# State Activities for Surveillance of Occupational Disease and Injury, 1985

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## Introduction

Accurate surveillance of occupational disease and injury is essential to effective prevention programs. In the past, no systematic approach has been available to public health officials for identifying, reporting, or following up on adverse health conditions related to specific occupations, and surveillance efforts have been inadequate to meet the health information needs of prevention programs. Recognizing that state health departments play an important role in the surveillance of occupational disease (*1*), the National Institute for Occupational Safety and Health (NIOSH), in 1981, began a series of cooperative agreements with state health departments to help them develop occupational surveillance programs and build surveillance capacity within their departments. To date, NIOSH has awarded approximately $2.7 million to support 22 state projects. Under one of these agreements, in 1985 the Iowa Department of Public Health conducted a mail-based survey of state epidemiologists to determine the activities of state health departments in the surveillance of occupational disease and injury (*2*). This report summarizes conditions existing at the time of the survey but does not reflect changes in activity since that time.

## Methods

The survey focused on the use of eight sources of information about occupational health or hazards: 1) health care providers, 2) death certificates and autopsy reports, 3) birth certificates, 4) cancer registries, 5) registries for occupational diseases other than cancer, 6) hospital or insurance billing information, 7) workers' compensation claims, and 8) environmental sampling data (measured levels of the hazards to which workers are exposed).

Health departments in all 50 states, New York City, and the District of Columbia responded. Except for telephone calls to correct inconsistencies, no attempt was made to verify the responses independently or to complete questions left blank.

## Results

The following is a brief description of the eight potential data sources and a discussion of the responses and their implications.

### *Health Care Providers*

Thirty-two (62%) of the health departments had voluntary or mandatory programs that require health care providers to report occupational diseases or injuries to a state

agency (Table 1, Figure 1). At the time of the survey (1985), legislation was pending in California, Florida, Maine, Massachusetts, and New Jersey to require the reporting of occupational illnesses or to add additional diseases to those already required; laws were subsequently passed in California, Maine, and New Jersey. Groups required or asked to report were private physicians (25 states), hospitals (19), laboratories (17), and others (13) (e.g., nursing home administrators, labor unions, and employers). Case reports were directed to more than one agency in six states. Overall, reports

**Table 1. Activities for the surveillance of occupational disease reported by health departments in 50 states, New York City, and the District of Columbia, by source of data, 1985**

| Source | Activity | Number of departments reporting |
|---|---|---|
| Health care providers | providers report | 32 |
| | mandatory for some diseases | 29 |
| | voluntary | 3 |
| | penalties for not reporting | 16 |
| | all six sentinel health events | 16 |
| | reporting criteria developed | 5 |
| | follow-up of some cases | 18 |
| | intervention efforts | 10 |
| | data analyzed/published | 7 |
| Death certificates and autopsy reports | occupation/industry data coded | 31 |
| | machine readable | 28 |
| | analyzed | 23 |
| | published | 10 |
| | Part II cause-of-death machine readable | 29 |
| | central file of autopsy reports | 15 |
| Birth certificates | parents' occupation recorded | 14 |
| | parents' place of employment recorded | 5 |
| | data coded/machine readable | 9 |
| | data analyzed/published | 4 |
| Cancer registries | registries maintained | 32 |
| | occupational histories included | 18 |
| | worksite medical data included | 9 |
| | data analyzed/published | 5 |
| Registries for occup. diseases other than cancer | registries maintained | 7 |
| | data analyzed/published | 5 |
| | occupational histories included | 4 |
| Hospital or insurance billing information | data received and analyzed | 4 |
| Workers' compensation claims | machine readable | 33 |
| | state labor department analyzes | 24 |
| | state health department analyzes | 8 |
| Environmental sampling data | data collected | 23 |
| | company name/address | 21 |
| | employee identifiers | 17 |
| | dust levels | 17 |
| | other contaminant levels | 20 |
| | noise levels | 14 |

were sent to state health departments (25 respondents), labor departments (7), and other agencies (4) (e.g., county health departments or worker compensation boards).

Reporting of occupational diseases was ascertained by collecting information on six sentinel health events (*3*). Of the six conditions, lead poisoning was most frequently listed as reportable (28 respondents), and Arkansas, Colorado, New Jersey, New York State, and Utah had criteria for evaluating case reports. Criteria varied among these states (e.g., in Colorado, blood lead levels required to be reported were >25μg/100 ml; in New Jersey, ≥25μg/100 ml; and in New York, ≥40μg/100 ml).

