

Environmental Health in Minnesota



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Department of Health



**State Community Health
Services Advisory Committee**

January 1993



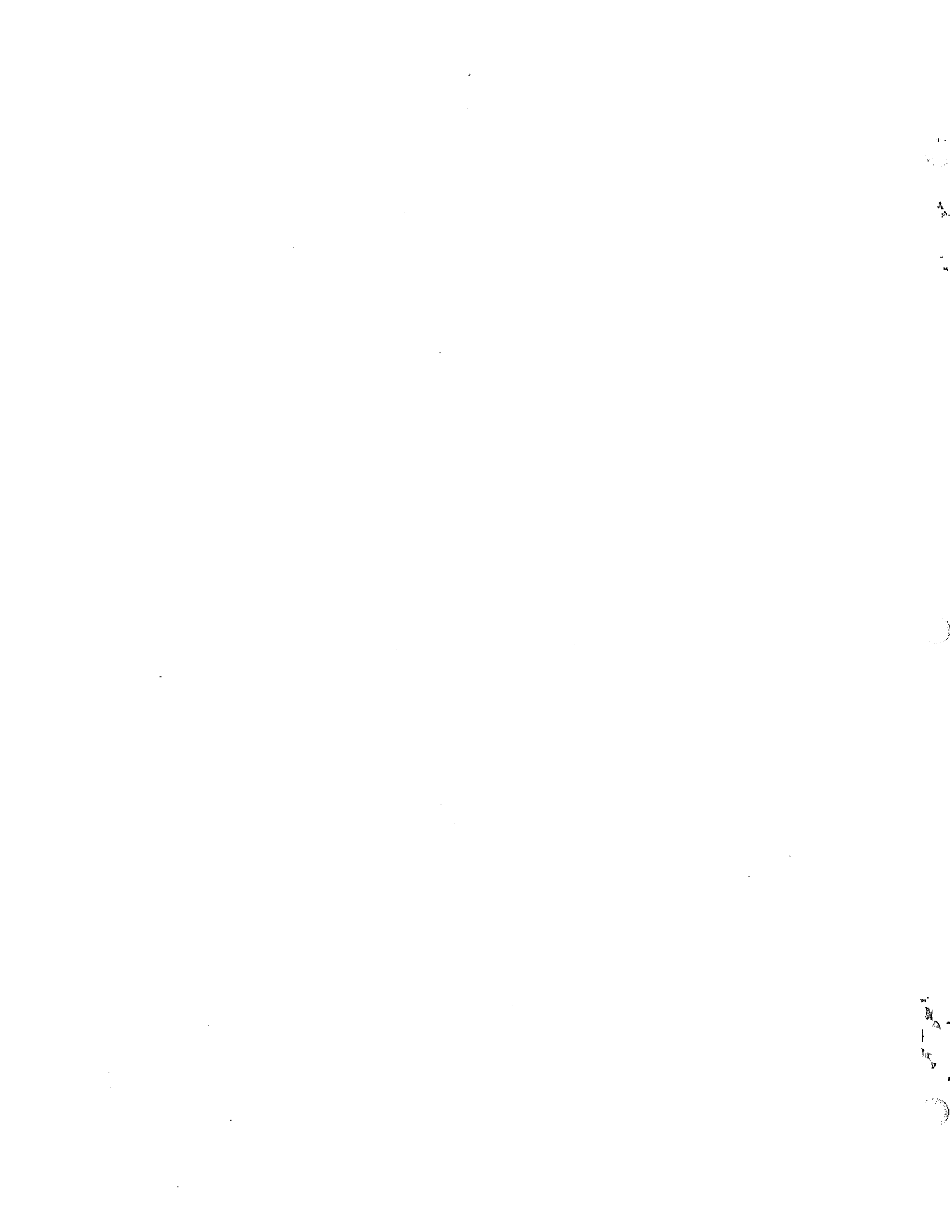
**Environmental Health In Minnesota —
*Strengthening Public Health Leadership
In Environmental Health***

A Report of the
Environmental Health Work Group
of the
State Community Health Services Advisory Committee

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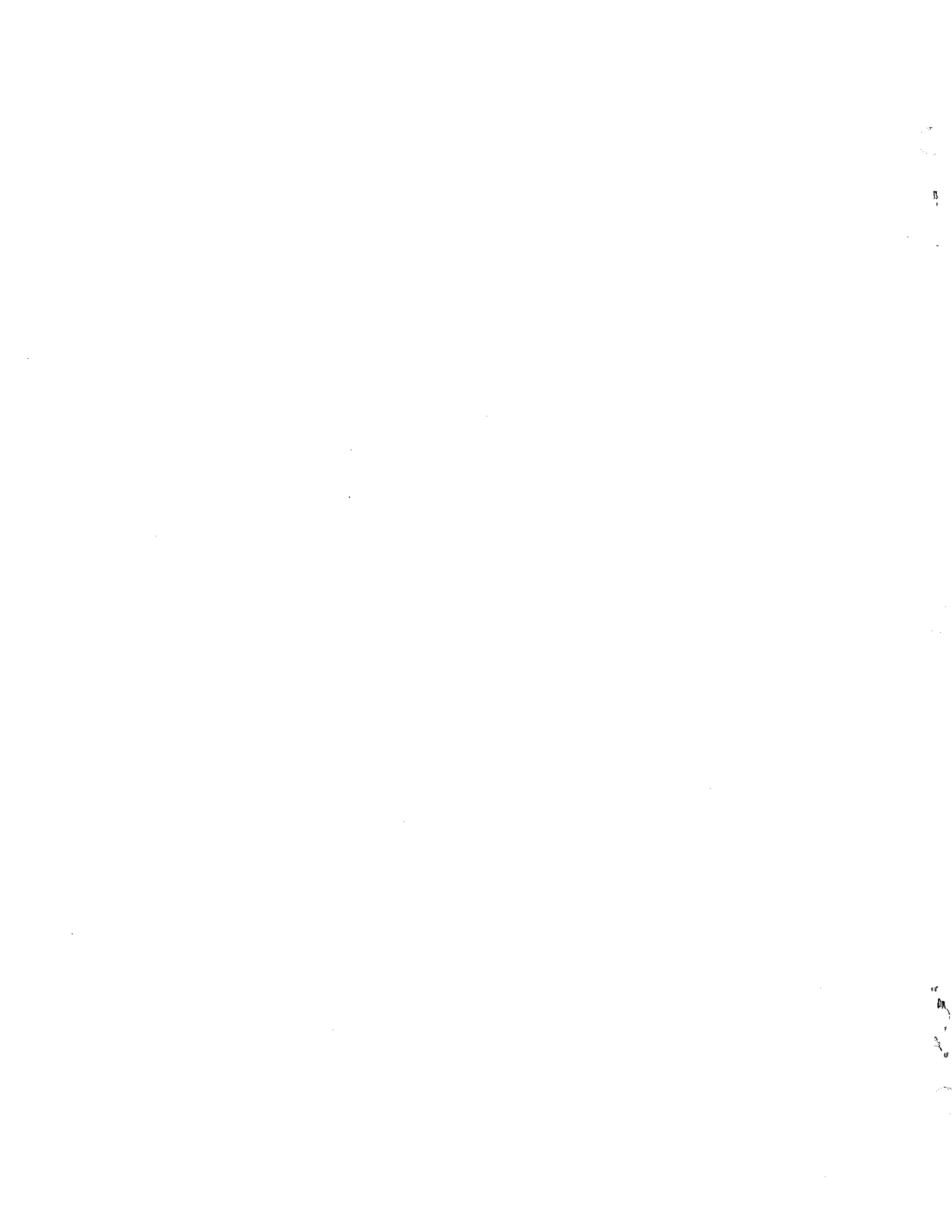
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Introduction

Environmental health has been an integral part of the public health mission for over a century. With the rest of public health, environmental health shares a basis in science and a focus on protecting and promoting the health of the public.

In the past twenty years an explosion of environmental laws has given greater visibility to efforts aimed at protecting the environment and our natural resources. In the process, confusion has grown over what seems to be the distinct and sometimes conflicting goals of health protection (protecting people from the environment) and environmental protection (protecting the environment from people). Many believe that environmental protection is being given priority over health protection, and that the methods of regulation and enforcement are emphasized over those of education and consultation.

While the goal of environmental protection may, in fact, be more visible today, it is largely driven by the desire to protect human health both now and in the future. While environmental protection and health protection may require different expertise and sometimes use different methods, they are mutually dependent goals. Human health ultimately depends upon a healthy environment and healthy ecosystems.

The challenge to public health is to strengthen its advocacy for the protection of human health, while also working more closely with programs which seek to protect the environment, our natural resources, and land use.

Currently, the State and many local governments are examining how they can achieve greater efficiencies and enhance customer service in the delivery of environmental services. Often, these efforts focus on re-organizing programs and departments. This has many public health practitioners concerned that service integration and coordination will come at the expense of a strong focus on health protection and of educational/consultative approaches to ensuring compliance.

In deliberating on this issue of the organization and delivery of environmental programs, the 1992 SCHSAC Environmental Health Work Group recognized that no one model could be recommended for the entire state. Among the reasons for this are:

- local decision-making in the administration of community health services was a founding principle of the CHS system;
- the capacity to provide environmental health programs varies across the state; and
- public health could be seen as standing in the way of current government reform efforts aimed at greater efficiency and customer service in the public sector.

This document was created to help maintain and strengthen state and local government's obligation to protect the public health. The document provides guidance on how state and local public health can:

- 1) provide leadership in protecting the public from environmental hazards;
- 2) strengthen cooperative relationships in the delivery of all environmental programs; and
- 3) effectively and efficiently organize and deliver environmental health programs.■

**State Community Health Services Advisory Committee
Environmental Health Work Group**

1992

Work Group Charge

1. To identify various models that currently exist for the organization and scope of environmental health services in local government.
2. To assist Community Health Boards in identifying appropriate roles for their agencies in relation to environmental health and other environmental services.
3. To identify ways that the Minnesota Department of Health can assist Community Health Boards to increase their capacity to address environmental issues.
4. To recommend ways that the Minnesota Department of Health can clarify and strengthen relationships with other state agencies in regard to environmental health issues.

Work Group Membership

Sally Evert, Chair	Board member	Washington
Donna Anderson	CHS Administrator	Dakota
John Bach	Board member	Meeker-McLeod-Sibley
Delores Baumhofer	Board member	Chippewa
Rob Fulton	CHS Administrator	Ramsey
Bonnie Holz	Environmental Health Staff	Brown-Nicollet
Jill Johnson	Environmental Health Staff	Winona
James Kurowski	CHS Administrator	Olmsted
Marina McManus	CHS Administrator	Anoka
Al Melby	Board member	Clay-Wilkin
Robert Mood	Environmental Health Staff	City of Bloomington
Dorothy Opheim	CHS Administrator	Cass
Jim Sayre	Environmental Health Staff	Aitkin
Dale Schroeder	Environmental Health Staff	St. Louis
Roma Steil	CHS Administrator	Stearns

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Part I

Background and Recommendations

Part I — Background and Recommendations

Three significant trends have occurred in our nation's response to environmental issues in the twentieth century :

- from unrestricted use of natural resources in order to fuel economic growth to the protection of human health and natural resources;
- from assuring the rights of individuals and businesses to use natural resources as they saw fit to promoting individual and corporate responsibility for protecting and preserving the environment and the public health; and
- from efforts to control only the worst sources of pollution to controlling any activity which could degrade natural resources or negatively impact human health.

