The Health Hazard Evaluation Program at NIOSH

This report evaluates the National Institute for Occupational Safety and Health (NIOSH) Health Hazard Evaluation Program for its relevance and impact in identifying and responding to occupational health hazards. The report finds that the program has had a positive impact on workforce conditions, responds well during public health emergencies, and offers excellent training programs for occupational health professionals. The program could be further strengthened by increasing its visibility, by expanding communication and outreach activities, and by expanding its training programs.

Exposure to chemical or physical hazards in the workplace can lead to illness, injury, or even death. These hazards can also be costly to employers due to loss of productivity caused by lost days of work by employees, increased workers’ compensation payments, and legal costs. It is the unique mission of the Health Hazard Evaluation Program within the National Institute for Occupational Safety and Health (NIOSH) to respond to requests to investigate previously unknown potential occupational health hazards and known health hazards found in new occupational settings. In contrast to other NIOSH programs, the Health Hazard Evaluation Program is not primarily a research program. Rather, it investigates and provides advice to workplaces in response to requests from employers, labor unions, and federal agencies. The program also responds to emergencies such as the 9/11 attacks and provides training in field investigations to many health and safety professionals.

The Health Hazard Evaluation Program has been instrumental in identifying a wide array of hazards such as potentially fatal latex allergies associated with latex glove use in medical facilities, and the occupational transmission of infectious diseases to workers in swine processing facilities. In a highly publicized case in 1999, the program responded to a call to investigate a microwave popcorn manufacturing plant where workers were becoming ill with a rare lung disease. The investigation showed a link between occupational exposure to a butter flavoring and the illness, which became widely known as “popcorn lung” (see Box 1, p. 2).

As part of a series of reviews of NIOSH programs, the National Research Council assembled a committee to evaluate the NIOSH Health Hazard Evaluation Program with respect to its 1) relevance in addressing workplace health hazards, 2) impacts on worker health and safety as well as its impacts through outreach, and 3) future directions to improve both relevance and impact of the program.

**ASSESSMENT OF THE PROGRAM’S RELEVANCE AND IMPACT**

The committee was charged with evaluating the NIOSH Health Hazard Evaluation Program and determining whether program...
activities resulted in improvements in workplace practices and decreases in hazardous exposures that cause occupational illnesses. The committee assessed the relevance of the program in addressing current and emerging workplace health hazards. The committee also evaluated the impact of the program on reducing worker risk and occupational illness, transferring program-generated information beyond the investigated workplaces, and whether the program impacts research and policy decisions within NIOSH and elsewhere.

The program was assessed on scales from 1-5, with 5 as the top score (see Box 2). The criteria were developed by a framework committee to evaluate all NIOSH programs in a consistent manner. The program received scores of 4 for both relevance and impact. The evaluation committee notes that the program actually performs between a 4 and 5 in both categories, but that it was restricted to the use of integers for the rating scale.

FINDINGS AND RECOMMENDATIONS

Even though the Health Hazard Evaluation Program is very strong overall, the committee makes several recommendations that could help advance the program beyond its current strengths. These recommendations are not provided in order of importance. The committee recognizes that implementation of the recommendations depends on the availability of resources and encourages the program to implement any of the recommendations as resources are available.

Strategic Planning. The Health Hazard Evaluation Program’s strategic plan, intermediate goals, and performance measures are highly relevant to its mission given its limited resources. If more resources become available, the committee believes performance measures could be improved by being more specific and ambitious. The committee recommends regular assessments of performance measures to determine whether more ambitious goals could be implemented with available resources.

Improving the Investigation Request Process. The Health Hazard Evaluation Program responds well to health hazard evaluation requests, but it could reach a wider range of requesters. Outreach could be improved by establishing formal relationships with organizations that represent underserved populations, and small businesses and their employees. The function and activities of the program need to be communicated to national, regional, and state health and labor departments. Cooperation between the program and these departments could be improved.

Overall, the program’s current process of prioritizing requests is effective. To improve the process, requests could be prioritized using an explicit written process that is more transparent to requestors. The staff could further improve the prioritization process by using scientific and professional meetings, surveillance data, and scientific literature to recognize emerging issues. A formal technical assistance mechanism could be implemented to help requestors formulate requests, or in the case of requests that will not be addressed by the program, referrals to another NIOSH division or government agency.

Increasing Report Quality. Reports that result from investigation requests tend to be well-written,
exhibit a high level of expertise, and provide important information and control solutions to prevent occupational illness, but there is no evidence of a formal quality-assurance program in place. An external review of a subset of reports for scientific content, report completeness, and appropriateness of recommendation could help ensure consistency in report quality. Quality of recommendations made in reports is generally excellent. Additional impact might be realized if the reports included descriptions of the priority, relevance, feasibility and impact of each recommendation. Assessment of the effectiveness of investigations might benefit from post-investigation debriefing in NIOSH to systematically identify missed opportunities and emerging hazards, and by improvement of post-investigation of surveys to employers to assess impacts.

Professional Training. The Health Hazard Evaluation Program offers training opportunities for occupational health professionals that are highly effective. However, this training function could be more effective if NIOSH relationships with occupational health professionals were expanded. Recruitment of personnel for temporary assignment to participate in health hazard evaluations from universities, government agencies, occupational medicine residencies, and state and local health departments could be increased. The program could make use of educational and research centers to increase collaborations with faculty and to involve trainees in field investigations. Training program alumni could also help develop program opportunities through a program-level advisory board, or assist in the maintenance of vital routine program functions during deployment of key staff responding to emergencies.

Reaching a Wider Audience. The Health Hazard Evaluation Program uses a wide variety of tools to disseminate its findings to the public, such as the Internet, free CD-ROMS, articles in trade publications, and presentations at trade and scientific meetings. There is a concern that the program is not reaching many who could benefit from its services. The program could reach a wider audience through innovative communications.
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This report brief was prepared by the National Research Council based on the committee’s report. For more information, contact the Division on Earth and Life Studies at (202) 334-2500 or visit http://dels.nas.edu. Copies of The Health Hazard Evaluation Program at NIOSH are available from the National Academies Press, 500 Fifth Street, N.W., Washington, DC 20001; (800) 624-6242; www.nap.edu.

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