In their survey of the 50 states and New York City, Lapham and Castle found that 29 health departments had environmental epidemiology programs performing investigations of exposures to indoor air pollution, toxic or hazardous substances, and pesticides.[2] These findings are of substantial interest because they demonstrate that the majority of states do have definable programs with at least one full-time staff person. As expected, states with larger population were more likely to have a program meeting the study definition. The data collected by Lapham and Castle did not provide specific information on the types of environmental problems for which epidemiology services were used in the surveyed states. Additional information detailing the heterogeneous activities comprising environmental epidemiology would be useful; these would vary from evaluating complaints about an indoor air pollutant to performing health risk assessment on a toxic substance or conducting an epidemiological study to establish the relationship between an exposure and a disease.

One problem associated with this report, as the authors point out, is that their definition of an environmental epidemiology program was based on the designation of full-time specific personnel, a factor which greatly underestimates the frequency and extent of this activity in the 50 states. Virtually all states are addressing the issues and have developed some environmental epidemiology capability. In 1981, according to the Association of State and Territorial Health Officials (ASTHO) reporting system, 51 state and territorial health authorities reported environmental epidemiological investigations.[3] In the Vermont State Health Department, for example, these activities are performed by a combination of communicable disease and environmental health staff. Although not categorized as a program under Lapham and Castle's definition, environmental epidemiology is a major departmental activity.

Bernstein, *et al,* surveyed state health departments to determine the presence of programs dealing with indoor air pollutants.[1] These substances, notably formaldehyde, affect individuals in their homes or work sites. They have been particularly vexing problems for health agencies because of the triad of non-specific symptomatology, poor documentation of exposure, and lack of information on levels associated with health outcomes. The report carefully documents the extensive involvement of state health departments in this area, with results similar to those of Lapham and Castle. Only one state did not have a program or other means for providing services for non-occupational indoor air pollutants (NIAPs). A wide range of technical capability was discovered among health departments, with approximately 25 per cent conducting comprehensive medical-epidemiological evaluations of these non-occupational, building-related health complaints.

The survey by, Bernstein, *et al,* found an absence of standards and diversity of approaches to the problem of NIAPs. Forty-seven states had no existing or proposed NIAP exposure standards. For formaldehyde, a wide variation is described among state health agencies in criteria for providing on-site air sampling, analytical methods, and specific exposure levels on which control recommendations are based.

Exposures to environmental agents raise both formidable technical and policy questions for state and local health agencies. The public health official must deal with scientific uncertainty and ambiguity in these instances while relating to the public's understandable and strident requests for certain recommendations that will assure safety.

A hopeful sign is that both Bernstein and Lapham report on epidemiological activities in health departments which will eventually add to our existing store of scientific information. Risk assessment is hampered at the present time by the lack of epidemiological studies of individuals with exposure. In the absence of epidemiologic findings, assessment of the risk and levels for the control of these agents have been based on extrapolations from animal studies. Resulting action guides based on less than solid derivations are often seized upon as "golden numbers" by either the public or the bureaucracy.

The sharply increased health department activity in this area described by these two ground-breaking reports will continue to expand as the number of toxic chemicals in our environment grows and more information about their adverse health effects becomes available. The historical role of health departments in the protection of the community, epidemiological investigation, and public education uniquely fits them to this expanded, if not fundamentally new, role in the environmental quandaries that lie ahead. To succeed, increased epidemiological and laboratory capability will have to be melded with heightened effectiveness in providing information and guidance for the public.