Beginning in the early 1960's, Congress and state legislatures began passing increasingly technical laws to protect public health and the environment (see chronology of environmental laws in Part III). Four factors contributed to this explosion of environmental legislation:

- a marked increase in citizen concern over environmental issues;
- a rise in special interest groups related to environmental protection;
- an increased knowledge of the health effects of environmental hazards; and
- court rulings which bound government to act when known threats to human health were identified.

Unfortunately, the piecemeal approach in which environmental laws were enacted prevented a comprehensive, more thoughtful solution to the complex problems they sought to address. As often happens, new and hard-won legislative initiatives were established as separate programs, and often housed in new agencies or governed by new boards, in order to give the initiatives the visibility and political protection desired by both policy-makers and special interest groups.

Meanwhile, the state and local public health agencies—who had been so successful in controlling chemical and biological risks to human health over the past 150 years—were largely ignored as an established system who could carry out these new environmental programs. In part, this happened because of the inclination to provide visibility to new initiatives, and

The piecemeal approach in which environmental laws were passed prevented comprehensive, more thoughtful solutions to the complex problems they sought to address.

The state and local public health agencies—who had been so successful in controlling chemical and biological risks to human health over the past 150 years—were largely ignored as an established system which could carry out these new environmental programs.

because special interest groups and industry—two major stakeholders in recent environmental legislation—may not have been familiar with public health. Other possible reasons for the exclusion of public health include:

- public health's historical role in the sanitation of the environment had been forgotten, replaced by a complacency about its contributions and an emphasis on its more visible role in delivering personal health services for the indigent;
- new initiatives were generally organized around environmental media—water, air, land, and biota—while public health historically crossed all media;
- many of the new initiatives relied on "end-of-pipe" pollution control strategies and not *prevention* strategies which are a hallmark of public health;
- the initiatives increasingly regulated large industry, which was not seen as a "customer" for public health, or for whom public health may not have been seen to have the political clout to regulate effectively;
- the regulatory aspects of environmental health were seen as less desirable to public health than the human service aspects of personal and family health services; and
- public health did not seize the opportunity to administer the new programs because of a pre-occupation with the rapidly growing health care and other human service programs of the 1970's.

Many observers noted the continuing fragmentation in environmental health and protection programs at federal and state levels, and the public and professional confusion over the role of public health in the environmental arena.

Through the 1980's, many observers noted both the continuing fragmentation in environmental health and protection¹ programs at federal and state levels, and the public and professional confusion over the role of public health in the environmental arena². Despite the fact that most environmental laws were driven by the need to protect human health by protecting the environment, public health's

¹ "Environmental health and protection refers to protection against factors which may adversely impact human health or the ecological balances essential to long-term human health and environmental quality, whether in the natural or man-made environment. These factors include but are not limited to air, food and water contaminants: radiation, toxic chemicals, wastes, disease vectors, safety hazards, and habitat alterations." (*The Future of Environmental Health*, National Environmental Health Association, 1992.

² However, environmental services is not alone as an arena in which public health—and government in general—has to make decisions about overlapping and fragmented responsibility. Many of the social problems being addressed by government today—complex, multi-faceted problems such as violence, crime, teen pregnancy, and services to children with disabilities—cross historical agency lines and require coordinated inter-agency responses. Recently, policy-makers and governments have moved toward examining problems more holistically—identifying the root causes of problems, deciding which interventions will be most effective with available resources, and then mixing various agency roles and expertise to create inter-agency responses.

involvement in both the legislative process and the implementation of new environmental programs seemed to be shrinking. This trend is particularly unfortunate because public health has both the science and methodologies to effectively carry out environmental health and protection programs.

The Contributions of Public Health in Environmental Health and Protection

Public health agencies have the primary responsibility for protecting human health, either through the direct provision of services or through assuring that others are maintaining a health protection perspective. Public health brings both a broad approach and diverse strategies in carrying out this responsibility.

Public health agencies have the primary responsibility for protecting human health.

The unique approach used by public health lies in thoroughly analyzing the causes of a disease or condition; i.e., which combination of factors in the biological, physical, or social environment interact with the genetic makeup of an individual to either promote or impinge on health. Once those relationships are understood, it is possible to break any one of the links between a factor and the person to reduce or eliminate the health risk. Strategies used by public health to break those links include:

- **assessment** — identifying the types, nature, and extent of potential environmental risks to human health in a community and assuring that steps are taken to reduce or eliminate those risks;
- **public information and education** — providing information to individuals to enable them to make voluntary behavior change conducive to protecting or promoting their health, such as in running tap water to purge any overnight accumulation of lead;
- **environmental changes** — altering elements in the physical environment which confer some level of health protection to individuals, such as adding fluoride to public water supplies (known as "passive prevention");
- **regulation** — establishing standards to assure uniform health protection measures, such as in requiring proper holding temperatures for hot and cold foods to discourage microbial growth;

Public health is unique in the number of strategies which it brings to the environmental health and protection arena.

- **consultation** — providing information and education to the regulated community to promote greater understanding of, and compliance with, regulations or other requirements; and
- **enforcement** — taking last-resort action to assure that non-compliance does not jeopardize the health and safety of residents.

One of the greatest challenges facing the nation today is the difficulty in balancing priorities and resources between solving current problems and preventing tomorrow's problems.

In environmental health, the risks to human health can be chemical, biological, or physical (see table on the following page). Whatever the risks, the strategies used by public health are those listed above.

Public health is unique in the number of strategies which it brings to the environmental health and protection arena. It does not rely exclusively on heavy-handed regulation and enforcement but uses information, persuasion, education, and consultation to achieve its mission of protecting and promoting the public's health. It is also unique in its focus on prevention.

Another challenge is in establishing priorities for reducing risks to human health and the environment. A large number of resources are often directed at hazards which pose little relative risk to the public compared to other hazards which receive little attention or concerted action.

One of the greatest challenges facing the nation today is the difficulty in balancing priorities and resources between solving *current* problems and *preventing* tomorrow's problems. Constrained budgets and the political and public sense of urgency surrounding today's problems make the need for prevention programs universally acknowledged but difficult to enact. Also, the fragmentation of environmental responsibilities is a barrier not only to setting priorities but to designing comprehensive solutions to our environmental health and protection problems.

Another and very serious problem for the nation is in establishing priorities for reducing risks to human health and the environment. A large number of resources are often directed at hazards which pose little relative risk to the public compared to other hazards which receive little attention or concerted action. This presents a major challenge for environmental health and protection staff. As summarized by a recent National Environmental Health Association paper³, "...it must be emphasized that the issue of how risk is identified, assessed, defined, understood, prioritized, communicated and managed, and the manner in which perception, emotion and hysteria are handled, is itself among the most critical environmental problems of today

³ The Future of Environmental Health, National Environmental Health Association, 1992.

Environmental Risks to Human Health

Risks/Agents	Problem	Causes (one example)	Interventions
Chemical	Lead Poisoning	Lead in plumbing contaminates drinking and cooking water	<ul style="list-style-type: none"> • assessment of homes and children's blood levels • running water before drawing • replacing lead pipes • adding anti-corrosive agents to city water supplies • public education and information
Biological	Foodborne Diseases	Disease-causing microbes grow rapidly at room temperatures	<ul style="list-style-type: none"> • regulations to keep hot foods above 140°, cold foods below 40° • proper hand washing practices • consultation for regulated community • public education and information • enforcement when necessary
	Contaminated Wells	Septic system too close to well	<ul style="list-style-type: none"> • regulations requiring minimum distances, septic system capacity, etc. • consultation and training to well drillers and septic system installers • public education and information • enforcement when necessary
Physical	Worksite Hazards	Unsafe work conditions which lead to injuries or hazardous exposures	<ul style="list-style-type: none"> • worker safety education • regulations on equipment safeguards, safety devices, hazardous materials handling and storage, etc. • enforcement when necessary

"Environmental health and protection professionals usually have greater expertise in the technical program areas than in the realm of assessment, hazard analysis, epidemiology, prioritization, economics, communication, management, and public policy."

It is critical for public health to re-capture a leadership role in assuring that the public is protected from environmental hazards.

In Minnesota, we are in a better position than most states because of the state-local partnership in public health.

and tomorrow. Resources can best be allocated to address actual and significant risks, yet public perception often drives the response of elected officials and public agencies. Environmental health and protection professionals usually have greater expertise in the technical program areas than in the realm of assessment, hazard analysis, epidemiology, prioritization, economics, communication, management, and public policy."

Given these monumental challenges, the fragmentation of environmental responsibilities, and the declining role of public health in new environmental initiatives, it is critical for public health to re-capture a leadership role in assuring that the public is protected from environmental hazards. In Minnesota, we are in a better position than most states to take coordinated action because of the state-local partnership in public health.

State Roles In Environmental Health

The Minnesota Department of Health (MDH) is the principal agency of state government charged with protecting the public health from exposures to environmental hazards (see Part III for an overview of state and local environmental health in Minnesota and a chronology of environmental laws).

In a recent document which defines the mission and policy directions for the MDH Environmental Health Division, the support of local environmental health programs was identified as one of the following seven priorities⁴:

1. Initiate and continue vigorous public education and outreach efforts to protect public health and minimize exposure to environmental hazards.
2. Develop a division-wide risk communication strategy to more effectively communicate with the concerned public about environmental health hazards and health protection programs.
3. Continue the emphases on developing cooperative agreements with federal, state, and local agencies to coordinate program activities, eliminate duplication of effort, encourage local program responsibility and improve efficiencies in operations.

⁴ Policy Directions In Environmental Health, Minnesota Department of Health, Environmental Health Division, June 1992.

4. Continue the use of and participation in a variety of advisory groups to insure EHD programs are responsive to the needs and concerns of the public and regulated community.
5. Maintain statutes and rules that reflect legislative intent and priorities and are reflective of changing public health needs and issues.
6. *Continue to strengthen local/state partnerships in protecting the public from environmental exposures.*
[emphasis added]
7. Develop preventive programs and approaches where appropriate and possible."

Local Roles In Environmental Health

A community health board has the "general responsibility for the development and maintenance of an integrated system of community health services" (Minn. Statutes, Chapter 145A.10, (the Local Public Health Act)). One of the six program categories in Community Health Services is Environmental Health (see also the profile of local environmental health in Minnesota contained in Part III).

The Local Public Health Act defines environmental health as:

...activities intended to achieve an environment conducive to human health, comfort, safety, and well-being.

These activities include the coordination and provision of education, regulation, and consultation for health and safety purposes, related to:

- *food protection;*
- *hazardous substances and product safety;*
- *water supply sanitation;*
- *waste disposal;*
- *environmental pollution control;*
- *occupational health and safety;*
- *public health nuisance control;*
- *institutional sanitation;*
- *recreational sanitation, such as swimming pools;*
- *housing code enforcement⁵.*

Minnesota—in contrast to many other states—has not had a strong tradition of environmental health within local public health.

Minnesota—in contrast to many other states—has not had a strong tradition of environmental health within local public health. While twenty years ago every county in the state was served by local public health nursing services, a much smaller number of counties and municipalities had environmental health programs.

⁵This re-working of the statutory definition of environmental health was submitted by Rich Peters, Director, Olmsted County Environmental Health.

The Community Health Services Act of 1976 (recodified as the Local Public Health Act in 1987) enabled both the public health nursing services and environmental health programs to come together and expand through more comprehensive and coordinated public health planning, program development, and service delivery. This expansion of local environmental health programs occurred primarily due to:

The local health department is frequently the first to be called when citizens suspect a potential environmental threat to their health.

- the clarification of local public health responsibilities under the CHS Act;
- the promotion of environmental health delegation agreements between the Commissioner of Health and local boards;
- local boards working with counties and municipalities to identify needed programs;
- increased technical assistance provided by state environmental health staff;
- increased citizen concern about environmental hazards and the impact on health; and
- new federal and state environmental legislation and funding.

