hazardous Public Substances Health

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Preparing for the Unthinkable

Earlier this summer, nearly 50,000 residents of Duluth, Minnesota, and Superior, Wisconsin, were forced to evacuate an area encompassing portions of both cities after railway tank cars derailed and one of the tank cars released a cloud of aromatic hydrocarbon concentrate vapor. According to the Associated Press, 260 troops from the National Guard and Army Reserve were called to handle the emergency, and 25 people were hospitalized.

The incident was not an unusual event. Last year, more than 25,800 hazardous material incidents were reported to the National Response Center (NRC) in Washington, DC. These incidents included 893 reports involving injuries, 352 reports involving evacuations, and 97 reports involving deaths. In addition, 7,335 of these reports were transportation-related. These figures suggest the nation needs to be better prepared in managing hazardous materials emergencies.

To help emergency planners, first responders, and hospital personnel prepare for and respond to these types of emergencies, the Agency for Toxic Substances and Disease Registry (ATSDR) has developed a three-volume guide entitled Managing Hazardous Materials Incidents.

Volumes 1 and 2 of the guide, Emergency Medical Services: A Planning Guide for the Management of Contaminated Patients and Hospital Emergency Departments: A Planning Guide for the Management of Contaminated Patients, are intended to help first responders plan for hazardous materials emergencies.

Volume 3, Medical Management Guidelines for Acute Chemical Exposure, is a substance-specific guide aimed at providing health care professionals with medical information about managing cases of acute exposure to hazardous substances. The topics are 25 chemicals that are found at

hazardous waste sites. These chemicals are also commonly associated with hazardous materials incidents that result in death or injury. The document contains a description of the chemical, clinical symptoms, prehospital care (decontamination, triage, and transportation), hospital care (including specific procedures to manage treatment of the patient), chronic exposure information, patient information, and follow-up instructions. Also discussed are other topics important for effective handling of medical emergencies: communication, the use of protective equipment, and generic procedures for managing exposures to unidentified substances. The *Guidelines* can be used by emergency room physicians, poison control centers, emergency responders, occupational health clinics, county health officers, and military services.

To order volumes 1 and 2, contact project manager Scott Wright, ATSDR, Division of Health Assessment and Consultation, Mailstop E32, 1600 Clifton Road, NE, Atlanta, Georgia 30333; telephone (404) 639-0616. To order volume 3, contact Patricia Poindexter, ATSDR, Division of Health Education, Mailstop E33, 1600 Clifton Road, NE, Atlanta, Georgia 30333; telephone (404) 639-6205.

In this Issue

Preparing for the Unthinkable1	
From ASTHO & ASTHRA:	
Using Comparative Risk To Set Priorities 2	,
From the States: Colorado3	í
Calendar4	į
Announcements 5	





From ASTHO and ASTHRA. . .

USING COMPARATIVE RISK TO SET PRIORITIES

Because states and cities across America are using the "comparative risk" process to set environmental priorities, the Association of State and Territorial Health Officials (ASTHO) and its affiliate, the Association of State and Territorial Health Risk Assessors (ASTHRA), asked Richard A. Minard, director of the Northeast Center for Comparative Risk (NCCR), to explain the process at ASTHO's April 2 electronic seminar. The following is a brief summary of his remarks.

From Hawaii to Alaska, American states, cities, and tribal governments are turning to the comparative risk process as a tool to set priorities for environmental protection. So far in 1992, California, Texas, and Florida, among others, have started projects that build on methods developed by the U.S. Environmental Protection Agency (EPA) and adapted for state and city purposes by Washington State, Louisiana, Vermont, Colorado, and Seattle.

Comparative risk is a public process that helps participants decide which environmental problems are most serious and how best to reduce the risks. Most states that initiate the process do so because they believe they are not spending their resources where they can do the most good or because they are troubled by the gap between public expectations and public policy.

hazardous Public Health

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 The process has three basic steps: 1) define and analyze the risks posed by the environmental problems facing a jurisdiction; 2) rank the risks in order of their severity; and 3) agree on strategies to better manage the most important risks. The process is part science and part politics: at its best, it puts up-to-date technical information into the hands of decisionmakers—including legislators and the general public—in a way that enables them to make better political decisions.