In 10 states, the health department used case reports in its intervention activities, such as in worker education, employer consultation, or engineering controls. Eighteen state health departments indicated that they try to obtain additional details beyond the initial report—some routinely, some periodically (e.g., reviewing medical records, obtaining a complete occupational history, and/or evaluating the worksite environment). Seven departments publish a summary of information from case reports, but no department had evaluated its surveillance program to see if all cases were being reported.

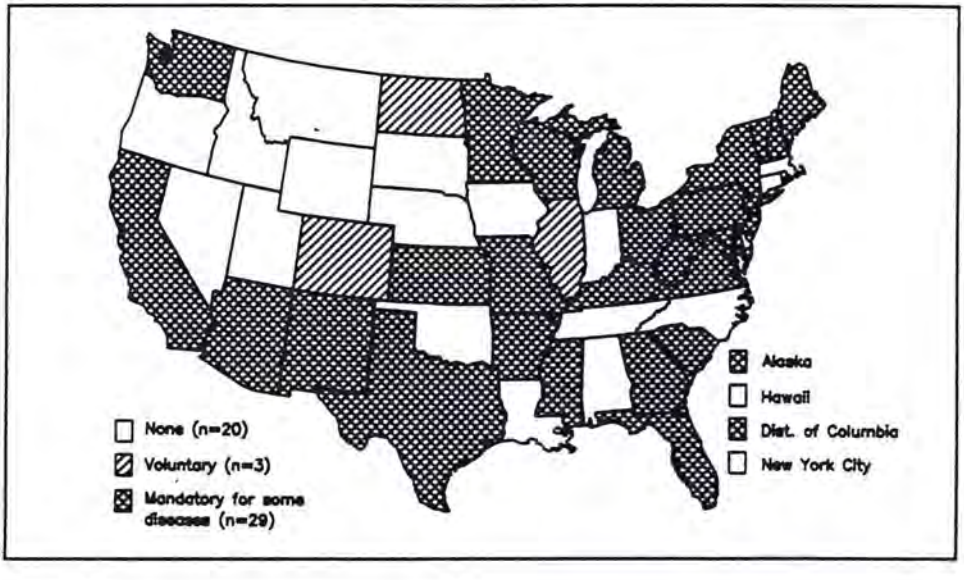
### *Death Certificates and Autopsy Reports*

Both death certificates and autopsy reports include information on the relationship between work-related factors and the death. Fifty-six percent of the health departments reported that they maintain in machine-readable form the cause-of-death data contained in Part II of death certificates. Fifteen states maintain a central file of autopsy reports. Nine states maintain both Part II death-certificate data in machine-readable form and a central file of autopsy reports.

### *Birth Certificates*

In some states, birth certificates list both the father's and the mother's occupations and may also list the parents' places of employment. Despite the potential usefulness

**FIGURE 1. Reporting of occupational illness, by location and type of mandate covering health care providers, United States, 1985**



of this information, only 14 (27%) departments collect it, and only four (8%) of these analyze it.

***Cancer Registries***

Cancer registries are becoming an important source of health information for use in prevention. Information now being recorded in cancer registries may include occupational histories and medical data collected at the worksite. Central cancer registries were reported by 32 departments; 11 of these collect an occupational history on every case, and seven collect an occupational history on selected cases.

***Registries for Occupational Diseases Other Than Cancer***

Seven states—Colorado, Hawaii, Maryland, New Jersey, Nevada, New York, and North Carolina—reported maintaining registries for occupational diseases other than cancer. Conditions covered by the registries include silicosis; asbestosis; exposures to heavy metals, toxic substances, carbon monoxide, pesticides, and radiation; and congenital malformations. Five of the registries include occupational histories and medical data; three also include smoking histories and data on worksite environmental sampling.

***Hospital or Insurance Billing Information***

Only four states use hospital or private insurance billing information, but this source may prove valuable for occupational surveillance if certain problems—such as maintaining patient confidentiality, frequent readmissions that result in duplication, and lack of direct access to hospital records—can be overcome. To help make hospital records more useful, Wisconsin passed state legislation to standardize required occupational information.