It is increasingly critical for a local health department to have accurate information on environmental hazards, and to be able to communicate the potential risks associated with those hazards in understandable terms.

The local health department is frequently the first to be called when citizens suspect a potential environmental threat to their health. In addition to longstanding environmental health issues such as food protection, public health nuisances, private well/groundwater contamination, and illegal dumping of waste, the local public health department now often addresses emerging and increasingly complex issues such as hazardous and solid wastes, radon, lead, pesticide management, and land use development^{6,7}. It is increasingly critical for a local public health department to have, or be able to quickly obtain, accurate information on a variety of environmental hazards, and then be able to communicate the risk believed to be associated with those hazards in understandable terms to the community.

According to a recent report by the National Association of County Health Officials (NACHO)⁷, the factors most needed by local public health to increase its capacity to address emerging environmental health issues are (in order of rank):

- more resources, both financial and staff;
- greater awareness of environmental health issues by local elected officials;

⁶ Minnesota Association of Community Health Administrators (MACHA) Legislative Position Paper on Environmental Health, December, 1991.

⁷ Current Roles and Future Challenges of Local Health Departments in Environmental Health, NACHO, 1992.

- more staff education and training;
- statutory authority for environmental health which clarifies jurisdictions and responsibilities among all governmental units involved in environmental issues;
- better state/local coordination; and
- more federal communication and outreach.

In discussing the issue of fragmented statutory authorities for environmental health, the NACHO report noted that an "effective method to address the current situation and the problem of fragmentation remains to be developed." The Local Public Health Act (Minn. Statute 145A) does provide for one clear role for local public health which cannot be delegated. As stated in the Minnesota Association of Community Health Administrators position paper on environmental health (see footnote 6 on previous page), "Community Health Boards, through their local community health planning process, have the responsibility to assess their communities for environmental issues and to develop public health responses to those issues in their community health plans. Local health departments are responsible for implementing those plans."

Part II of this document contains a framework for making decisions about the delivery and organization of environmental health and protection services. It also contains ways in which to maintain a public health perspective throughout environmental health and protection services.

"Community Health Boards...have the responsibility to assess their communities for environmental issues and to develop public health responses to those issues in their community health plans."

*Local plans
in CO & out
EH or MDAH
EH?*

Recommendations

The public health community must sustain its important and historical role of protecting human health from risks in the environment, whether those risks are found in water, air, food, or in worksites. This requires that public health practitioners and policy makers understand that health protection is an important part of the public health mission. The public health community must also acknowledge that human health requires a healthy environment and work more closely with other agencies who seek to protect our natural resources.

In a time when government is looking for new ways to provide quality services to its customers, it is more important than ever to work closely with other agencies and with the regulated community. The regulated community must be able to more easily obtain the information and the consultation it needs to understand its important role in protecting its customers and the public health. Working more closely with others is one more way in which MDH and CHS can fulfill the CHS mission to "...bring people together to create a healthy future for all Minnesotans."

When so many new and complex problems demand the attention of government, it is critical that policy makers and practitioners not become complacent about past successes in environmental health. Protecting the public health requires constant vigilance and commitment, and society cannot afford to neglect this important cornerstone of local and state public health.

If public health in Minnesota is going to re-capture and sustain a leadership role in protecting the public health from environmental hazards, coordinated and complementary actions will be necessary at both the state and local level. The following recommendations include general guidance on how state and local public health in Minnesota can more effectively achieve its mission of protecting and promoting the health of residents. The three general recommendations are followed by more specific and complementary strategies which can be used by state and local public health to work toward those recommendations.

I. Provide leadership and proactive advocacy in environmental health.

For the Commissioner of Health and the MDH Environmental Health Division:

- Actively support and make more visible the environmental health responsibilities and contributions of state and local public health with the Legislature, other state agencies, and local government.
- Provide technical support and advocacy on local environmental health issues as needed and requested by local agencies and boards.
- Promote a better understanding among local boards of health and other elected officials of the purpose and mission of environmental health and the role of state and local public health in carrying out that mission.
- Provide the leadership necessary to bring the environmental health community together and to foster a consistent public health philosophy and approach in environmental health.

*M. Steiner
2/10*

II. Strengthen state and local public health roles in environmental health.

For the Commissioner of Health and the MDH Environmental Health Division:

- Actively support and make more visible the environmental health responsibilities and contributions of state and local public health with the Legislature, other state agencies, and local government.
- Continue to support the CHS Subsidy as a means to support local CHS planning, coordination, and program development.
- Assure adequate resources are allocated to carry out these recommendations.
- Provide more coordinated and consistent technical assistance to local environmental health programs.
- Actively promote the environmental health delegation agreements, and provide increased consultation to counties and cities with agreements.
- Encourage additions to the environmental health delegation agreements, or establish new agreements, which could add greater flexibility in meeting the needs of individual agencies.
- Explore future funding options for environmental health programs, preferably targeted to environmental health but on a formula or otherwise non-competitive basis.
- Support the CHS planning process by providing timely environmental health data and consultation on program development.
- Support the message that environmental health is an integral part of public health by physically co-locating the Environmental Health Division with the other MDH Divisions.
- Remain committed to hiring qualified environmental health staff, and provide them with an orientation on the mission of environmental health and the roles of state and local public health in carrying out that mission. Also provide environmental health staff with the training necessary to keep skills current.

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divided
to E.H.D.

THIRD

For Community Health Boards, Local Public Health and Environmental Health Management Staff:

- Actively support and make more visible the environmental health responsibilities and contributions of public health with local boards, other local departments and programs, and the community.
- Involve environmental health/public health management and line staff in county/city planning or ordinances which relate to environmental health and protection, such as in the implementation and updating of the comprehensive local water plan.
- Actively advocate for prevention strategies in all environmental programs, the importance of education and consultation in working with the regulated community, and for protecting the public's health.
- Examine and comment on the potential health impacts of any county/city action related to environmental health and protection, such as local water plans, planning and zoning ordinances, and solid or hazardous waste management.
- Support the message that environmental health is an integral part of public health by providing strong management support to environmental health programs and staff.

- Remain committed to hiring qualified environmental health staff, and provide them with an orientation on the mission of environmental health and the roles of state and local public health in carrying out that mission. Assure adequate staffing as new programs are added, and provide environmental health staff with the training necessary to keep their skills current.
- Improve the assessment of environmental risks to human health and the development of any environmental health goals and objectives in the CHS planning process.
- Involve the local Community Health Advisory Committee in studying and providing recommendations on environmental health and protection issues both as a part of CHS planning and on an ongoing basis.
- Execute faithfully all provisions of environmental health delegation agreement.

Review
Form?
Yes

III. Continue efforts to coordinate service delivery across agencies and programs, and to enhance customer service.

For the Commissioner of Health and the MDH Environmental Health Division:

- Continue efforts to clarify state agency roles and to reduce fragmentation and conflicting messages from state agencies to local government. Ways in which this can be done include cooperative agreements with other state agencies, inter-agency work groups, and publishing and periodically updating the *Directory of State Environmental Health Programs*. If any cooperative agreements affect boards of health, local government, or other stakeholders, they should be involved in the discussions.
- Form a representative group from within the Environmental Health Division to coordinate technical support to CHS.
- Appoint liaisons between the Environmental Health and Community Health Services Divisions to ensure communication on both ongoing and urgent issues related to CHS.
- Provide orientations on the CHS system to new Department staff as a means to promote a better understanding of how to support local environmental health and other programs.

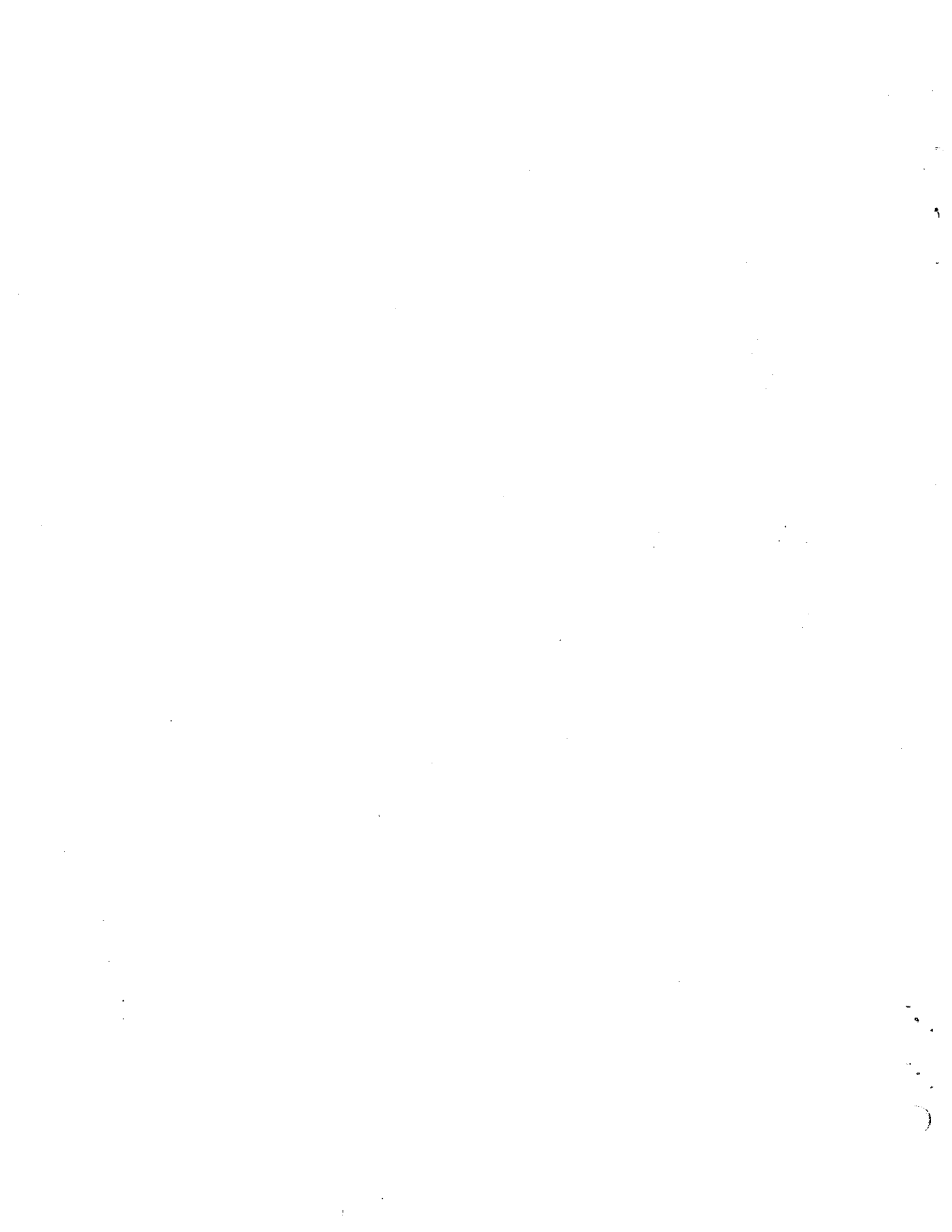
possible ?
✓

For Community Health Boards, Local Public Health and Environmental Health Management Staff:

- Enhance communication and coordination with other local departments to reduce confusion and frustration for the end-users of local services.
- Develop and maintain effective communication with other local departments and between environmental health and other public health program staff.
- Provide enhanced consultation to the regulated community to assure a better understanding of, and compliance with, regulations designed to protect health.
- Use the decision-making framework contained in this publication (or similar systematic process) in making any decisions about how to organize local environmental health and protection services. ■

Part II

Framework For Deciding How To Organize Local Environmental Services



Part II — A Framework For Deciding How to Organize Local Environmental Services

Many counties and cities are currently facing the issue of how to best organize and deliver environmental health and protection services¹. The impetus for this is largely from two sources: (1) the higher priority given to local environmental issues, especially in the areas of comprehensive water plans and solid waste management; and (2) an increasing emphasis in government on enhancing "customer service."