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COSH: A Grass-Roots Public Health Movement

Reich and Goldman, in Public Health Then & Now published in this issue of the Journal, have discussed the worker-based, decentralized approach to prevention of occupational injuries and illnesses, comparing practices in Italy and the United States.[1] One important factor in such a comparison is the decline in political and economic power of US trade unions. It is remarkable that much has been accomplished in the control of US occupational hazards in the last 10 to 15 years, given that union membership as a percentage of the labor force has been declining throughout that period. La-

bor's power has been eroded by the drastic movement in the structure of employment, away from heavy manufacturing industry where unions built their strength in the 1930s and 1940s toward traditionally non-union service and white collar work. Geographic shifts of industry have also favored non-union areas. In addition, high rates of unemployment for many years have exacted a serious toll from trade unions, reducing both their membership and economic and political bargaining strength. Where labor has been successful in organizing has been in growing areas of employment, such as health care, or where new strategies have been tried, such as in the J. P. Stevens campaign. These successes have not been sufficient to counterbalance the deep erosion caused by changes in the structure of the economy, however.

It is in this context that grass roots coalitions for occupational safety and health (COSH) have earned the attention of the public health community.[2] During the 1970s, while Italy's occupational health movement was developing, a similar American movement emerged. Like their Italian counterpart, COSH groups are decentralized and worker-based; they have stressed the "legitimacy of worker knowledge"[1]; and they have developed technical assistance and education programs. Unlike the Italian movement, COSH groups in the US have developed largely outside the framework of organized labor.

COSH groups are area-wide organizations—sometimes city, sometimes state—variously called committees, councils, or coalitions for occupational safety and health.[3,4] There are two kinds of membership in COSH: labor unions locals (sometimes other organizations, such as women's groups and community action organizations, may affiliate) and individuals (such as health professionals and labor and community activitists). Frequently COSH groups will have active "health-technical" committees composed of local health and safety professionals, technicians, and activists who help union locals in obtaining information about occupational hazards, conduct educational sessions for interested workers, and prepare brief, educational pamphlets on specific health and safety hazards. COSH groups also may have political action committees, focusing on issues like workers' compensation reform, right-to-know legislation, and the (in)efficacy of the Occupational Safety and Health Administration (OSHA). The earliest groups were CACOSH in Chicago, PhilaPOSH in Philadelphia and MassCOSH in Massachusetts. In less than 10 years, the COSH movement has spawned organizations all over the country, ranging from New York City with over 100 local unions affiliated with NYCOSH to California with five different groups around the state. In some places, this occupational health movement has strong ties with state or city labor federations; in others, it does not.

Under the leadership of Eula Bingham, OSHA developed the New Directions Program which spurred the growth of COSH groups by funding worker education programs. Recent funding cutbacks have forced COSH groups to lay off staff and rely increasingly on volunteer technical assistance. In spite of this, the number of COSH groups continues to grow. In some places, important links have been forged between occupational and environmental health activists through community fights for right-to-know laws and attempts to deal with hazardous waste problems.[5,6] In the absence of a friendly federal administration and a revitalized labor movement, the effectiveness of COSH groups may be hampered. However, they deserve attention as a distinctively American public health movement, devoted to the prevention of occupational disease and injury.

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Intergovernmental Relationships: A Delicate Balance

The article on needs assessment in Massachusetts by Guyer *et al,*[1] in this issue of the Journal provides an example of creative thinking worthy of emulation by other states. Instead of allocating funds on the basis of out-of-date formulas, ability to write grant applications, or expensive field surveys, the staff of the Massachusetts Department of Public Health and its advisory groups used available data to identify areas needing additional resources. The success of the Massachusetts effort should encourage other states either to replicate their methods—modified for local conditions—or to devise equally creative ways to identify individuals, areas, and localities needing maternal and child health services and to provide a fair method for allocating funds among them, as called for in the Maternal and Child Health Services (MCHS) Block Grant.*

Of greater importance, however, is what the article reveals about relationships among different levels of government. In our multi-layered system, these relationships affect the distribution of resources—a topic of particular importance in times of scarcity.

Although the primary focus of the article is not a critique of past or present approaches to intergovernmental

*A manual to assist states in such efforts is being prepared by the federal Division of Maternal and Child Health, and the University of Iowa Center for Health Services Research is exploring methods for needs assessment which may be applicable in many states.