A project's definition of "risk" should flow from the public's deepest values. Recent projects have defined risk as anything that threatens or damages something the public values, including human health, ecological health, economic well-being, fairness, and future generations. Traditional risk assessment techniques form an intellectual foundation for the analysis, though comparative risk projects must be far less specific and quantitative than a sitespecific risk assessment. The large geographical size of the area under study, the variability of exposures and responses, the scarcity of relevant data, and definitions of risk that extend beyond the physical sciences require innovative analytical approaches. States, cities, and EPA's regional offices have developed a variety of risk estimation and ranking techniques that have produced useful results. The best of these techniques are brutally honest about uncertainty and the active role played by individuals' judgment and values.

The findings of state comparative risk projects have been fairly consistent with those of EPA's *Unfinished Business* and *Reducing Risk*. Even those states that asked nontechnical public advisory committees to rank problems have concluded that the public's perception of risk may be at odds with a ranking based on a more rigorous analysis. Resolving that conflict is one of the essential political and environmental challenges facing America today because in a democracy, governments should deliver what their constituents ask for, not what a handful of scientists decide is important.

The most successful comparative risk projects have been those that have engaged the widest audience of citizens and public decisionmakers and have best helped them see all of the consequences of their choices for environmental management. In Washington State, this outreach and involvement created the political momentum needed to pass major legislation dealing with air pollution, energy conservation, water conservation, and transportation management. In Vermont, the outreach effort helped create a public climate that enabled the health department to focus more attention on lead poisoning and indoor air pollution. In short, the process changed enough people's understanding of the risks around them to make significant policy changes and risk reduction possible.

For more information about comparative risk, for advice about starting a project, or to receive the monthly *Comparative Risk Bulletin*, contact Richard Minard at the Northeast Center for Comparative Risk, Vermont Law School, P.O. Box 96, South Royalton, VT 05068; telephone (802) 763-8303. NCCR was created by EPA and Vermont Law School to provide direct assistance to public comparative risk projects.

From the States...

Colorado

The Colorado Department of Health, serving a state with 16 hazardous waste sites in 11 counties, employs a variety of site-specific strategies to inform physicians and other health professionals about environmental health effects. These strategies include distributing written resource books and site-specific handouts, writing articles, and delivering presentations. Four of these hazardous waste sites on the National Priorities List (NPL) are historic mining towns in western Colorado and involve heavy metals (lead, cadmium, and arsenic.) Uranium processing occurs at two of the NPL sites in Colorado, and a variety of hazardous substances are found at 10 NPL sites in Denver.

Through a cooperative agreement with ATSDR, a publication called the *Environmental Resource Notebook* was developed for health professionals in Colorado. The *Notebook* includes names, addresses, and telephone numbers of resources in environmental medicine; information on Superfund sites; background on environmental health hazards in Colorado; and patient management guidelines for diagnosing and treating environmental illnesses.

Colorado's *Notebook* was distributed to 700 health professionals in 1991. Approximately 15% of the recipients were queried on their initial reaction to the *Notebook*. Health professionals were asked about the frequency of their patients' environmental health concerns and likelihood of their use of particular chapters. Three months after the initial distribution, 38% of the target audience was mailed a 2-page survey form to assess knowledge, skill, and behavioral changes. According to project manager Sallie Thoreson, "Health care providers handle environmental health questions, but it is not a major part of their practice. They want basic background on environmental medicine and want to know [what] resources [are] available."

To foster access to environmental health resources, Colorado state health officials are developing a library of information on Colorado Superfund sites and chemicals found at the sites. A promotional mailing about the Superfund

library was sent to health care professionals. The Department is also compiling Superfund informational packets that will be distributed to health professionals involved in site-specific activities.

Physician education is a key-component of Colorado's strategy. In addition to providing environmental health curriculum materials to faculty and students at the University of Colorado Medical School, the Colorado Department of Health has reached more than 375 health professionals through presentations, grand rounds, and environmental seminars in the past year. The Department has developed a slide presentation that describes the history of Superfund sites and hazardous substances in Colorado. This information has been the basis for 10 site-specific presentations. Superfund sites such as Chemical Sales in the Denver metro area, as well as potential Superfund and other hazardous waste sites in Pueblo and Grand Junction, have been highlighted.

To inform local officials on environmental health resources available at the state level, the Colorado Department of Health is working with national organizations such as the National Association of County Health Officials (NACHO). In 1992, Colorado state health officials participated in a NACHO conference at an all-day workshop that addressed the topic "Managing and Preventing Environmental Health Controversy: A Communication Approach to Local Public Health."