Also make at state level

The following framework provides a thoughtful approach to making decisions about organizing environmental health and protection services. The framework includes steps to:

- assess your current environmental health and protection service delivery system;
- identify and define the major issues, strengths and weaknesses you discovered in the assessment;
- establish goals which address those issues and weaknesses and build on your strengths; and
- identify and implement changes which can lead you toward your goals.

In the constantly changing arena of environmental health and protection, it is important to have services organized in a way that ensures responsiveness, communication, coordination, collaboration, and flexibility. This does not necessarily mean organizing all environmental services in one agency. In fact, the organizational chart probably has less to do with how services are delivered than the organizational "culture." Effective agencies and programs build on a solid base of customer service, foster collaboration and communication both within and across agencies, use formal and informal reward systems that support change and responsiveness, use information systems to improve decision-making, pay attention to the quality of work life, and see themselves as "centers of excellence."

Achieving such an organizational culture requires strong management and board support, a commitment to listening to the needs of all customers (see page 3, "Who Is the Customer"), and time. It also requires a commitment to making a thoughtful approach to identifying issues and designing and implementing solutions. The decision-making framework which follows can help you to achieve that approach.

"The committee [on the Future of Public Health] notes that 'reorganizing' is frequently the first resort of a beleaguered bureaucracy when in many cases the problem is not truly structural. Reorganizing will not create a policy commitment where none exists; but the right reorganization may enable a commitment to be implemented more effectively. Organizational modifications should form part of a total approach."

Institute of Medicine, The Future of Public Health, 1988

¹ For a definition of "environmental health and protection," please see page 2.

Step 1

Define the Terms You Will Be Using

Defining the terms you will be using is listed as a first step but is really something which must occur throughout the upcoming discussions. Different, even subtly different, uses of the same terms can hamper communication and frustrate the best decision-making. As an example, one person may define "public health services" as including environmental health, while another may define it more narrowly as personal health services or nursing services.

Here is a list of some of the terms you may be using, including some possible definitions (the following are used in this document). *Many of these terms overlap and can be used alternately.*

- **Environmental Health** — public health programs designed to protect the public from health hazards which exist, or could exist, in the physical environment; combines regulatory, educational, informational, consultative, and (when necessary) enforcement strategies to achieve voluntary behavior change.
- **Environmental Health and Protection Services** — services which provide "protection against factors which may adversely impact human health or the ecological balances essential to long-term human health and environmental quality, whether in the natural or man-made environment. These factors include but are not limited to air, food and water contaminants: radiation, toxic chemicals, wastes, disease vectors, safety hazards, and habitat alterations." (*The Future of Environmental Health*, National Environmental Health Association, 1992.)
- **Environmental Services** — can either be all government services related to the environment (see environmental health and protection services above); or (*alternately*) those services which are not traditionally seen as either environmental health or planning and zoning.
- **Public Health** — the governmental and societal responsibility to protect and promote human health; the historical mission and philosophy of public health; e.g., "the public health perspective" or "the public health approach."
- **Public Health Department/Public Health Services** — the local department/agency which provides or assures services to protect, promote, or maintain the health of citizens. In Minnesota, these services generally fall into the categories of Disease Prevention and Control, Emergency Medical Care, Environmental Health, Family Health, Health Promotion, and Home Health.
- **Customer** — the individuals and businesses who receive services or who benefit directly or indirectly from a service; includes the regulated community (are licensed and/or inspected) and residents, among others (see box on next page).
- **Board** — can be either the Board of Health or the County Board of Commissioners. Even though they are often the same individuals, they have different responsibilities and so it is best to be clear which board you are referring to (see box on next page).

These terms are used less often in this document but may be used in your decision-making:

- **Health Protection** — programs or services which have as their *primary* purpose to protect people from environmental risks.
- **Environmental Protection or Natural Resource/Land Use Protection** — programs or services which have as their *primary* purpose to protect the environment from people.

Who Is the "Customer?"

In both the public and private sector, there is significant emphasis today on providing quality customer service. When we talk about improving customer service, we usually mean providing a more effective, valuable, and pleasant interaction with whomever is receiving a service. *In environmental health and protection, and in government generally, the customer is ultimately the citizens and residents, not only of today but of future generations as well.* However, it is often more meaningful in day-to-day service delivery to define the customer as someone receiving a particular government service.

In environmental health, the customer can be a restaurant owner, someone seeking a permit or plan review for new construction, a well owner or driller, individuals or groups seeking information on environmental issues, or another county or city staff person. Many of these customers fall into the category of the "regulated community," meaning those individuals or businesses who must comply with regulations and/or obtain a license or permit. Since the regulated community has a great stake in how regulations are enforced, and their input is often sought in developing regulations, the term "stakeholders" is perhaps more meaningful than "customer."

Defining the customer is important because it is what often drives the philosophy of an agency or board. Also, there are often conflicts between serving different customers. For instance, who is the primary customer—a restaurant owner or the patrons? A developer or the current home owners with private wells? Both are entitled to the highest possible value and quality in the services they receive; however, defining "business" as the primary customer of government can undermine its responsibilities to its broader customer—the public.

Ultimately, both business and government have the same customer—the people who buy goods, pay taxes, and enjoy natural resources—so both can find common ground in enacting and complying with regulations designed to protect people and the environment.

"The Board"—meaning either the Board of Health or the County Board/City Council—is in a very real sense a customer of public health staff. The staff's technical and professional perspective finds its complement in the Board's more broad and political perspective. Because boards are policy-makers and staff are implementers, there is an ongoing need for mutual education between the two.

And lastly, staff are also each other's customers. Whether working with co-workers in the same or different departments, effective communication, collaboration, and coordination occurs best in organizations where staff provide the same quality service to each other as they do to external customers.

Step 2

Assess Current Organization

The next step is to examine the local environmental services delivery system and its organization in your area. By assessing current operations and identifying any problems, you can more effectively plan for the future.

Look at the "way you do business" and identify current strengths and weaknesses. It is indispensable to look at the "customer interface" (what's the experience like for the customer?). You may also want to examine the mission, structure, budget, priorities, and unique capacities of each department with responsibilities related to environmental health and protection. Also examine county/city policies and procedures, inter-agency relationships, and job descriptions. The input of the various agencies and other entities involved in local environmental services (e.g., Soil and Water Conservation District, private well testing labs, etc.), staff, and other customers can be particularly helpful at this point.

Keep a running list of the problems and issues you identify, as well as the strengths of the current delivery system. For many of the issues, you may be able to later collapse into broader issue statements (see examples on page 4). However, the specific issues and problems will be helpful later in Steps 5 and 6 as you identify ways to enhance service delivery.

Many of the issues you identify will likely be more reactive than proactive. For instance, the issues may be new mandates, confusion and frustration over fragmented services, or a need to achieve greater efficiency and coordination. Also analyze the strengths you identify in the current delivery system. What makes them a strength? Can you build on that strength? Can you model other programs after successful ones? At the very least, it will be important to not undermine the current strengths in any decisions you make later in this process.

Step 2 will take time; however, as in any good decision-making, adequate assessment and analysis is key to an effective outcome.

Step 3

Clarify the Issues

The next step is to clearly identify the issues which emerged from the previous assessment. This is critical because everyone should be clear about what you are trying to accomplish and what will be driving the decision-making process.

After identifying the issues, and ensuring that there is a common understanding of them among all participants, you may want to re-phrase the issues into a positive goal statement of where you want to go. While not a critical step, it is usually better to be working *toward* a positive goal than *from* a problem. A goal will provide a better road map and assure a more widely-shared understanding of where you are going.

Examples of some possible issues and their goals include:

<i>Issue</i>	<i>Corresponding Goal Statement</i>
"Our customers are confused about where to go for the services they need."	To improve customer accessibility and understanding of county environmental health and protection services.
"We need to achieve greater efficiencies in all our operations, including environmental health and protection services."	To achieve greater efficiencies in the management and delivery of environmental health and protection services.
"We seem to spend more time responding to mandates than in being proactive about local environmental needs."	To achieve a more proactive role in identifying and addressing local environmental needs.
"Our water plan was developed with too little input from relevant county departments and others."	To achieve a broader and more coordinated implementation and updating of the water plan.
"The regulated community doesn't understand the purpose of regulations. That hampers compliance and puts us in the role of 'regulator'."	To provide enhanced technical assistance and education to the regulated community in order to achieve greater understanding of and compliance with regulations.
"Our customers are frustrated by the fact that each program has a different way of doing business."	To achieve greater administrative continuity across all our environmental health and protection services.
"Our small (but dedicated) staff are too isolated from each other to effectively coordinate their activities."	To explore options for enhancing communication and coordination between all environmental health and protection staff.

Step 4

Decide What Changes Are Needed

Having identified the issues confronting you—and hopefully having translated them into goals—it is time to next identify possible approaches you can use to address those issues. This is an opportunity to lay out your options, discuss how each can help you to achieve your goals, and then identify strategies that will work.

There are two basic types of approaches possible—procedural and organizational.

- Procedural approaches involve changing the "way you do business." They can include changing communication loops, customer relations, re-location of work spaces,

policies, procedures, "paperwork" requirements, inter-departmental relationships, job descriptions, public information techniques, training, among many others.

- **Organizational approaches** involve re-arranging work units within and between departments in ways which create new lines of authority and organizational charts.

The question for you at this point is whether procedural changes will be sufficient to accomplish your goals, or whether a combination of procedural and organizational changes are necessary.

Note: To adequately address issues in local environmental health and protection, organizational changes will likely require complementary procedural changes in order to be effective. Because procedural changes are usually necessary in re-organization anyway, it may make most sense to first implement changes in procedures and give them time to see if they work. Starting with procedural changes also guards against organizing around today's priorities, only to face calls for re-organization as new issues emerge. Lastly, procedural changes allow for greater flexibility and less disruption to both customers and staff than does re-organization.

Whether you choose changing organizational procedures or organizational structure, the goal is to keep the complexity of environmental programs behind the counter, not in front of it.

Step 5

Making Procedural Changes

Here are some examples of procedural changes which may work for you. The examples should be seen as specific techniques which may help you to achieve one or more of your goals (they are by no means exhaustive of all the possible procedural changes). Ask yourself if these techniques would work for you:

- **Locate staff** from different departments in one location in order to, for instance, create a centralized permitting/licensing site or to enhance communication and coordination between environmental health and other environmental services staff (who still report to their own supervisors).
- **Have all professional and support staff** know which unit or person provides which services and be able to quickly transfer calls or direct walk-in traffic.
- **Have a single phone number** for all services related to environmental health and protection; receptionist can answer common questions and transfer other calls to appropriate person.
- **Include a more detailed listing** of environmental health and protection services phone numbers in the phone book.
- **Create an inter-agency environmental management team** to assure coordinated and proactive policy and action on environmental issues.
- **Publish and distribute a "Guide to Government Services"** which includes specific and clear information on who to call for what services.
- **Use formal or informal inter-agency written agreements** to clarify and institutionalize areas of responsibilities and coordination strategies.

