of the extent and kinds of occupational health problems they faced. Trasko provided valuable guidance on the design of surveys, records needed, and methods for the interpretation of the data obtained.

With rare exceptions, the programs did not have their own statisticians, but had to rely on the central statistical units serving their agencies. Trasko worked with such departmental personnel, as well as with the industrial hygiene staff, advising them on the special statistical requirements for effective conduct of the programs.

An important byproduct of the PHS training courses in 1936 and 1937 was the demonstrated benefit from the exchange of experiences by these rapidly evolving programs. This led to the formation in 1938 of the American Conference of Governmental Industrial Hygienists (ACGIH). Trasko was an active participant in the work of this organization. One of her contributions consisted in chairing its Committee on Records and Reports for a great many years.

From the beginning of her career on the staff of the PHS Division of Industrial Hygiene, Trasko participated in evaluations of the needs and accomplishments of state-based programs [Bloomfield et al., 1940]. As the field grew, she compiled annual reports from state and local industrial hygiene agencies to develop a descriptive profile of administrative organization and services provided [Trasko, 1949; Trasko, 1951a]. As part of her work with ACGIH, she helped develop the first directory of staff in state occupational health programs [Hosey, 1984], and used such information, together with other sources, to report on trends in the number of workers in state occupational health programs in the United States [Trasko and Yaffe, 1959].

Pointing out that those who controlled funding lacked an appreciation for the value of state industrial hygiene programs, Trasko emphasized “a need to achieve greater understanding of the purposes and potentialities of industrial hygiene to elicit the interest and support necessary to the progress of these programs” [Trasko, 1955]. She repeatedly encouraged allocation of greater manpower and financial resources.

Her numerous reviews of the status of industrial hygiene programs served to promote an awareness of the accomplishments, resources, and areas of need in industrial hygiene. In related informative publications, she published useful compilations of state and local laws related to industrial hygiene [Trasko, 1950, 1970].

OCCUPATIONAL DISEASE SURVEILLANCE

The value of universal morbidity statistics on diseases, whether communicable, chronic, or occupational, is unquestioned in public health planning, in developing control programs, and in aiding the passage of pertinent legislation [Trasko, 1953].

In addition to general development of occupational health programs throughout the United States, Trasko cultivated a career-long effort to improve surveillance of occupational diseases. This effort was sparked by results of an extensive survey of the status of industrial hygiene throughout the United States, with which she became involved shortly after joining the PHS [Bloomfield et al., 1940]. These findings clearly demonstrated the inadequacy of occupational disease statistics [Trasko and Bloomfield, 1942]. Observing that occupational health reporting was then so diverse that statistics could not be properly summarized and interpreted, Trasko proposed a format for standardized reporting, where state and local industrial hygiene units would use uniform terms and definitions [Trasko, 1944]. Her recommendations and proposals in the 1940s and 1950s set forth goals for occupational disease surveillance programs that anticipated and were consistent with modern recommendations to improve occupational disease surveillance [Pollack and Keimig, 1987] and the Healthy People 2000 National Health Promotion and Disease Prevention Objectives [United States Public Health Service, 1990].

Trasko recognized that surveillance of industrial health problems at the state and local level is vital to the identification and control of occupational risks. She cited with approval a quotation from Public Health Reports: "No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring" [Trasko, 1951b]. Trasko recognized that "reports of suspected or confirmed cases of occupational illness serve as a valuable source to industrial hygiene divisions for investigating existing health hazards" [Trasko, 1949]. Trasko also saw "the need for more follow-up work in those plants where recommendations for improvements have been offered" [Trasko and Bloomfield, 1942].

In 1953, Trasko reported the results of a pilot study concerning the feasibility of developing a nationwide reporting system with centralized data files and data processing [Trasko, 1953]. This pilot study was the "first known effort at uniform collection of occupational diseases over a period of time, involving a group of states with various methods of obtaining reports" [Trasko, 1953].