Finally, the Colorado Department of Health keeps physicians and other health professionals aware of the Department's activities in the communities surrounding Superfund sites. Colorado state health officials have published articles on environmental health issues in various Colorado health professional newsletters and plan to continue publicizing activities at Superfund sites.

For more information on Colorado's activities, please contact Sallie Thoreson, Colorado Department of Health, 222 S. 6th St., Room 232, Grand Junction, CO 81501; telephone (303) 248-7161; fax (303) 248-7198.

PREVENTION 93

April 17 - 20, 1993 The Adams Mark Hotel St. Louis, Missouri

LEADERSHIP FOR PREVENTION IN HEALTH CARE REFORM

Calendar

September

Sept. 22-24: Minimization and Recycling of Industrial and Hazardous Waste '92 Conference and Exhibition, Arlington, Virginia. Contact: Hazardous Materials Control Resources Institute, 7237 Hanover Parkway, Greenbelt, MD 20770-3602; telephone (301) 982-9500; fax (301) 220-3870.

Sept. 23-25: Ninth International Symposium on Epidemiology in Occupational Health, Cincinnati, Ohio. Contact: Carlin C. Mills, Public Health Advisor, National Institute for Occupational Safety and Health, Robert A. Taft Laboratories, 4676 Columbia Parkway, Mailstop R16, Cincinnati, OH45226; telephone (513) 841-4481; fax (513) 841-4540.

October

Oct. 1: Hazardous Waste Management Under RCRA, Atlanta, Georgia. Contact: Environmental Resource Center, 3679 Rosehill Rd., Fayetteville, NC 28311; telephone (919) 822-1172; fax (919) 822-0449.

Oct. 10-15: American Academy of Pediatrics (AAP) Annual Meeting, San Francisco, California. Contact: Marisa Goldberg, AAP, 141 Northwest Point Blvd., P.O. Box 927, Elk Grove Village, IL 60009-0927; telephone (708) 228-5005.

Oct. 15-18: American Association of Family Physicians (AAFP) Annual Meeting, San Diego, California. Contact: Edward Daleske, AAFP, 8880 Ward Parkway, Kansas City, MO 64114-2797; telephone (816) 333-9700; fax (816) 822-0580.

Oct. 17-21: Toronto 92—A Global Conference on Environmental Education, Toronto, Canada. Contact: North American Association for Environmental Education, P.O. Box 400, Troy, OH 45373; telephone (513) 339-6832; fax (513) 335-5623.

Oct. 20-23: The Laboratory and Epidemiology: The Development and Application of Biomarkers to the Study of Human Health Effects, Richland, Washington. Contact: Dr. Lowell E. Sever, Chairman, Hanford Symposium on Health and Environment, Batelle Seattle Research Center, P.O. Box 5395, 4000 NE 41st St., Seattle, WA 98105-5428; telephone (206) 528-3348.

Oct. 25-29: National Association of Retail Druggists (NARD) Annual Meeting, Seattle, Washington. Contact: Susan Decker, NARD, 205 Dangerfield Rd., Alexander, VA 22314; telephone (703) 683-8200.

Oct. 26-30: American College of Occupational and Environmental Medicine (ACOEM) Fall State of the Art Conference, New York, New York. Contact: ACOEM, 55 West Seegers Road, Arlington Heights, IL 60005; telephone (708) 228-6850; fax (708) 228-1856.

November

Nov. 7-11: American Public Health Association (APHA) Annual Meeting, Washington, DC. Contact: APHA Meeting Registrar, 1015 15th St., NW, Washington, DC 20005; telephone (202) 789-5600.

Nov. 16-20: Fundamentals of Industrial Hygiene, Virginia Beach, Virginia. Contact: American Industrial Hygiene Association, P.O. Box 8390, 345 White Pond Dr., Akron, OH 44320; telephone (216) 873-2442; fax (216) 873-1642.

December

Dec. 1-3: International Conference on Women and Environment, Alexandria, Egypt. Contact: Dr. Samia Galal Saad, Department of Environmental Health, High Institute of Public Health, 165 El-Horriya Ave., Alexandria, EGYPT; telephone (20 3) 421 5575; fax (20 3) 421 8436.