***Workers' Compensation Claims***

Thirty-three departments reported having workers' compensation claims in machine-readable form. State labor departments analyze these data in 24 states, independent of any analysis by the Supplementary Data System of the U.S. Bureau of Labor Statistics. State health departments also analyze the data in eight states.

***Environmental Sampling Data (Hazard Surveillance)***

When diseases in exposed workers are detected, information on the levels and conditions to which these workers were exposed may help public health investigators identify others at the same worksite who are at risk. Less than half of the health departments report that they collect worksite environmental data. Some departments obtain such data from the Occupational Safety and Health Administration or the Mine Safety and Health Administration; others collect it independently. California legislation allows the state health department to monitor exposure and medical data collected by employers in compliance with regulations.

**Discussion**

Regarding the eight potential data sources queried for surveillance of occupational disease, machine-readable data on workers' compensation was listed most frequently as being available for surveillance purposes (63% of states), followed by provider reports (62%), death certificates coded for occupation or industry (60%), environmental data (44%), cancer registries with occupational histories (35%), birth certificates with parents' occupations (27%), registries for diseases other than cancer (13%), and hospital or private insurance (8%).

There is scant information with which to compare these results. A 1981 survey of state and local offices that maintain vital statistics found 18 states coding industry

and/or occupation on some death certificates (*4*); in the current survey, 31 respondents reported this activity. Although this is an encouraging increase, results of the current survey indicate that surveillance activities for occupational disease are not uniform from state to state and that considerable room for improvement still exists. For example, only seven state health departments publish a summary of information reported by health care providers, and five departments report no activity related to the eight potential data sources.

Surveillance of occupational illness and injury serves two basic purposes. The first is to detect cases of illness and injury so that intervention strategies can be targeted to affected groups and individuals and their worksites. Although the established surveillance systems for communicable diseases are helpful models, the circumstances of many work-related disorders require unique approaches to develop a comprehensive system for detecting specific occupational disorders. The second purpose is to monitor trends in the occurrence of work-related diseases and injuries to help evaluate the effectiveness of specific interventions.

Because of the complex and multifactorial nature of many work-related health conditions, surveillance often focuses on workplace hazards as well as health events. Hazard surveillance consists of the periodic characterization of chemical or physical hazards in the workplace and may provide very useful information in the absence of a simultaneous assessment of health status. In many industries, hazard surveillance by direct measurement of levels of airborne contaminants or noise levels is used to direct strategies for primary prevention. Although health surveillance and hazard surveillance can be performed as separate, isolated endeavors, linkage of the two in the same population is often preferable.

State health departments must play a part in any comprehensive surveillance activity that is to be effective. Surveillance activities should also involve local health departments that can intervene at the worksite, especially in small businesses. Cooperative arrangements between state departments of health and labor can direct intervention activities to needs identified by local surveillance reports. Thus, "grassroots" support for prevention activities at the workplace can be developed. For this type of support to be developed, however, persons reporting cases must receive feedback in the form of analyses and interpretation of the data they have reported.

In the process of increasing the quantity of data collected, several states have developed innovative approaches to improving the quality of surveillance data. For example, the annual report by California on workers' compensation claims now links workers' compensation reports with a summary of death certificates on which pneumoconiosis was listed as the primary cause. The Virginia State Department of Health consolidates statistics on occupational diseases from workers' compensation files, physicians, and hospitals and provides feedback on the results via an epidemiologic bulletin sent to all physicians. To be effective, any surveillance system ultimately depends on analysis, interpretation, and feedback to persons reporting. In turn, any national surveillance program depends on the consolidation of information provided by the states to the appropriate health agencies.

NIOSH has recently proposed national strategies to prevent 10 leading work-related diseases and injuries (*5*). In each strategy, state-based surveillance is recommended to help target new or improved prevention programs and to monitor the effectiveness of these programs. NIOSH remains committed to the aggressive pursuit of a comprehensive national surveillance plan with six basic elements:

1. To develop a model system for state reporting of occupational disorders
2. To incorporate occupational concerns into national health surveys (e.g., National Health and Nutrition Examination Survey)
3. To improve systems for hazard surveillance
4. To develop uniform approaches for using existing sources of health data
5. To disseminate information on surveillance methods
6. To place the 10 leading work-related diseases and injuries under nationwide surveillance

The efforts of state health departments are critical to the success of this plan. As the objectives of the plan are achieved, a more comprehensive and uniform approach to the surveillance of occupational disorders will be established throughout the country.

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