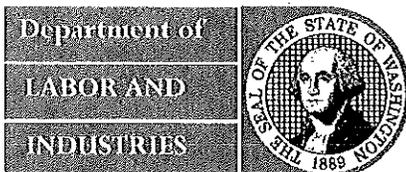


SURVEY OF US STATES FOR
OCCUPATIONAL HEALTH
SURVEILLANCE ACTIVITIES, 2003



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Survey of US States for Occupational Health Surveillance Activities, 2003

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Executive Summary:

We performed a brief survey to identify the occupational health surveillance systems currently operating in the United States. Sixteen states reported that they do little to no occupational health surveillance. Two hundred fifty surveillance systems were identified in 30 states. The surveillance systems operating in the greatest number of states (i.e. fatalities and lead exposure) are supported by federal funding through the National Institute for Occupational Safety and Health (NIOSH). The primary impediments to conducting occupational health surveillance were staffing and funding problems. Lack of technical expertise did not appear to be a critical issue in most states (according to the state epidemiologist). States that conducted occupational surveillance were more likely to have perceived access to data sources such as vital statistics, workers compensation, and BLS data than those without occupational health surveillance activities. States would like to develop surveillance systems for work-related musculoskeletal disorders (9 states) and agricultural injuries and illnesses (7 states). Some state epidemiologists failed to identify occupational health surveillance programs known to be operating within their states. This 'oversight' likely reflects poor communication within and between state agencies.

Introduction:

The National Institute for Occupational Safety and Health (NIOSH) has developed a strategic plan to improve occupational health surveillance at both the federal and state level.¹ One of five primary goals is to "strengthen the capacity of state health departments and other state agencies to conduct occupational health surveillance."

Specific objectives include: 1) Efforts to foster state-based surveillance programs of selected occupational conditions or hazards, and 2) The provision of technical assistance for surveillance of selected occupational conditions or hazards. Presently, limited federal funding is spread across a wide spectrum of illnesses, injuries and hazards across relatively few states. A strategy to create sustainable state-based occupational health surveillance capacity has yet to develop.

Past state-based surveys of occupational health surveillance activities were helpful in identifying the determinants of successful state based occupational disease surveillance systems² and providing an overview of existing state activities and expertise in occupational health and safety (Osario - unpublished material, 2001). Successful state-based occupational health surveillance programs were determined to be better funded, had more staff and used surveillance data for action.² Coordinating and integrating state-based surveillance programs may lead to occupational health surveillance at a national level.

Washington State conducted a brief survey of US state epidemiologists to identify occupational health surveillance needs and to identify operational state based occupational health surveillance systems.

Methods:

Survey Design: A brief survey instrument was created using information from previous national surveys to assess occupational health surveillance capacity.² (Osario et al. unpublished material, 2001). The survey instrument was designed as a two-part survey; the first part was to provide a census of state-based surveillance systems operating in the United States with an estimation of the needs of state based occupational health surveillance programs. The planned second part of the survey is to provide descriptive details of the operating systems (case definition, reporting requirement, data sources, etc.) Occupational safety and health surveillance personnel within Washington State, NIOSH and the Massachusetts Department of Health reviewed the survey. The survey was designed to be completed within 20 minutes.

The survey was administered on the Internet. The first part of the survey identified:

- Occupational health surveillance activities currently conducted,
- The state agencies involved,
- Surveillance systems that currently exist,
- Perceived availability of data sources,
- Obstacles to conducting surveillance activities, and
- The state's assessment of desired surveillance systems.

Respondents to the survey were provided with the following definition of a 'surveillance system:

" a surveillance system includes a functional capacity for data collection, analysis, and dissemination of data to those who need to know"

Respondents were also asked to exclude information collected as part of the US Department of Labor's Bureau of Labor Statistics (BLS) Annual Survey of Occupational Injury and Illness and the Census of Fatal Occupational Injury (CFOI).

Survey Administration:

The sampling frame was the 50 United States and the District of Columbia. The Internet link for the survey was initially sent to the e-mail address of the state chronic disease epidemiologist or the state epidemiologist as listed on the Council of State and Territorial Epidemiologists (CSTE) website.³ If a state listed a chronic disease epidemiologist on the CSTE list, then this individual was the primary contact. Otherwise the internet link for the survey was e-mailed to the listed epidemiologist. The survey could be completed by the addressee or delegated for completion by a knowledgeable staff member. Respondents could print out the survey form and enter responses manually. E-mail reminders were sent to the last known contact approximately every three weeks to encourage completion of the survey. Follow up phone calls were made to non-responders to track the progress of the survey and to identify the delegated respondent. Up to eight contacts with the designated respondents were made for those not responding to the e-mailed survey.