Dec. 1-4: HMC/Superfund '92 Conference and Exhibition, Washington, DC. *Contact:* Hazardous Materials Control Resources Institute, 7237 Hanover Parkway, Greenbelt, MD 20770-3602; telephone (301) 982-9500; fax (301) 220-3870.

January

Jan. 25-27: Symposium on Quantitative Methods for Utilization of Multi-Source Data in Public Health, Atlanta, Georgia. Contact: Division of Surveillance and Epidemiology, Epidemiology Program Office, Centers for Disease Control, Mailstop C08, 1600 Clifton Rd., NE, Atlanta, GA 30033; telephone (404) 639-0080.

Please submit calendar information to *Hazardous Substances and Public Health*, Agency for Toxic Substances and Disease Registry, 1600 Clifton Rd., NE, Mailstop E33, Atlanta, GA 30333; telephone (404) 639-6206; fax (404) 639-6208.

Announcements

CALL FOR ABSTRACTS

PREVENTION 93 Focuses on Health Care Reform

PREVENTION 93, the tenth annual national disease prevention and health promotion meeting, will be held in St. Louis, Missouri, from April 17-20, 1993. The meeting theme, "Leadership for Prevention in Health Care Reform," will be the focus of four days of workshops, poster sessions, and paper presentations. The roles and responsibilities of public health, organized medicine, the private sector, and individuals will be examined and considered in terms of access and delivery, the relationship between prevention and primary care, the inclusion of public health and clinical preventive services into the proposed paradigms, and the costs—human and economic—of including or excluding prevention strategies.

Abstracts are sought for presentations at PREVENTION 93 that represent the results of scientific research, technological advances, innovations in program design, practice methods, or educational techniques. Abstract forms and instructions are available from Emily Parker Slough, Meetings Manager, PREVENTION 93, 1015 15th St., NW, Suite 403, Washington, DC 20005-2605; telephone (202) 789-0006. Abstracts must be received by September 29, 1992.

1993 Hazardous Waste Congress To Be Held in Atlanta

The first International Congress on the Health Effects of Hazardous Waste will be held in Atlanta on May 3-6, 1993, at the Marriott Marquis Hotel, Sponsored by ATSDR and the Emory University School of Public Health, the Congress will provide an exchange of ideas, recommendations, and findings related to the human health effects of hazardous waste. The intended audience includes environmental epidemiologists, toxicologists, and health scientists from both government and academic settings; clinical and public health physicians working in environmental and occupational health; health educators; public health administrators and policymakers; health, safety, and management representatives from industry; professional environmentalists; and the general public. The Congress is cosponsored by the Centers for Disease Control, the National Institute of Environmental Health Sciences, the U.S. Environmental Protection Agency, the Association of Occupational and Environmental Clinics, the Carter Center of Emory University, the International Life Sciences Institute, the International Programme on Chemical Safety, the International Society for Exposure Analysis, the Pan American Health Organization, and The Sierra Club.

Abstracts are being solicited for poster presentations and concurrent sessions in the following subject areas:

- exposure,
- health effects,
- assessment of exposure and health effects,
 and
- research needs.

For more information about abstract submissions and conference registration, please contact Steve Von Allmen, Science Policy Analyst, Office of the Assistant Administrator, ATSDR, 1600 Clifton Rd., NE, Mailstop E28, Atlanta, GA 30333; telephone (404) 639-0708. Abstracts must be postmarked no later than January 14, 1993.

MEETINGS

Environmental Health Policy Course Offered by MSH

Management Sciences for Health (MSH) is presenting a 3-week course entitled "Environmental Health: Strengthening Policies and Programs," September 28-October 16, 1992, in Boston, Massachusetts. The course is designed for senior and mid-level policymakers and managers in environmental health from governmental and non-governmental organizations. Topics to be covered include the following: identification of problems, prioritization of needs, principles of environmental and occupational health policies, policy development, implementation of policies, and program management. Through classroom discussions, case studies, and field visits, the course will focus on recognizing, evaluating, and controlling environmental and occupational health problems, with an emphasis on policy and management.

The registration fee for the course, which includes tuition and course materials, is \$3800. For more information, including application forms, contact the Management Training Program, MSH, 400 Centre Street, Newton, MA 02158; telephone (617) 527-9202; fax (617) 965-2208.

Symposium on Statistical Methods Sponsored by CDC and ATSDR

The 1993 Centers for Disease Control (CDC) and ATSDR Symposium on Quantitative Methods for Utilization of Multi-Source Data in Public Health will be held January 26-27, 1993, at the Hotel Nikko, Atlanta, Georgia.