In this pilot study, Trasko found that physicians could not be depended upon to report cases of occupational diseases. "Originally, it had been planned to consider only required reports from physicians. When it was determined, however, that few reports were being made by physicians, it became clear that a successful national reporting scheme would have to consider other sources of reports as well. The

inadequacy of sole reliance on physicians' reports has been realized for a long time by state industrial health agencies, and they are presently depending on workmen's compensation agencies for reports of cases that occur in industry. Consequently, to reflect actual reporting practices in the States, the base of the pilot study was broadened to include reports referred from workmen's compensation agencies" [Trasko, 1953].

In the 1950s and 1960s, statistics on occupational diseases in California were generally considered the best available for any state in the United States [Berkov et al., 1961]. The source of these statistics was the "Doctor's First Report of Work Injury," which served as a means of notifying insurance companies and the state that the doctor has started treatment for what the doctor considers to be an occupational accident or disease. Information about the accuracy, quality, and completeness of the California statistics was important, because extrapolation from California statistics to the United States population was a potential method to estimate the national incidence of occupational diseases.

Collaborating with the California Department of Public Health and the California Department of Industrial Relations, Trasko was a co-author of the first report on the accuracy and completeness of doctor reports of occupational diseases in California [Berkov et al., 1961]. This evaluation study concluded that "the doctor's first report of occupational disease usually contains all the information [the doctor] has on the case. [The doctor] does not gain much further information upon revisits by the patient, although more than two-thirds of the patients do return." Also, no large areas of inaccuracy or incompleteness were found. Thus, statistics based on the doctor's first report of work injury "can be regarded as reasonably valid and the best available".

In 1973, in the final publication of her career, Trasko described the two federal agencies that had been newly established by the Occupational Safety and Health Act of 1970: the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) [Trasko, 1973]. With regards to the future of state occupational health programs, Trasko's opinion at that time was, "It is too soon to determine the impact of the Occupational Safety and Health Act of 1970 on the existing state and local occupational health units" [Trasko, 1973].

With few exceptions, resources allocated by state and local governments for occupational health programs in health departments declined in the 1970s [Key, 1985]. To help re-build state-based surveillance of occupational diseases in the 1980s, NIOSH initiated a series of cooperative agreements with state health departments [Muldoon et al., 1987]. The goals of these cooperative agreements were consistent with Trasko's recommendations and proposals in the 1940s and 1950s. For example, the NIOSH Sentinel Event Notification System for Occupational Risks (SENSOR) cooperative agreement program, initiated in 1987, intends to improve case reporting by physicians to state agencies, and to encourage workplace follow-up to prevent additional cases [Baker, 1989]. At least one SENSOR state [Valiante and Rosenman, 1989] has made observations similar to Trasko's about underreporting by physicians, despite measures to stimulate case reporting [Trasko, 1953]. Trasko, were she alive today, would likely have wholeheartedly endorsed the NIOSH-sponsored National Conference on State-Based Occupational Health and Safety Activities held in 1991, a meeting which focused on the rebuilding of state capacities.

NATIONAL TRENDS IN SILICOSIS

There is little doubt that silicosis will continue to be a problem of industrial, social, and economic significance for many years to come [Trasko, 1956].

Silicosis is a lung disorder resulting from inhalation of crystalline silica dust [NIOSH, 1974]. Pneumatic tools began to be used increasingly in the United States between 1895 and 1900, accompanied by a tremendous increase in dust production over that produced by hand tools [Hosey et al., 1957]. By the 1930s, silicosis was a major occupational health problem with considerable publicity in the United States, and efforts at prevention were initiated [Trasko, 1958].

In 1957, Trasko was one of the authors of a study by the United States Public Health Service and the Vermont State Board of Health, entitled "Control of Silicosis in the Vermont Granite Industry" [Hosey et al., 1957]. The study, conducted 18 years after the Vermont granite industry had started to install dust control equipment, included a review of medical records on 1,112 workers who had begun work in the Vermont granite industry before 1937, and 1,134 who had started work during or after 1937. This report documented a downward trend in the overall prevalence of silicosis, as determined by chest X-ray surveys, from 45% in 1937–1938 to 15% in 1956.