- Provide regular cross training between departments.
- Conduct ongoing customer satisfaction surveys and use the responses to shape service delivery.
- Create staff positions to function as "generalists," not to provide all services but to act as a case manager (somewhat like a general contractor in the construction industry).
- Update all policies, procedures, regulations, and ordinances to reflect current federal, state, or local requirements.
- Have inter-agency staff meetings to discuss overlapping issue areas, such as water quality.

Involve line staff in making decisions about which changes are made and how they are made. Staff frequently face frustrations similar to customers, and usually have ideas for how to streamline services and procedures.

"One-Stop-Shopping"—A Solution? Or A Step?

"One-stop-shopping" is currently a popular concept in the public sector. The term is meant to imply the centralized, coordinated, and uniform provision of government services designed to improve "customer" access and convenience.

Efforts to achieve this goal, unfortunately, often stop at re-organizing. The assumption is that locating services and workers under one roof will simplify access and enhance service. However, re-organizing is often not enough; procedural barriers can also greatly hamper simplified service delivery. For instance, even though a person now may come to one location to receive needed services, he or she may find that it still means talking to a number of people in different areas, each with different regulations, fees, ways of doing business, and duplicative but inconsistent paperwork. The services may be under one roof but still seem fragmented and confusing to the end-user.

Achieving the goal of improved, coordinated, and uniform service delivery requires an in-depth look at what currently prevents such coordination. The physical location and layout of workers is only one barrier for customers—the procedural barriers can be just as frustrating.

Fortunately, government has command over many of these procedures (see Step 5 on the previous page). Changing them can be more cost-effective in the long run than simply re-organizing because changes are made in the basic way government does business rather than simply re-organizing around current services and existing procedures.

Step 6

Making Organizational Changes

If procedural changes like those above are not adequate to effectively achieve the goals you identified, a remaining option is to re-organize.

There are three, very generic and basic models for organizing environmental health and protection services:

1. all environmental health and protection services are within a public health department;
2. all environmental health and protection services are within another (often newly created) department; and
3. environmental health and protection services are split between the public health department (environmental health programs and services) and another department (environmental protection, natural resource/land use protection program and services).

It is likely that you will end up with some variation of one of these basic models.

The pros and cons, advantages and disadvantages of each model will vary across the state, depending upon agency and staff capacity, resources, priority given to environmental issues, etc. For this reason, it is important to not simply adopt an organizational model used by another county or city. The approach you select must be based on your own particular needs, priorities, and resources.

Rate the three basic models (or your variation) on their ability to help you address the issues you identified in Step 3.

There are many ways to rate the models but whatever method you choose should involve a combination of open discussion among the principal decision-makers with input from supervisory and line staff on changes which are likely to be most effective. A scoring system could also be used to, for instance, rate each model on a one-to-five scale on each of the issues you identified.

Additional Considerations In Rating Organizational Models

In addition to rating the three models in terms of your issues, the following considerations may also be helpful in thinking through your options. Not all of the listed considerations may be relevant to you, and there will undoubtedly be others which are not listed. Which considerations are relevant will likely depend on the size of your agency and your environmental programs, whether you have a single-county/city or multi-county CHS agency, and how closely they match your issues.

For each model, think about the following considerations:

Customer Service—How well will this model reduce confusion and other barriers for the end-users (the "customers") of environmental health and protection services?

- Will this model reduce confusion over who provides what services and where to go for answers?
- Will referrals to other needed or desired services be enhanced?
- Will the public understand why services are organized in this way?
- Is the likelihood of mixed messages reduced?

Service Delivery—How well does this model support and enhance service delivery?

- Will the department(s) be better able to respond to emerging environmental issues?
- Will communication between line staff/service deliverers be strengthened (i.e., between environmental health and other public health staff, and between environmental health and environment/land use protection staff)?
- Can regulatory programs profit from the skills and approaches used in the more service-oriented programs?

Authority/Accountability—How well will this model support the responsible boards (board of health and county board of commissioners) in governing programs? (See Part III for the environmental health responsibilities of Boards of Health.)

- How much overlap will exist between boards (county board and board of health)?
- Will more than one board have jurisdiction over a department?
- Will accountability to the governing board(s) be improved?
- Will there be a means of assuring a checks and balances between potentially conflicting missions (health protection and environmental/natural resource/land use protection)?
- How will the board of health maintain its responsibilities in environmental health (see Part III)?
- Can the Community Health Advisory Committee maintain oversight and make recommendations on environmental health issues?

Management/Administration—How well does this model support sound management and administrative practices?

- Will the director(s) have a clear mission to advocate for?
- Will the director(s) have a reasonable number and scope of responsibilities?
- Is there a reasonable span of control between the director(s), other management staff, and line and support staff?
- Will the responsibilities of overlapping programs and staff be more clear?
- How will this model affect priority and budget setting?
- Will this model require significant procedural changes to make it work?
- How will this model affect the ability to be proactive on environmental issues?

Program and Staff Development—How well does this model support and enhance new program development and the professional development of staff?

- Can the department(s) better respond to emerging environmental and other issues?
- Will this model assist in recruiting and retaining qualified staff?
- Will there be more staff development/career mobility opportunities for environmental staff?
- Can regulatory programs profit from the skills and tools used in more service-oriented programs?

Step 7

Evaluate and Refine

Whatever approaches are taken to address the issues you identified—whether procedural or organizational—they will not likely achieve your goals overnight. The process of change will take ongoing monitoring, evaluation, and refining to assure that it is leading you toward your goals.

Keeping A Public Health Perspective In Environmental Health and Protection Services

The discipline of public health has made—and continues to make—significant contributions in environmental health and protection. In fact, intervening to protect human health from biological and chemical risks dates back centuries and was the foundation of public health. Even today, the overriding priority in much of environmental protection is actually health protection.

When environmental health programs are not in a public health agency, it is important for the public health director to assure that effective communication exists between environmental health and other public health staff. The Director must also, to the extent possible, assure that a public health perspective is maintained in those environmental health programs. Maintaining such links and perspectives is a challenging task; however, the effort is important because:

- the board of health still has responsibility for protecting the public's health from environmental risks;
- the public is most concerned with protecting their health, and this interest provides the impetus for most environmental programs;
- many important links exist between environmental health and other public health programs, such as water quality and maternal-child health; assessment of the environmental risks in the home as part of Family Health or Home Health services; and food- or water-borne contamination and outbreaks;
- prevention strategies (versus "end-of-pipe" pollution control strategies) are key to reducing societal costs and protecting the environment; and
- it can be difficult for one agency to adequately maintain both a health protection and a natural resource/land use protection perspective. An outside agency, such as the public health agency, can help to assure that one perspective does not dominate the other—a checks and balances function which is important to good government.

Specific strategies which can help to maintain links between environmental health and public health include:

- environmental department head reports at board of health meeting;
- directors and/or supervisors from public health and environmental services/planning and zoning form an environmental management team;
- all positive water reports are sent to maternal-child health coordinator;
- a staff inter-agency environmental health team is established to coordinate services/information exchange, investigate outbreaks, contaminated sites, etc;
- public health staff are actively involved in water planning;
- environmental health and public health staff jointly develop environmental risk assessment and intervention guidelines for both staff; e.g., lead screening and abatement, identifying problems with water well or septic systems, rodent control, etc. (See *Assessment of Health Risks in the Home Environment*, MDH, 1992);
- liaisons exist in each agency who attend each other's staff meetings, develop joint protocols and guidelines, etc.;

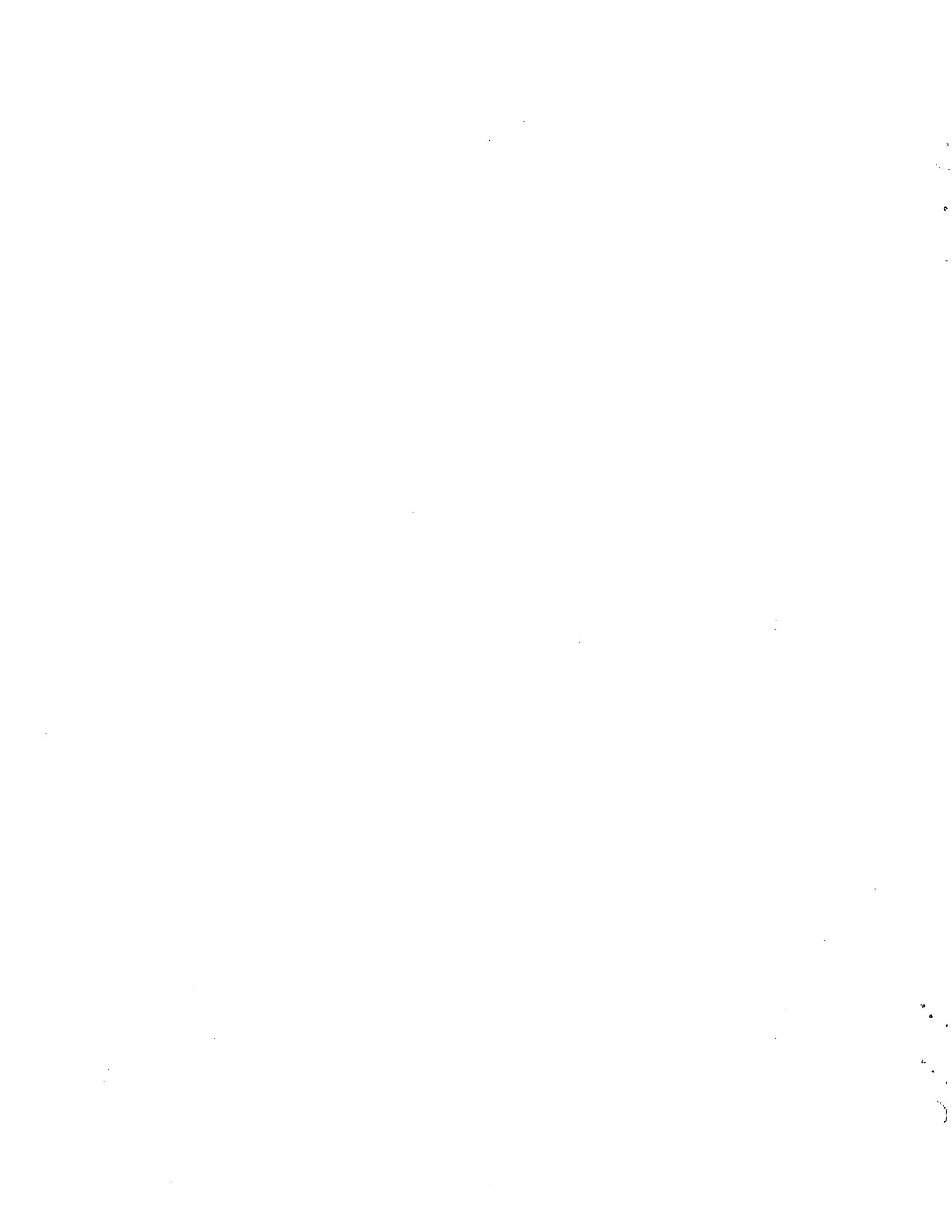
24 ♦ *Organizing Local Environmental Services*

- public health director participates in the development of mission statements, policies, etc. for the environmental services agency to help assure that a focus on prevention and on the health effects of hazards is not lost or minimized;
- an environmental health committee is established within an environmental services department to help keep a public health perspective alive in the organization;
- cross training between agencies is promoted;
- environmental health and public health missions and perspectives are presented in the orientations of both agencies;
- community health advisory committee serves both agencies (or at least environmental health areas of an environmental services agency); and
- formal or informal inter-agency written agreements are used to establish strategies like those listed above to solidify agreement on the principles and to "institutionalize" working relationships.