For additional information regarding scientific content of the Symposium and short course, please contact G. David Williamson, PhD, Chair, 1993 CDC and ATSDR Symposium on Quantitative Methods for Utilization of MultiSource Data in Public Health, Epidemiology Program Office, Mailstop C08, Centers for Disease Control, 1600 Clifton Rd, NE, Atlanta, Georgia 30333; telephone (404) 639-3806.

To request registration information, please contact Phaedra Shaffer, MPA, Epidemiology Program Office, Mailstop C08, Centers for Disease Control, 1600 Clifton Road, NE, Atlanta, Georgia 30333; telephone (404) 639-0080.

Publications

ATSDR Public Health Assessment Guidance Manual Available

Because large numbers of hazardous waste sites and facilities can potentially affect public health, ATSDR must have an instrument of triage to determine where, and for whom, public health actions should be undertaken. The Agency's instrument of choice is the public health assessment, which characterizes the nature and extent of hazards and identifies communities where public health actions are needed. The ATSDR Public Health Assessment Guidance Manual provides the environmental health professional with directions for implementing that important public health tool.

As a standard reference for federal agencies, public health professionals, libraries, and engineers and scientists involved in the management of hazardous waste, the *Guidance Manual* includes the following information:

- Describes the steps involved in performing a public health assessment;
- Explains how a public health assessment report should be written and the format in which one should be presented; and
- Clarifies methodologies and guidelines used by ATSDR staff and agents of ATSDR in conducting public health assessments.

The Guidance Manual is the result of the combined efforts of ATSDR, Oak Ridge National Laboratory, and state health departments participating in the ATSDR Public Health Assessment Cooperative Agreement Program. The draft manual was made available for public comment through an announcement in the Federal Register and distributed to federal, state, and local entities, private consultants and corporations, and trade/professional organizations.

Copies of the Guidance Manual may be purchased from Lewis Publishers, 2000 Corporate Blvd., NW, Boca Raton,

FL 33431; telephone (407) 994-0555. Cost: \$49.95 in the United States; \$59.95 outside the Unites States. (Add \$7.50 per volume for shipping and handling charges on U.S. and Canadian orders.) Catalog no. L857.

ACCESS EPA Series Produced

The Office of Information Resources Management in the U.S. Environmental Protection Agency (EPA) has available ACCESS EPA, a series of directories that provide contact information and descriptions of services offered by libraries, databases, information centers, clearinghouses, hotlines, dockets, records management programs, and related information sources. EPA produced the series, which is updated annually, to improve access to environmental information provided by EPA and other public sector organizations. The series includes one consolidated volume, entitled ACCESS EPA (\$18), and the following seven directories:

Public Information Tools (\$7);
Major EPA Dockets (\$6);
Clearinghouses and Hotlines (\$6);
Records Management Programs (\$6);
Major EPA Environmental Databases (\$6);
Libraries and Information Services (\$7); and
State Environmental Libraries (\$7).

The consolidated volume of *ACCESS EPA* is available through the Government Printing Office (GPO): New Orders, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954; telephone (202) 783-3238; fax (202) 512-2250.

All eight titles are available from the National Technical Information Service (NTIS): NTIS, Sills Building, 5285 Port Royal Road, Springfield, VA 22151; telephone (703) 487-4650; fax (703) 321-8547.

Conference Proceedings Feature Women in Environmental Health

The Global Assembly of Women and the Environment, which convened in November 1991 in Miami, Florida, explored the role of women in environmental management and recognized their contribution to the success of environmental policies. This international forum, which was the culmination of 18 months of work by international agencies, women's groups, environmental organizations, nongovernmental organizations, and national governments, described the accomplishments of women in managing projects for energy, waste, water, and environmentally friendly systems. Conference attendees also proposed recommendations for continued and expanded success.

Follow-up activities to the conference include four publications: the *Green Book* (a how-to manual for project management), a conference newsletter, an analysis of gender issues in environmental management, and the proceedings of the global assembly. To order these publications, please contact the Global Assembly Project, WorldWIDE Network, 1331 H Street, NW, Suite 903, Washington, DC 20005; telephone (202) 347-1514; fax (202) 347-1524.

