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Occupational Hazard and Health Surveillance

The paper by Froines, *et al*,[1] in this issue of the Journal and their previous editorial[2] provide a welcome focus on many of the methodological problems encountered in the development of surveillance systems for occupational hazards and illnesses. While there is no universal agreement on the goal of a surveillance system, it is clear that any surveillance system, whose goals include the prevention of occupational disease through control of the causative agents, must include both hazard and disease surveillance components.

There are at least two distinct objectives which might inspire hazard surveillance activities. One reason for conducting hazard surveillance is to locate and monitor groups of workers who are exposed to agents with well-known adverse health effects. The ultimate goal of this hazard surveillance strategy is to ensure that exposure levels are kept low enough to prevent illnesses from developing. A second and distinctly different hazard surveillance strategy aims to discover previously unrecognized relationships between exposure and disease by constructing comprehensive inventories of the potential exposure agents found to be associated with occupational groups and linking the data to toxicologic or epidemiologic information sources.[3] The ultimate goal of this second strategy (discovery) is to add to that body of occupational health knowledge which supports and drives the first strategy (monitoring). In some ways, hazard surveillance which monitors a few well-understood hazards resembles enforcement programs which attempt to encourage compliance with existing standards, whereas hazard surveillance which attempts to discover which groups of workers are more likely to develop health problems, because of the variety of agents to which they are potentially exposed, is frequently done as part of a research program designed to identify exposure agents or occupational groups which may be candidates for the development of regulations or standards in the future.

The problems associated with surveillance of occupational diseases have been long recognized and are well documented.[4] A similar set of difficulties impair the hazard surveillance process. There is a staggering array of chemical, physical, and biologic agents found in the nation's five million worksites. The mix is constantly shifting as new agents are discovered and new processes developed. The identification of a particular exposure agent can be a formidable task (as is the recognition of an occupational disease) given that component information on exposure agents which occur as formulated products is often obscured by trade names, common names, or ambiguous terms. Most hazard surveillance systems rely on the Standard Industrial Classification (SIC) coding scheme to assign facilities to an industry group. However, the SIC system was not designed to classify industries on the basis of common exposures. There may be a high degree of variability between facilities sharing an SIC code, thereby impairing the inferential value of data collected from a small number of facilities.

This is not to suggest that the difficulties associated with hazard surveillance and the deficiencies of existing data systems should deter efforts to pursue a vigorous program. When cause (hazard) and effect (disease) surveillance systems are integrated and linked, the potential for discovery is enormous. Certain diseases are, by their very nature, strongly associated with occupational exposures, e.g., hemangiosarcoma of the liver and mesothelioma of the peritoneum or pleura.[5] The role of hazard surveillance in these cases is primarily confined to locating those occupational groups exposed to the known causative agents so that controls or other intervention measures may be implemented. Similarly, certain occupational hazards are sufficiently identi-

fied as increasing the risk of disease, e.g., beta-naphthylamine, that there is little that disease surveillance can add to our knowledge except to assure the efficacy of control measures. There remains, however, a vast middle ground where exposures are complex, and symptoms diverse, which will yield only to the combined efforts of hazard and disease surveillance. Thus, the surveillance of hazards and diseases, at least for research purposes, cannot realistically proceed in isolation from each other.

Prior to the enactment of the 1970 Occupational Safety and Health Act, no comprehensive national data base on workplace hazards existed. The National Occupational Hazard Survey (NOHS), conducted by the National Institute for Occupational Safety and Health (NIOSH) from 1972–74, identified more than 8,000 different potential exposure agents in a sample of nearly 5,000 facilities. In contrast, approximately 500 agents are regulated by the Occupational Safety and Health Administration (OSHA). Further, approximately 72 per cent of all samples collected and analyzed by OSHA focus on only 19 substances. More than 15 per cent of all OSHA samples are collected for lead or lead compounds. It seems clear, therefore, that using the OSHA Integrated Management Information System (IMIS) data or hazard surveillance systems derived therefrom will result in attention being focused on those industries where OSHA has found over-exposures to a few well-recognized hazards. The use of the NOHS data base, as described by Froines, *et al*, in this issue of the Journal,[1] augmented by occupationally related disease surveillance systems, provides the opportunity to discover new occupational health problems and identify previously unrecognized high-risk groups.

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On Homelessness and the American Way

When faced with its stark realities, the issue of homelessness makes one think, on two levels: personal feelings, and social policy. On the personal level, home is one of those concepts most of us take so much for granted that we hardly ever pause to think about what it means. Home means family, personal space, privacy. Home means shelter, and warmth, both physical and personal. Home means favored possessions, books, records, history, memories. Home means belonging, identity, love.

Please pause to think then about what homeless means. Home less. I am less a home. I am less, because I am without a home. I am homeless. My family is homeless. Pause to think what those words must mean to a person who utters them or thinks them. Think about emptiness, hopelessness. Think about feeling demeaned. Think about having all of one's possessions in several shopping bags that you carry around with you on the street or in a few cartons that you store under the bed in a community shelter, or keep in a locker at the bus or train station. Think about metal cots or hard, cold pavements. Think about no identity, no belonging, no love. Think about being utterly and completely rejected by your fellow members of society.

The papers on the homeless published in this issue of the Journal examine the problem as it appears on both coasts of our great country. A very creative medical services program for a population primarily living in single room occupancy hotels and night shelters in Portland, Oregon is described.[1] Demographics, health status, and psychological characteristics of family members living together, in large multi-family groups, in shelters for the homeless in the State of Massachusetts are also presented.[2] These two groups of the homeless are ones that many of us who read this Journal may never see and never come in contact with. On the other hand, those of us who live and work in or visit one or more large cities are likely to see the third major group of homeless persons: the street people.

Frequently, we see street people in city centers. They trudge along, seemingly wearing too many layers of clothing, looking away, looking in waste baskets, looking for a handout, looking for food, perhaps looking for a home. They appear in an incredibly sensitive and magnificently photographed sequence which opens the movie "Down and Out in Beverly Hills." Especially poignant is the scene in which the little pet dog of the lead character, a homeless street person, runs off with a friendly jogger while the street person is sleeping on a marble park bench in Beverly Hills. The man had next to nothing. He was bereft of friends, money, place, identity, home. And then, even his little dog left him for the implied promise of being afforded a home.

If homeless street people are not trudging along, they are sitting or lying on pavement—sick, drunk, sleeping, thinking, but in any case alone, mostly. We may *notice* the homeless street people, but do we really *see* them? Do we really think about what it must be like to be homeless, and what the real social significance of homelessness is for American society?

Without actually experiencing homelessness, we probably can never know how a homeless person feels, but as public health professionals, we certainly can understand the social significance of homelessness. If we cannot deal personally with the feelings, we can deal with the second aspect of the issue: the social policy questions. Homelessness epitomizes and encapsulates one of the two major domestic