Which strategies will work will depend on many factors, including personalities and the history between departments. However, the goal of keeping a public health perspective, mission, and strategies alive in an environmental services department is important for both public health and the community. It is one more example of *assurance* as a core function of public health.■

Part III

*Profile of Environmental Health
In Minnesota*



Part III — Profile of Environmental Health Programs In Minnesota

Profile of State Environmental Health Programs

(adapted from: Policy Directions in Environmental Health, Minnesota Department of Health, June, 1992.)

The first public health laws in Minnesota were passed in 1872 and focused on the provision of safe drinking water and the enforcement of sanitation practices. At that time, the state Board of Health, which preceded the Minnesota Department of Health (MDH), was responsible for the regulation of public drinking water, sewage disposal, waste water treatment, and milk sanitation.

The hotel inspection program was established in 1913; food, beverage and resort facilities were added between 1913 and 1919 and became the responsibility of the Board of Health in 1925; and in 1933 the state plumbing law was passed. Protection of industrial workers became a public health responsibility when the Occupational Disease Reporting Law was passed in 1939 and its administration was assigned to the MDH.

In the 1950's, the MDH became involved in monitoring the environment for radioactivity as a result of nuclear bomb testing in the United States, Soviet Union and China; later the Department established standards for the inspection and safe operation of x-ray machines. As nuclear powered electricity generating plants were built, the MDH assumed responsibility for developing emergency response plans in the event of an accidental release of radioactivity.

As public concern about the environment and health protection increased in the 1960's, Congress passed major federal environmental legislation that contributed to the reorganization of environmental responsibilities at both the federal and state levels. Part of the re-organization in Minnesota was the 1976 separation of pollution control activities from the MDH into a newly created Minnesota Pollution Control Agency (MPCA). Regulation of wastewater treatment and air pollution was transferred to the new agency, while responsibility for drinking water safety was retained by the MDH.

With passage of the federal Occupational Safety and Health Act in 1970 and the Minnesota Occupational Safety and Health Act in 1973, the worker protection programs were divided at the state level between the

Brief Chronology of Environmental Health Laws

1872 -- state Board of Health established; major emphasis is on controlling water-borne disease

1885 -- first law to prevent pollution of rivers and other water supply sources; state Board of Health made responsible

1889 -- state Dairy and Food Commission authority expanded to regulate all food products

1907 -- state Dairy and Food Department adopts food standards and labeling rules; begins education campaign with theme, "National Decay Begins in the Individual's Stomach"

1919 -- state Department of Agriculture established to promote agriculture; merges with Dairy and Food Department in 1923

1927 -- state Board of Health given authority to enforce all water pollution laws; most relate to sewage and industrial waste

1931 -- state Department of Conservation established

1945 -- state Water Pollution Control Act passed; commission established with officers from departments of health, conservation, agriculture, dairy and food, and livestock sanitation; commissioner re-structures in 1951 to better represent industry, local government and the public; MDH provides support services

1965 -- federal Solid Waste Disposal Act passed

1967 -- state Pollution Control Agency created largely from MDH programs to "meet the variety and complexity of problems relating to water, air and land pollution"

1970 -- federal Environmental Protection Agency created; Federal Clean Air Act passed

1971 -- state Environmental Rights Act passed

1972 -- federal Clean Water Act passed

1973 -- state Environmental Policy Act enacted

-- state Environmental Quality Board established to facilitate interactions between state agencies for solutions to environmental problems

1974 -- federal Safe Drinking Water Act passed

1976 - Community Health Services Act passed

-- state Environmental Coordination Procedures Act passed to "establish a mechanism in state government to coordinate administrative decision-making procedures..."

1980 -- state Waste Management Act passed; Waste Management Board created

1983 -- state "Superfund" created to support clean-up of hazardous wastes

1985 -- state Comprehensive Local Water Management Act passed to encourage coordinated local water planning

1987 -- state Board of Water and Soil Resources created by merger of boards of Soil and Water Conservation, water Resources, and Southern MN Rivers Basin Council; purpose was to develop coordinated state approach to local water and soil programs

-- Local Public Health Act passed

1989 -- state Groundwater Protection Act enacted

-- state Infectious Waste Control Act passed

1990 -- state Toxic Pollution Prevention Act passed to encourage the prevention of toxic pollution

Chronology adapted from the Commission On Reform and Efficiency, Environmental Services Project briefing document, 1992.

Department of Labor and Industry as the lead agency and the MDH. The MDH investigates unhealthy conditions in the workplace; the Department of Labor and Industry investigates unsafe work practices.

Currently, protection of drinking water remains a responsibility of the MDH as authorized by the federal and state Safe Drinking Water Act. The MDH maintains responsibility for public and private water systems protection through its water supply monitoring, engineering, and well management programs. Food and water safety in hotels, campgrounds and restaurants and occupational health also continue to be administered by the Environmental Health Division.

Food and water safety programs in public facilities are assured locally in many areas of the state through delegation agreements between the Commissioner of Health and various local units of government.

Additionally, the Community Health Services Act was passed in 1976, providing state block grant monies for eligible local boards of health in the state. These monies provided an incentive for local government to engage in more comprehensive public health planning and program development, including environmental health program development.

Over the last 100 years, the focus of environmental health programs has broadened considerably to include protection against public exposure to a wider range of environmental hazards. As infectious agents have become better controlled, a major shift has occurred from protection against biohazards to other hazardous sources such as chemicals and radiation. Programs have emerged to deal with other environmental hazards such as lead, mercury in fish, radon, asbestos, and environmental tobacco smoke. Protection of drinking water remains a major component of environmental health programs with substantial financial support and interest at all levels of government.

State Environmental Health in 1992

The mission of the Minnesota Department of Health (MDH) is to protect, promote, and maintain the health of citizens in Minnesota. The mission of the MDH Environmental Health Division (EHD) is to reduce and prevent the occurrence of environmentally induced and occupationally induced disease and injury. MDH is the principal agency of state government charged

with the responsibility of protecting the public health from exposures to environmental hazards.

Currently, the MDH Environmental Health Division (EHD) focuses its efforts and resources on the following major activities:

- controlling and monitoring contaminants in water;
- assessing health risk associated with exposures to environmental contaminants;
- reducing the incidence of occupational disease, illness and injury;
- controlling and monitoring exposure to radiation;
- minimizing foodborne and waterborne disease from public facilities;
- promoting and developing the expansion of local environmental health services;
- minimizing exposure to indoor air contaminants; and
- reducing the incidence of elevated blood lead levels.

Identifying emerging environmental health issues and initiating actions to address these issues are also important components of the MDH mission. The Department identifies and addresses emerging issues by: responding to legislative mandates and issues of citizen concern; identifying gaps in public health protection; and monitoring environmental health programs, trends, and new technologies. Groundwater contamination, lead and radon exposure, food safety, medical waste disposal, worker protection, genetically engineered organisms are emerging issues for which the Department has responded with various program developments.

The Minnesota Department of Health continues its efforts to meet its environmental health goals and will use the following policy directions to guide development of division priorities and programs:

1. Initiate and continue vigorous public education and outreach efforts to protect public health and minimize exposure to environmental hazards.
2. Develop a division-wide risk communication strategy to more effectively communicate with the concerned public about environmental health hazards and health protection programs.
3. Continue the emphases on developing cooperative agreements with federal, state, and local agencies to coordinate program activities, eliminate duplication of effort, encourage local program responsibility and improve efficiencies in operations.
4. Continue the use of and participation in a variety of advisory groups to insure EHD programs are responsive to the needs and concerns of the public and regulated community.
5. Maintain statutes and rules that reflect legislative intent and priorities and are reflective of changing public health needs and issues.
6. Continue to strengthen local/state partnerships in protecting the public from environmental exposures.
7. Develop preventive programs and approaches where appropriate and possible.

In addition to working with local units of government, the EHD works cooperatively with other state agencies, such as the Department of Agriculture, the Pollution Control Agency, and the Department of Natural Resources as well as agencies of the federal government including the Environmental Protection Agency and the Department of Health and Human Services. These relationships are either formalized through a written agreement or are of an informal nature. They provide the EHD opportunities to achieve its mission through a variety of cooperative working relationships.

The division maintains staff in eight district offices located throughout the state to either provide services directly or to provide technical support to the local environmental health programs who provide direct services.

Profile of Local Environmental Health Programs

In Minnesota—in contrast to many other states—there has not been a strong tradition of environmental health within local public health. While twenty years ago every county in the state was served by local public health nursing services, a much smaller number of counties and municipalities had environmental health programs. While relatively few in number, these environmental health programs were well-established and focused primarily on assuring safe sources of food and water.

In the early 1970's, the Commissioner of Health was given authority to delegate some state environmental health responsibilities to local government, which led to an expansion of local environmental health programs (see page 5). An additional period of growth began with the passage of the Community Health Services Act of 1976. The CHS Act (recodified as the Local Public Health Act in 1987) enabled both the public health nursing services and environmental health programs to come together and expand through more comprehensive and coordinated public health planning, program development, and service delivery.

As with the state environmental health programs, the mission of local environmental health is to protect the public health. Environmental health is unique within public health because it is the only program area which has legal remedies to assure behavior change. The primary tools of local environmental health programs—past and present—are assessment and communication.

Assessments include inspections, surveys and investigations designed to identify and correct potential health hazards. These assessments occur in a variety of settings, including restaurants, bars, motels, homes, mobile home parks, swimming pools, public buildings, water wells, garbage houses, and landfills, among others.

Communication includes all activities designed to provide the information needed by the public or the regulated community in order to carry out health protection measures. Communication includes education, consultation, risk communication, discussion, public information, citations, and—when all else fails—enforcement actions. The assessment and communication activities of local environmental health staff are quite varied and include:

- investigating complaints;
- controlling public health nuisances;
- assessing homes for lead and assuring proper abatement;

- testing water wells;
- coordinating solid waste management programs;
- providing education, information and consultation to individuals and groups;
- reviewing plans for new or re-modeled facilities;
- issuing licenses or permits;
- working with others to provide effective emergency response to natural and man-made disasters;
- assuring compliance with regulations designed to protect the public health, such as the housing code and the Minnesota Clear Indoor Air Act; and
- inspecting spas and swimming pools.

Many local environmental health programs are provided under a delegation agreement with the Commissioner of Health. This agreement authorizes local government to provide services in the following areas:

- food, beverage and lodging establishment inspections;
- manufactured home parks and recreational camping area inspections;
- children's camp inspections;
- non-community water supply inspections;
- construction, repair, and sealing of water wells;
- construction, repair, and sealing of monitoring wells;
- construction, repair, and sealing of dewatering wells; and
- sealing of water wells.

These delegation agreements are a formal legal agreement in which a city or county voluntarily agrees to take on specified environmental health responsibilities of the State. The agreement serves to clarify the respective responsibilities of both state and local government in carrying out these programs. The advantages to local government in entering an agreement may include:

- opportunity for local program development;
- greater local control over relationships with the regulated community;
- greater responsiveness to local needs;
- greater frequency of inspections which enhances compliance and public safety; and
- a source of funding for the program.

