

Pollution Prevention and Public Health:

A Unified Approach to Disease Prevention and Environmental Protection

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The purpose of this factsheet is to provide public health officials with an understanding of how to further integrate pollution prevention (P2) into every-day agency activities, and to define other roles health departments can play to reduce health risks through pollution prevention.

DEFINITION: What is pollution prevention, and how does it relate to public health?

Pollution prevention or "source reduction" is any practice which prevents or reduces pollution at the source. That means using raw materials, energy, water, and other resources more efficiently, thereby reducing or eliminating the creation of waste pollutants. Pollution prevention methods also reduce the quantity and toxicity of waste generated. By minimizing the use and production of hazardous substances we can prevent those substances from entering the air, water, soil, and food chain. Pollution prevention is an essential tool for decreasing public health risks, and for assuring healthy people and healthy communities.

Public health is premised on the saying, "an ounce of prevention is worth a pound of cure." Local public health departments are already involved in many pollution prevention activities, such as helping to reduce household hazardous wastes and protecting workers from industrial exposures. The philosophical framework of pollution prevention closely parallels public health with a focus on primary prevention, education, technical assistance, and voluntary action.

"Multi-Media" Approach

Health Department A identifies ways to incorporate the "P2 mentality" into all health department activities. For example, when going on any type of inspection, health officials look for pollution prevention opportunities, raise awareness about P2 by bringing factsheets and other materials to the sites, and bring people together by referring industrial representatives and others to technical experts. Health officials disseminate information on new technologies to industries and the public through health and business fairs, trade shows, and other public events.

Inspection of Auto Body Shops

Environmental Health Division B operates a voluntary, non-regulatory pollution prevention program that reaches out to the automotive repair industry. The program involves workshops, manuals, on-site assistance and audits which encourage automotive body shops to reduce the pollution they generate. The program focuses on product substitution, process changes, and better housekeeping, such as stricter inventory control and increased environmental quality in the shops.

ROLE OF HEALTH DEPARTMENTS: What are the roles of local health departments in relation to pollution prevention?

Local health departments play a unique role in protecting the public from risks of exposures to harmful substances and maintaining clean and safe air, water, and facilities. These are also the essential elements of pollution prevention.

Local public health officials are responsible for protecting the health of the community and the environment. Health departments can **identify and address immediate health and environmental concerns** to which pollution prevention/source reduction strategies can be applied. By **identifying the pollution prevention players** in the community (i.e. individual members of the community, environmental regulatory agencies, economic development organizations, universities and colleges, businesses, households, or the community itself), health departments can **bring people together** to solve community problems. Local public health officials **work closely with the public**. By **incorporating community perspectives** into decision-making and program development, pollution prevention strategies will better serve the public because they will be stronger and more easily accepted. Health officials can **serve as community advocates** by ensuring that community concerns are identified and addressed, and that other agencies follow through on commitments. Lastly, health officials can **raise awareness about P2** programs and opportunities through health and business fairs, during site inspections, and at other community health education events.

A Pollution Prevention Check List for Health Departments:

Pollution prevention is any method to use resources efficiently in order to reduce the quantity and toxicity of waste generated. Local government involvement can take a number of forms from making changes within government facilities and operations to providing technical assistance to local businesses and sponsoring community activities.

Indoor Air Quality

District C operates an indoor air quality (IAQ) program which entails assessing the nature and extent of IAQ health issues confronting the local community, developing a pollution prevention plan to avoid future IAQ problems, and providing technical assistance and referrals to building owners and occupants. The district began the program with an assessment of the pollution generated from its in-house print shop. It took steps to increase air ventilation, decrease the use of toxic solvents, and otherwise improve indoor air quality in the print shop and the rest of the building.

For Local Health Departments, P2 Activities Fall Within the Following Core Public Health Functions:

Assessment: identifying community health concerns and populations-at-risk;

Policy Development: using all methods and resources available to minimize health threats through local policies and programs;

Assurance: assuring that all communities have access to all public health services, such as pollution prevention strategies and resources, and can participate in local efforts to reduce human exposure to hazardous substances, conserve natural resources, save energy, and otherwise contribute to pollution prevention/source reduction activities.

Assessment of Pollution Prevention Opportunities:

- ✓ Identify where the opportunities for pollution prevention exist: identify small businesses in the community which use toxic materials (Standard Industrial Classification (SIC) codes can help), small and large quantity hazardous waste generators, and wastewater treatment plants.
- ✓ Identify groups in the community dealing with toxic waste and its reduction (i.e. local emergency planning committees (LEPCs)); and organizations working with SIC codes (i.e. local chambers of commerce and local departments of labor). Work with these groups to address P2.
- ✓ Measure the community's perceptions, attitudes and needs to find out where and how pollution prevention efforts are or can be most effective.
- ✓ Identify practices within the health department (in both business offices and clinics) which create environmental hazards and/or raise the need for increased energy efficiency.

Building Pollution Prevention into Policy Development:

- ✓ Use information gained through the assessment process to determine the need for resources, and areas where pollution prevention policies could strengthen efforts to reduce use of and human exposure to hazardous substances.
- ✓ Draft local ordinances encouraging substitution and other pollution prevention methods by individuals and businesses in areas with high rates of exposure to toxic substances.
- ✓ Work with local and state legislative bodies to develop incentives for local businesses engaged in pollution prevention efforts.
- ✓ Draft internal procurement and disposal procedures which prevent pollution for all local agencies.