Since silicosis could be prevented if dust control measures were adequate, an important surveillance question was where preventive efforts needed to be targeted. Trasko published a series of articles on national trends in silicosis during the 1950s and 1960s [Doyle et al., 1955; Trasko, 1956, 1958, 1964]. Her article, "Some facts on the prevalence of silicosis in the United States" [Trasko, 1956], is an occupational respiratory disease surveillance landmark. In this article, Trasko reported on a survey of workers' compensation agencies for cases of silicosis during a 5-year period, 1950–1954. Trasko identified a total of 10,362 cases of silicosis "that have been compensated or reported in one form or another in 22 States," excluding "cases processed by compensation agencies but for various reasons denied benefits" [Trasko, 1956].

In order to obtain information, Trasko had to visit many of the states to review and abstract the cases. This was not an easy task. "Some of the compensation case files were so voluminous that it often took as much as half an hour to pick out the few personal and occupational facts on a single case" [Trasko, 1956]. Also, Trasko found that the amount and quality of information maintained by state workers' compensation agencies was variable. The general approach was, ". . . in the absence of uniform sources of information we accepted what was available and considered ourselves fortunate to get as much as we did" [Trasko, 1956].

Trasko's report was the first to describe the prevalence of silicosis in the United States by state, industry, and job title. It also provided information on age distribution of cases, as well as on concurrent occurrence of silicosis with tuberculosis. In addition, Trasko provided information on the cost of workers' compensation relative to prevention. She pointed out: "Prevention is still cheaper than compensation" [Trasko, 1958].

Textbooks in the 1980s continued to show tables from the Trasko report in the 1950s [Morgan and Seaton, 1984]. Trasko hoped that her report would provide a baseline for future evaluations. Silicosis has been documented as a continuing prob-

lem in the United States [Valiante and Rosenman, 1989]. However, a national study has never been done to follow-up Trasko's work in a systematic fashion.

The article by Trasko entitled "Silicosis, a Continuing Problem" is also a landmark in occupational respiratory disease surveillance, as this is the first published article in the scientific literature displaying mortality trends for pneumoconioses in the United States [Trasko, 1958]. In that article, Trasko included a figure to display trends for deaths from silicosis and anthracosilicosis. This showed a discontinuity in 1949, where ICD codes changed from the Fifth Revision (ICD-5) to the Sixth Revision (ICD-6). Trasko remarked, ". . . prior to 1949, a fixed system of priorities was used in selecting the cause of death to be tabulated. With the Sixth Revision of the International List of Causes of Death, the cause of death was, in general, the cause designated by the certifying physician as the underlying cause of death. This change in coding rules has therefore increased the numbers of deaths assigned to pneumoconioses since 1949" [Trasko, 1958]. Thus, Trasko was the first to document that, when the time span for analysis includes more than one ICD, the analysis should show separate statistics for individual ICD periods, and comparison of different ICD periods should be done with caution.

SUMMARY

The present report is conclusive proof that reporting of industrial hygiene activities is not only possible but desirable. Literature on how to control and prevent industrial hazards is abundant, but it is only within the past two years that any attempt has been made to estimate uniformly the extent to which these practical control measures are being complied with in industry. . . . It is hoped that in time reporting will be extended to all States with industrial hygiene divisions. An inventory would be desirable of these activities in the whole country. Certain measures will also be required to improve the reporting with an aim towards uniformity of interpretation of what constitutes measurement of progress [Trasko and Bloomfield, 1942].

Victoria Trasko's work in several key areas—state-based occupational health programs, occupational disease reporting in general, and silicosis surveillance specifically—is noteworthy. Perhaps a theme which underlay all her work was the belief that worker health was a public responsibility. Of particular importance in modern times are Trasko's recommendations regarding the importance of strong state and local health department programs in occupational health, and of developing standard procedures and uniform criteria and definitions for case reporting and surveillance. Her proposals in the 1940s and 1950s anticipate and are consistent with modern recommendations to improve occupational disease surveillance [Pollack and Keimig, 1987] and the Healthy People 2000 National Health Promotion and Disease Prevention Objectives [United States Public Health Service, 1990].

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