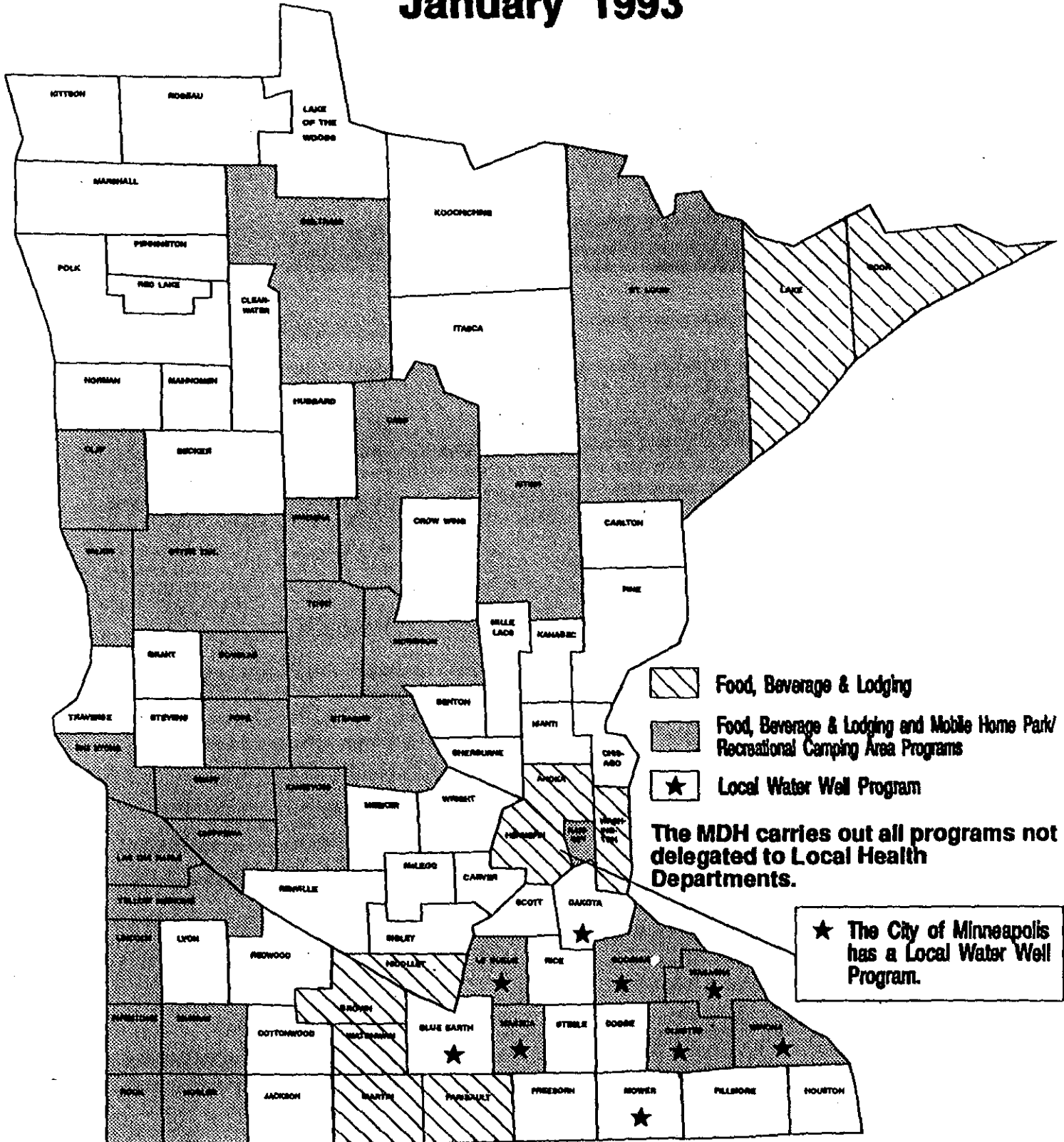
The map on the following page indicates those counties which have the various delegation agreements.¹

Sources of revenue for local environmental health programs are fees, local tax levy, Community Health Services subsidy and other state grants, and local grants and contracts. In 1991, expenditures of \$25,188,176 were reported for local environmental health programs—approximately 15% of total local public health spending.

Information on the current organization of local environmental health programs follow the map.

¹ For more information on the environmental health delegation agreements, please see the *Community Environmental Health Notebook* (pp.18-42) or call your MDH District Consulting Sanitarian.

Minnesota Department of Health Environmental Health Delegation Agreements with Local Health Departments, January 1993



Current Organization of Local Environmental Health Programs

In most counties and cities, environmental health programs are part of the public health department. However, local government is increasingly examining consolidation of environmental health with other environmental programs. The primary goal is to create more accessible government for the users of environmental services. This concept of "one-stop shopping" is a popular and worthy goal but must be examined carefully (see page 19 for a review of "one-stop shopping" and pages 13-24 for a decision-making framework for organizing local environmental services). The consolidation of all programs related to the environment can have the effect of fragmenting public health programs, and losing sight of the fact that environmental regulations are most often based on protecting the public's health.

Governing Boards

Because most environmental health programs are in a public health department, the programs are usually governed by the Board of Health. Even in those cases where environmental health is located in another department, the environmental health director often reports to the Board of Health and meet occasionally with the Community Health Advisory Committee. And because public health nuisance control and lead abatement are distinct statutory Board of Health responsibilities, those functions most often remain in the public health department, even if other environmental health programs are located in another department.

Many of the Environmental Health Delegation Agreements between local government and the Department of Health are signed by the Board of Health. While the agreements do not specify which local department actually delivers the programs included in the Agreement, the Board of Health *must* maintain oversight of those programs, and remains responsible and accountable for meeting all requirements contained in the Agreement.

Scope of Services

The scope of environmental health programs provided by local government varies depending largely upon the size of the environmental health department. However, most departments have two basic types of services:

- regulatory/inspection programs; and
- public information/education and technical assistance services.

The Environmental Health Delegation Agreement activities usually serve as the cornerstone of the regulatory/inspection programs. These include inspections of: food, beverage, and lodging establishments; manufactured home parks; recreational camping areas; children's camps; and non-community water supplies. The agreements can also include monitoring the construction, repair, and sealing of water wells, monitoring wells, and dewatering wells. (For more information on delegation agreements, see page 29 and the *Community Environmental Health Notebook*, MDH, 1990.) Many inspections also include enforcement of the Minnesota

Clean Indoor Air Act. Public health nuisance control is also a part of the regulatory programs (see *A Guide to Controlling Public Health Nuisances*, MDH, 1991).

Other regulatory programs are less consistently found in the public health department. These include: solid waste management, including facilities, haulers, and waste designation; hazardous waste management; on-site sewage; swimming pools; county jail inspections; and plan reviews for new construction or re-modeling of regulated establishments.

Despite being regulatory-based, these inspection programs retain a strong service orientation. Public health's approach to working with the regulated community is largely based on education and consultation, with enforcement action being a method of last resort.

Lead assessment and abatement has become an increasing public health concern as the link between childhood lead poisoning and delayed development have become more clear. Much controversy remains, however, about the costs of lead abatement and the relative risk of lead poisoning compared to other public health threats to children.

The public education and information services are generally to one of two groups: the regulated community (for example, restaurant owners and operators, solid waste facilities, well drillers), and citizens and community organizations. Education to the regulated community is primarily in the form of technical assistance to support the operator in understanding and meeting ordinances and other legal requirements designed to protect the public's health. Information and education to citizens and community organization is usually designed to help them understand environmental issues which are of concern to the community (radon, lead, air or water quality) or which requires action on the part of the community (recycling, testing private wells, controlling animals, preserving ground water quality). Some larger departments also have laboratory services for testing water, air, food, and other samples.

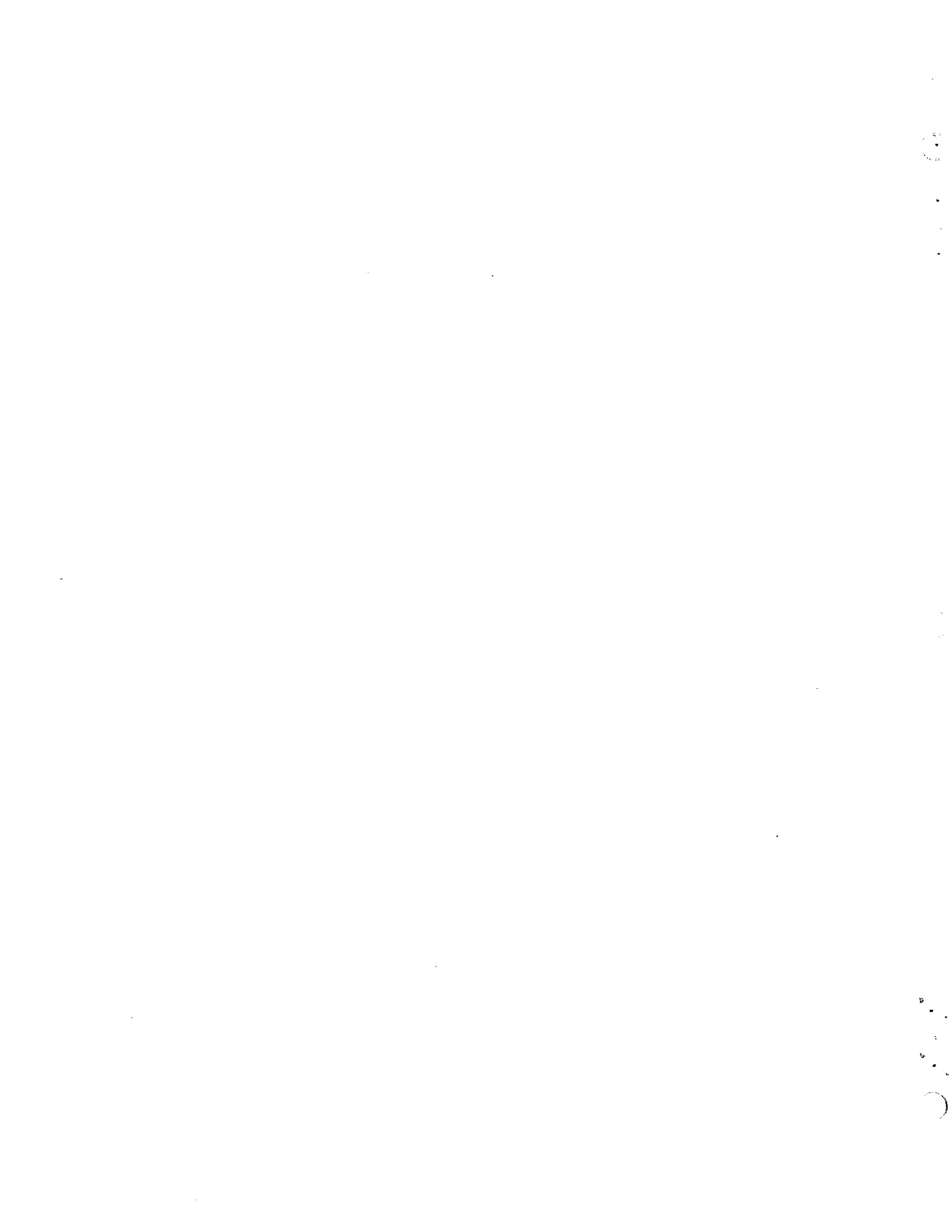
Staff

Most environmental health departments have an environmental health director who is an Environmental Health Specialist/Sanitarian. The other professional staff are also most often Environmental Health Specialists/Sanitarian, along with either administrative or clerical support staff. The Environmental Health Specialists are usually either registered as Environmental Health Specialists or are eligible to be registered within one or two years (see the *Community Environmental Health Notebook*, MDH, 1990, pages 27 and 95-109, and pages B-20, B-21, and B-29 of the *CHS Administration Handbook* for more information on personnel qualifications and desirable skills).