Wastewater Treatment

County Drains a water pollution project which seeks to prevent pollution from failing septic systems. The focus of the project is to provide financial and technical support to low-income families to upgrade their sewage disposal system, educate the public on the importance of well operating sewage systems, and encourage newer technologies where appropriate.

Assurance of the Community's Access to Pollution Prevention Strategies and Resources Through:

...Partnership activities:

- ✓ Work with businesses, schools, environmental organizations, community groups, and others who may already be implementing pollution prevention strategies. Collaborate your activities.
- ✓ Form partnerships with the private sector, and reward companies and businesses that implement pollution prevention activities; get to know the chamber of commerce.
- ✓ Work with the numerous regional, state, and local agencies which have an interest in pollution prevention such as the local departments of environmental quality, public works and economic development.

...Community outreach/environmental justice:

- ✓ Ensure that all populations in the community in need of information on pollution prevention get timely and accurate assistance.
- ✓ Target pollution prevention activities to communities which face exposure to multiple pollutants and hazards.

Household Hazardous Waste

Agency E maintains a pollution prevention project which aims to reduce the use of hazardous materials through education and dissemination of information. The project decreases hazardous waste generation by raising awareness about pollution prevention opportunities, educating the public on alternatives to hazardous household products, producing a puppet show program to reach out to young people, and developing a grocery store tour guide which includes information on how to identify least-toxic household products.

...Educational activities:

- ✓ Be an advocate of reducing risks through pollution prevention.
- ✓ Be aware of P2 information resources and act as information broker and resource for others in the community.
- ✓ Continue to educate the public on ways to eliminate household hazardous waste and substitute safer products for toxic ones.

In-House Practices

City F incorporates pollution prevention into the everyday operation of its health department. It maintains a data bank of the latest environmentally sound technical innovations and uses all innovations which are cost-efficient and applicable in its design decisions. For its purchasing decisions, The city buys and uses energy efficient lighting and computers, and uses products that are safer for the environment, such as non-bleached paper, soy ink, and renewable fuels.

...Enforcement activities:

- ✓ Encourage increased compliance with Federal and state environmental regulations; in some cases, encourage companies to go beyond compliance through pollution prevention.
- ✓ Educate the regulated community on ways to achieve compliance through pollution prevention.
- ✓ Report environmental health and safety risks in order to find opportunities for pollution prevention.
- ✓ Help reduce the waste from small quantity hazardous waste generators, and help those operators better manage the waste they generate.
- ✓ Hold accountable those who have committed to pollution prevention activities.

...In-house activities:

- ✓ Prepare your department to be a community resource. This can be achieved by maintaining a data bank of the latest environmentally sound technical innovations, a list of safer product substitutions, and other pollution prevention information to share with the public.
- ✓ Reduce energy use by using energy-efficient light bulbs of motion sensors, by turning off computers after hours or using energy-efficient "energy star" computers, and by implementing other measures which decrease inefficiencies in energy use.
- ✓ Promote reuse of raw materials over recycling.
- ✓ Substitute products that harm the environment with existing safer alternatives, such as non-bleached paper, water-based industrial solvents which do not emit volatile organic compounds (VOCs), renewable fuels, and other products.

The Evolution of Prevention In Our Management and Treatment of Solid Waste

As time has progressed, we have moved from a focus on managing and treating our pollution to identifying sources and preventing the creation of pollution.

The following timeline uses the example of solid waste management to illustrate how our practices have moved closer to pollution prevention/source reduction over time. It also demonstrates that pollution prevention is already a central concept for local public health.

Common Practices in Solid Waste Management

1. Unregulated individual disposal
2. Centralized community collection and regulated disposal
3. Basic landfill design and testing (covering landfills)
4. Groundwater monitoring to identify contaminants
5. Landfill site-capping
6. Federal disposal restrictions enacted (Resource Conservation and Recovery Act standards)
7. Required lining of solid waste sites to prevent groundwater contamination
8. Collection and treatment of solid waste
9. Recycling
10. Waste reduction
11. Product change: factoring the environment into product design

RESOURCES: Where can I get more information about pollution prevention?

The U.S. Environmental Protection Agency and your state pollution prevention contacts are good places to start when gathering information on pollution prevention and related activities. There are also several good resource guides which provide information on where communities can go for pollution prevention materials, possible funding sources, etc. Other manuals speak more to risks, ways to increase energy and production efficiency, safe product alternatives, and case studies, among other valuable information.

The following list should get you started:

Pollution Prevention Information Clearinghouse, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, (202) 260-1023.

"Pollution Prevention: A Guide for Local Government," International City/County Management Association, (800) 745-8780.

"Pollution Prevention--A Practical Guide for State and Local Governments," David Wigglesworth, (800) 272-7737.

"Minimizing Hazardous Waste--Regulatory Options for Local Governments," Local Government Commission, Sacramento, CA, (916) 448-1198.

"Source Reduction Now: How to Implement a Source Reduction Program," Minnesota Office of Waste Management, (612) 649-5482.

The National Pollution Prevention Roundtable, Washington, D.C. (202) 543-7272.

A Compendium of Local Pollution Prevention Case Studies, National Association of County and City Health Officials (available in May, 1995), (202) 783-5550.

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