The initial e-mail was distributed on 02/19/2003 and the last date for accepting a response was 07/31/2003. Five states reported technical difficulties associated with completing the e-mail survey. In this situation, a copy of the survey was sent by e-mail and the completed hard copy was returned by either fax or mail. Alternatively, a hard copy of the survey was sent and returned by mail.

RESULTS:

Valid responses were received from 43 of 51 jurisdictions. There appeared to be two major reasons for failure to obtain a response to the survey: 1) the state epidemiologist was unavailable, or 2) the person assigned responsibility for responding to the survey did not have the requested information and/or could not identify a knowledgeable person. One state's response was lost due to technical difficulties with the survey; the respondent did not complete a second survey.

Twenty-seven states reported conducting occupational health surveillance activities. In 17 of the 27 states surveillance activities, the department of health was the primary state agency responsible for occupational health surveillance. The department of labor was listed as the primary state agency for six states. The department of health had some, responsibility (either primary or secondary) in 26 of the 27 states. The state department of labor had either primary or secondary responsibility in 16 of the 27 states. The state department of agriculture participated in surveillance activities in six states and the workers' compensation system participated in 6 states.

Fifteen respondents indicated that their jurisdiction did not conduct any occupational health surveillance activities. Three of these 15 respondents identified surveillance systems in operation within their state or jurisdiction. The District of Columbia reported the existence of 10 surveillance systems in which the Workers' Compensation Board had primary responsibility. Iowa reported the existence of 8 surveillance systems - with the Department of Labor as having primary responsibility. Wyoming reported the existence of 8 surveillance systems with the Department of Labor as having primary responsibility. Four states (ME, NC, NM, MN) with known

occupational health surveillance activities reported that no occupational health surveillance activities were occurring or did not respond to the survey. From this information, occupational health surveillance activities are likely conducted in 33 states and the District of Columbia.

The information on conditions under surveillance presented in the remainder of this report is from the 27 states that reportedly conduct occupational health surveillance activities combined with the three states that conduct surveillance but reportedly do not conduct occupational health surveillance (IA, WY, DC).

The 30 respondents reporting occupational surveillance systems identified 250 'surveillance systems.' The results aggregated by condition are presented in Table 1.

These results can be compared to known state-based surveillance systems funded by NIOSH. NIOSH's Fatality Assessment and Control Evaluation (FACE) program funds 15 states for fatality surveillance.⁴ In the 12 states reporting fatality surveillance, 10 had a FACE program. Of the 5 states not identifying their FACE program, three had their FACE program located within an academic institution, one was localized within its department of health and one state did not respond to the survey.

During the time frame of the survey 37 states were funded for surveillance activities under the Adult Blood Lead Epidemiology and Surveillance Program (ABLES).⁵ Two states without ABLES funding reported an occupational lead surveillance program. Only 22 states with an ABLES program reported the existence of a lead surveillance program. Of the remaining 15 states with an ABLES program, 3 did not respond to the survey, leaving 12 who have an ABLES program that was not identified by the survey respondent.

Table 1: Surveillance systems reported as currently operational* by the thirty states reporting surveillance activities

System Grouping (Total # Systems)	Specific Conditions Under Surveillance	Number of States reporting
Work Related Lung Diseases (52)		18
	Tuberculosis	10
	Asthma	9
	Silicosis	8
	Asbestosis	7
Occupational Injury (44)		21
	Fatalities	12
	Needlesticks	6
	Burns	5
Heavy Metal Poisoning (47)		24
	Lead	22
	Mercury	9
	Arsenic	6
	Cadmium	6
Occupational Cancer (23)		9
	Mesothelioma	9
	Bladder	6
	Liver	6
Infectious Disease (33)		11
	Hepatitis B	11
	Hepatitis C	10
	Human Immunodeficiency Virus	10
Other		
	Pesticides	8

* Excludes conditions which have fewer than 5 reported as operational.

Of the 27 states with occupational health surveillance activities, 63% (n = 17) have developed websites describing their activities. Fourteen states had written surveillance reports or developed educational materials for prevention. These materials were often available directly from the state's website. Of the 43 survey respondents, 28 reported knowledge of the CSTE Occupational Health Indicators; all but three reported having occupational health surveillance activities in their state.