NGA Bioremediation Report Offers Case Examples

"As the cost of cleaning up hazardous waste sites continues to escalate, states are searching for innovative approaches to site remediation," according to John Thomasian, Director, Natural Resources Policy Studies, Center for Policy Research, National Governors' Association (NGA). One of the most promising of these alternative cleanup technologies is bioremediation, or the use of microorganisms to break down hazardous waste into simple, nontoxic compounds. This method provides cost savings along with feasible implementation and effective treatment.

States' Use of Bioremediation: Advantages, Constraints, and Strategies is an 18-page report that discusses many of the technological, economic, and regulatory questions that states must answer before applying bioremediation in the field, using case examples as illustrations. It was produced by NGA's Environment, Health, and Safety Program under the direction of Jim Solyst and funded through a cooperative agreement with the U.S. Environmental Protection Agency's Office of Research and Development.

For more information about the report, please contact Paul Thompson, National Governors' Association, 444 N. Capitol St., Washington, DC 20001-1572; telephone (202) 624-5359.

Health Studies Available to the Public

Environmental health scientists at ATSDR conduct health studies at various Superfund sites nationwide to evaluate the health effects of hazardous substances on exposed populations. The following health study is available to the public through the National Technical Information Service (NTIS).

Arsenic and Lead Exposure Study — Rocker, Montana (January 1992) NTIS order no. PB92166537AS. Cost: \$19.00 (paperback) or \$9.00 (microfiche) plus \$3.00 shipping and handling.

To order this health study and others prepared by ATSDR, contact NTIS, Sills Building, 5285 Port Royal Road, Springfield, VA 22151; telephone (703) 487-4650; fax (703) 321-

8547. For more information on health studies activities, contact Sharon Campolucci, Deputy Director, Division of Health Studies, ATSDR, 1600 Clifton Road, NE, Mailstop E31, Atlanta, GA 30333; telephone (404) 639-6200.

NACHO Study Examines Role of Local Health Department

According to a 1992 report by the National Association of County Health Officials (NACHO), local health departments maintain an active role in meeting the environmental health challenges of communities nationwide despite the current trend in the fragmentation and separation of environmental health from public health agencies. This national report, entitled Current Roles and Future Challenges of Local Health Departments in Environmental Health, describes current issues challenging local health departments, assesses the current role of local health departments in meeting these challenges, and identifies their needs in building capacity to meet future challenges. Development and publication of the report were funded through a cooperative agreement between NACHO and ATSDR.

Approximately 350 local health departments surveyed ranked the following factors—from "most likely" to "least likely"—to significantly enhance their agency's capacity in addressing the top environmental health challenges in their community:

- more resources:
- greater awareness of environmental health issues by local elected officials;
- more education and training;
- statutory authority for environmental health;
- better state/local coordination; and
- more federal communication and outreach.

Copies of Current Roles and Future Challenges of Local Health Departments in Environmental Health may be obtained by contacting Heidi Klein, Environmental Health Project Manager, NACHO, 440 First St., NW, Suite 500, Washington, DC 20001; telephone (202) 783-5550; fax (202) 783-1583. Cost of the publication is \$10. (NACHO sustaining members receive one complimentary copy each.)

State Maps of NPL Sites Available from NACHO

The National Association of County Health Officials (NACHO) announces the publication of *National Priorities List Sites in U.S. Counties*. This 27-page manual includes maps of National Priorities List (NPL) sites by county for all 50 states and Washington, DC.

Information is also included on U.S. territories. Prepared by the NACHO Environmental Health Project in cooperation with ATSDR, *Sites in U.S. Counties* is for use by county and local health officials in targeting resources and making policy decisions. The maps are reproducible and can be added to reports.

The data in Sites in U.S. Counties were obtained from ATSDR's HazDat—the Hazardous Substance Release/Health Effects Database. HazDat was developed to provide rapid access to information on the release of hazardous substances from Superfund sites or from emergency events. HazDat also contains information regarding the effects of these substances on the health of human populations.

Copies of National Priorities List Sites in U.S. Counties may be obtained by contacting Heidi Klein, Environmental Health Project Manager, NACHO, 440 First St., NW, Suite 500, Washington, DC 20001; telephone (202) 783-5550; fax (202) 783-1583. The publication is free for NACHO members, \$3 for nonmembers.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service Agency for Toxic Substances and Disease Registry Atlanta, Georgia 30333

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American Public Health Association



FOR HEALTHY COMMUNITIES

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