Assessment of the survey respondents' perception of the availability of occupational health data sources is presented in Table 2. Staffing limitations and budgetary restrictions were identified as the most serious problems in initiating, maintaining or expanding occupational health surveillance by almost all states Table 3.

Table 2: Survey Respondents Perception of Access to Data Sources for Occupational Health Surveillance

Data Source	Surveillance Activity	
	Yes (n = 27)	No (n = 15)
Current Population Survey	81 %	36 %
BLS SOII*	81 %	36 %
BRFSS**	85 %	47 %
Cancer Registry	93 %	47 %
State Employment Data	81 %	36 %
Hospital Discharge Data	67 %	36 %
Trauma Registry	63 %	40 %
Vital Records	100 %	47 %
Workers' Compensation Claims	81 %	29 %
Median Number of Sources	8	2

* Bureau of Labor Statistics Survey of Occupational Injury and Illness

** Behavioral Risk Factor Surveillance System

Table 3: Rating of the perceived seriousness* of the following impediments to initiating, maintaining or expanding occupational health surveillance in their state (n = 32)

Impediment	ONE	TWO	THREE	FOUR
Staffing Limitations	0	2	5	25
Technical Expertise	9	10	11	2
Monetary / Budgetary Restrictions	0	1	4	27
Interest	13	5	11	3
Accessibility to the Workplace	9	14	7	2

* One is least serious; four is most serious.

There were 28 responses to the question regarding what NIOSH, CSTE or existing state programs could provide states to assist them to overcome impediments to initiating, maintaining or expanding occupational health surveillance. Several states identified a particular need for increased funding from a stable source. Others mentioned the availability of trained occupational health epidemiologists assigned as advisors to states as the mechanism for providing expanded funding, additional staffing and technical assistance in a single package. Selected responses to this question are listed below:

The CDC Environmental Public Health Tracking Network grant states could be directed to address particular occupational conditions.

Funding of a program, which sends, trained occupational health epidemiologists to states as advisors.

An ongoing source of regular funding for all interested states would be ideal.

Provide funding on an ongoing basis such as CDC does for cancer registries; state is reluctant to provide additional funding after initial funding runs out.

Regular ongoing federal support and/or local lobbying of legislature.

Stable funding instead of competitive funding; developing a core group of states with stable funding allows experimentation for national surveillance.

Respondents listed 62 conditions for which occupational health surveillance is needed (Table 4). Surveillance of agricultural injuries and illnesses and the surveillance of work-related musculoskeletal disorders were the most requested conditions selected by

the states for surveillance. Surveillance for work-related asthma was currently operational in nine states and was requested by five more.

Table 4: Responses* to the query 'What Occupational Hazards, Injuries or Diseases Should Be Placed Under Surveillance in Your State?'

Occupational Condition**	Operational	Requested	Total	Comments
Musculoskeletal Disorders (MSDs)	2	9	11	Combines responses for all MSDs, Carpal Tunnel Syndrome and Ergonomics
Agricultural Injury / Illness	3	7	10	
Industry	2	7	9	Health Care; Mining (2); Oil industry; Meat Packing, Food Processing; Trucking
Work-related Asthma	9	5	14	
Special Populations	2	4	6	Immigrant, youth, all special populations
Fatalities	10	3	13	
Respiratory Disease	18	3	21	
All work-related Injuries	3	3	6	Restrict to severe injuries (1)
Indoor Air Quality	0	3	3	Environmental Tobacco Smoke
Pesticide	8	2	10	
Workplace Violence	3	1	4	

* States Responding: AK, AZ, CA, CT, DC, GA, IA, IL, KS, MA, MD, MI, MO, NE, NV, NH, NJ, NY, OH, OK, OR, PA, RI, TX, VA, WA, WY

** Additional systems requested: NOx, SOx, Dermatitis, Burns, Needlesticks, Poisonings, General Chemical Hazards, Motor Vehicle, Sun Safety, Coccidiomycosis, Solvent degreasers, Amyotrophic Lateral Sclerosis, Multiple Sclerosis, Lacerations

Discussion

We performed a brief survey to identify occupational health surveillance systems in the United States and state needs regarding conducting occupational health surveillance. The results suggest that many states do little to no occupational health surveillance. The surveillance systems operating in the greatest number of states (i.e. fatalities and lead exposure) represent surveillance systems that are supported by federal funding through NIOSH. A consensus among states is that staffing and funding problems are the primary impediments to conducting occupational health surveillance. Technical expertise does not appear to be an impediment in most states. States with occupational surveillance activities were more likely to have access to data sources such as vital statistics, workers compensation, BLS data than states without occupational health surveillance activities.

The survey sampling frame were state epidemiologists or a delegated respondents who had knowledge of the state's occupational health surveillance activities. Several survey respondents failed to identify occupational health surveillance activities that currently operate within their state. Problems with interagency collaborations or recognition of surveillance activities outside of the state department of health may have led to the failures in identifying programs (i.e. the three FACE programs located within the state academic institutions). The inability to identify ABLES programs by the survey respondents suggests that the monetary awards for ABLES may not translate into an individually identifiable program within state health departments. At best this survey is an assessment of the respondent's knowledge of the occupational health surveillance

activities in his/her state. However it is not unreasonable to expect that a state epidemiologist would be aware of their state's occupational health surveillance activities.

Several issues arise in a survey of occupational health surveillance activity. First, although we provided a definition for surveillance, respondents' assessments of activities that fit within the surveillance definition could vary widely. The inclusion of occupational and industry variables into a more general surveillance system, such as for hepatitis B, would not be considered to be an occupational health surveillance system by some states. A descriptive overview of workers' compensation claims by nature of injury would likely not be considered surveillance by some states. Second, despite the definition provided, the respondent may also superimpose certain standards upon activities, which they regard as occupational surveillance. For example, the interpretation of one state department of health epidemiologist, interviewed prior to the survey administration, was that some activities performed in the labor department and workers' compensation bureau "did not qualify" as surveillance. This interpretation was contrary to the belief in the labor department and workers' compensation bureau.

Several additional observations that may limit the utility of this survey deserve mention. First, the survey was administered during a period of significant fiscal crisis for most states. The continuity of occupational health surveillance or even the public health infrastructure of the state is likely to have changed in the interim. Indeed, it seems unlikely that states with little occupational health surveillance will initiate it during this time period. Second, much of the information gathered in this survey was based on the assessment of the state epidemiologist. If the tenure of the state epidemiologist has been brief, then his/her knowledge of state-based programs may be limited. State

epidemiologists may underestimate the technical expertise required to work with occupational health data sources, as they may be unfamiliar with it. While many occupational health surveillance systems appear to be operating, the surveillance systems reported by states for specific conditions are likely incompatible. There is a clear necessity for a coordinated approach to surveillance to generate comparisons between states. Additional information regarding the case ascertainment systems, case definitions will further clarify the compatibility between state-based surveillance systems.

Finally, at least sixteen states conduct little to no identifiable occupational health surveillance. This is a significant shortcoming of national and state policy makers to create the necessary public health infrastructure to prevent workplace injury and illness. The results of this survey support guidelines created to develop state-based infrastructure in occupational health.⁶ An occupational epidemiologist in each state to conduct and coordinate occupational health surveillance activities would rectify inter-agency communication problems and allow collaborative efforts with other states in conducting occupational health surveillance. Recognition of and the technical expertise to work with occupational health data sources can be developed through use of occupational health resources from the Council of State and Territorial Epidemiologists.⁷ Consistency of definitions across states will improve with the implementation of collaborative efforts between states to promote a national occupational health surveillance system. Leadership to develop a national surveillance system will likely have to originate from NIOSH.

¹ NIOSH. *Tracking Occupational Injuries, Illnesses, and Hazards: The NIOSH Surveillance Strategic Plan*. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. DHHS Publication No. 2001 - 118; Washington, D.C. 2001.

² Henderson AK, Payne MM, Ossiander E, Evans CG, Kaufman JD. 1998. Surveillance of Occupational Diseases in the United States. *JOEM* 40(8): 714 - 721.

³ [Http://www.cste.org](http://www.cste.org)

⁴ Fatality Assessment and Control Evaluation Program. <http://www.cdc.gov/niosh/face/faceweb.htm>

⁵ Robert Roscoe - personal communication - 10/08/2003.

⁶ Stanbury M, Rosenman KD, Anderson HA. *Guidelines: Minimum and Comprehensive State-Based Activities in Occupational Safety and Health*. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. DHHS Publication No. 2001 - 118; Washington, D.C. 2001.

⁷ CSTE: *Occupational Indicators: A Guide for Tracking Work-Related Health Effects and Their Determinants*. Available at <http://www.cste.org>; Accessed 11/26/2003.