A number of counties share environmental health staff for both inspection programs and nuisance control. This arrangement is typically contractual and allows a county to have some environmental health programs using an experienced sanitarian who works full-time between the two counties. Such an arrangement can make recruitment of qualified staff easier and makes it possible for a county to develop environmental health programs where none could be otherwise possible.■

Part IV

Related Documents



MINNESOTA ASSOCIATION OF
COMMUNITY HEALTH ADMINISTRATORS

Legislative Position Paper

Environmental Health

Contact: Rob Fulton, (612) 298-5971
Mary McGlothin, (612) 430-6655

BACKGROUND:

"Governments have long chopped policy problems into small pieces, eschewing comprehensive solutions in favor of more incremental approaches. The narrower the focus, it has been widely argued, the more manageable problems become...Environmental protection in the United States has been dominated by such thinking. Rather than view the environment in holistic terms and attempt to protect public health and our natural resources in an integrated context, federal, state and local governments usually approach environmental management as a series of divisible, largely unrelated issues and activities. Environmental media--air, water, land and biota--have been the common dividing point in environmental management...This approach is analogous to efforts to break other areas of public policy into smaller, seemingly more workable pieces...these dividing lines are seen as logical ways to bring some semblance of order to efforts to resolve complicated policy problems.

What facilitates intellectual, political and administrative convenience may not facilitate sound environmental management, however. Pollutants regularly defy the single-medium barriers that have been established...Pressing "new" environmental problems, including those posed by toxic substances, hazardous wastes, cannot be successfully confined to a single medium. Indeed, the severity of the public health and environmental threats that they pose illustrates the inadequacy of our prevailing approach to environmental management. It suggests that modest, incremental tinkering with our existing system will not be adequate to face such cross-media problems."

The past twenty years have been marked by four trends affecting the management of environmental health at the local level:

1. Increasing citizen concern about environmental hazards in their community and the impact of those hazards on the public's health.
2. The growing complexity of environmental health issues.
3. The separation of environmental concerns from public health and the fragmentation of response by various federal, state and local agencies.
4. A lack of assertiveness on the part of public health agencies to be advocates for public health impacts of environmental problems.

In combination, these factors have led to citizen frustration in knowing who is responsible for representing their interests locally and increasing demands upon local public health agencies who have an impaired ability to meet current environmental health challenges. "The removal of environmental health authority from public health agencies has led to fragmented responsibility, lack of coordination, and inadequate attention to the health dimensions of environmental problems...State and local health agencies [should] strengthen their capacities for identification, understanding, and control of environmental problems as health hazards. The agencies cannot simply be advocates for the health aspects of environmental issues, but must have direct operational involvement."²

The actions necessary to protect public health and the environment are a critical part of the Mission of Public Health: "Fulfilling society's interest in assuring conditions in which people can be healthy."³ Environmental health was one of the earliest concerns of public health because of the basic need for a safe water supply and waste disposal in all societies...With the growth of industrialization, modern law to assure a healthful living and working environment has expanded to include control of air and water quality, regulation of domestic waste and industrial and agricultural effluents, management of solid waste disposal, control of marine pollution, regulation of radiation emissions, control of toxic substances in industry and the community, regulation of the use of pesticides in agriculture, and noise abatement. Each of these branches of environmental law is based on the need to protect the public health."⁴

ISSUES

Within the State of Minnesota, environmental responsibilities have been widely distributed across departments and offices of the State and carried out by both State and local governments. The MICA Public Health Committee, in the summer of 1991, compiled a list of State agencies having responsibility for environmental issues. We discovered nineteen (19) agencies who address often overlapping and sometimes duplicative issues. This distribution of responsibility has contributed to the fragmented approach toward addressing environmental issues and has resulted in less than a collaborative, coordinated approach toward problem resolution. In many instances, the concerns over health impacts of environmental hazards have been isolated from other environmental concerns resulting in disjointed policy development, fragmented service delivery, lack of accountability, inadequate attention to the health dimensions of environmental problems, inadequate response to citizens' concerns and a generally weakened public health effort.

Despite the current trend in separation of environmental authority, local health departments are the primary agency with jurisdiction for environmental health issues in most communities. A 1991 survey conducted by the National Association of County Health Officials (an affiliate of the National Association of Counties) and reported at the American Public Health Association annual meeting in November, 1991, shows that 86% of local health departments are the primary agency with jurisdiction for environmental health at the local government level. Most are involved in providing and/or assuring services for major environmental health issues in their communities. The ten (10) most common services local health departments are currently involved in are: food protection, nuisance control, sewage treatment, animal/vector control, private well testing, swimming pool inspection, emergency response, public water supply, private well regulation, and surface water quality.

The services that local health departments have traditionally delivered, however, are being challenged by issues which have not been thought to be under the purview of public health. Citizens are increasingly concerned about the health effects of environmental problems and local health departments are being called upon to respond to those citizen concerns. Based on the NACHO survey, the twelve (12) most common emerging environmental health issues that local health agencies are responding to include: groundwater contamination, illegal dumping of waste, private well contamination, recycling, hazardous materials spills, radon, hazardous waste dumping, surface water contamination, asbestos, public water contamination, leaking underground storage tanks and lead contamination.⁵

In the State of Minnesota, the Local Public Health Act (MN Stat. Chapter 145A) defines Environmental Health as "activities intended to achieve an environment conducive to human health, comfort, safety, and well-being. These activities include the coordination or provision of education, regulation, and consultation related to food protection, hazardous substances and product safety, water supply sanitation, waste disposal, environmental pollution control, occupational health and safety, public health nuisance control, institutional sanitation, recreational sanitation including swimming pool sanitation and safe and housing code enforcement for health and safety purposes." Community Health Boards, through their local community health planning process, have the responsibility to assess their communities for environmental issues and to develop public health responses to those issues in their community health plans. Local health departments are responsible for implementing those plans.

RECOMMENDATIONS:

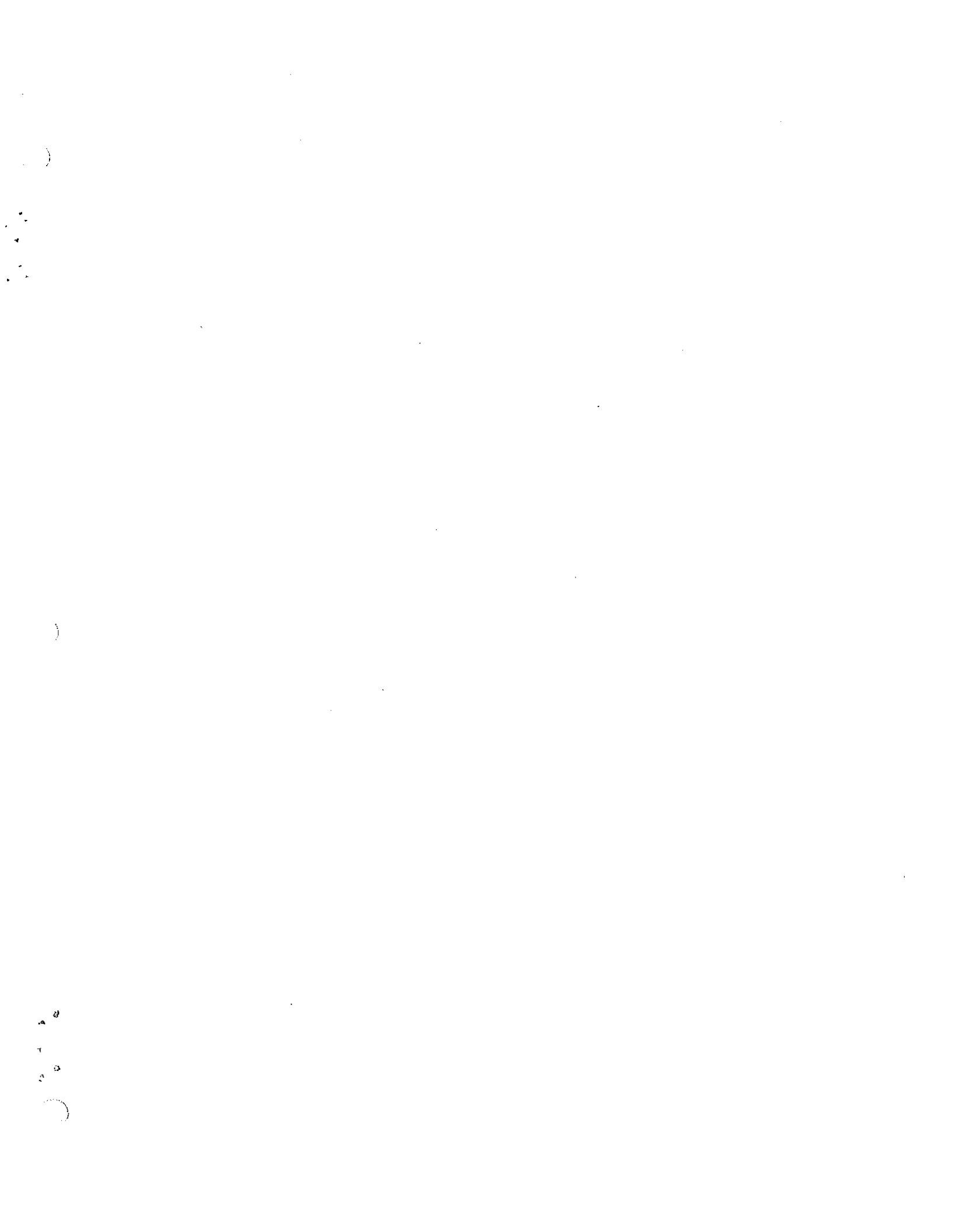
The Minnesota Association of Community Health Administrators recommends the following actions:

1. State and local governments need to re-establish the relationship between public health and environmental issues. An integrated policy and program approach should be utilized by state and local governments to assure that the protection of the public's health is adequately considered and addressed when resolving environmental issues.
2. The Minnesota Department of Health needs to assure representation of health interests in environmental issues at the State level and a stronger relationship needs to be established between MDH and other state agencies involved in environmental issues. Agencies should be equal partners in addressing environmental concerns.
3. State and local efforts should concentrate on delineation of roles and on reducing fragmented administrative structures between public health programs and environmental programs. At the very least, ongoing working relationships and collaborative problem solving/problem response should be required between health agencies and environmental agencies.
4. In order to properly serve their local constituents and to fulfill the local health department's responsibilities of assessment, policy development and assurance,⁶ local health departments need to be proactively involved in not only traditional environmental health programs such as food protection and public health nuisance, but also the "new" environmental programs including toxic substances, groundwater, solid waste planning and management, land use development, pesticide management, air pollution, lead, and radon. Where the local health department does not have jurisdiction over these areas, concerted efforts should be made to establish strong linkages and relationships with those who do have direct authority.
5. Local health departments must represent the health interests of the public when local environmental issues are being addressed in the community. Local elected officials and community residents should expect and require the Public Health Department to have an active community presence in these issues.
6. Resources which allow local health departments to build their capacity in these areas must be supported by the Minnesota Department of Health and by the State Legislature. These resources include funding as well as training and consultation by MDH, MPCA, DNR, and the Department of Agriculture.

7. Permitting and licensing functions need to be examined and efforts made to reduce duplication. Enforcement and regulatory activities need to include an important public health component of education and consultation; regulatory compliance should strive for voluntary behavior change on the part of the regulated community. Enforcement and regulatory activities should be delegated to the lowest level possible and a single authority (preferably at the local government level) should be responsible.

Adopted December 5, 1991

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 2. Institute of Medicine. The Future of Public Health. National Academy Press. Washington, D.C., 1988, p. 12.
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**CURRENT ROLES AND FUTURE CHALLENGES
OF LOCAL HEALTH DEPARTMENTS
IN ENVIRONMENTAL HEALTH**

May 1992

Supported by:

**AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY
Division of Health Education**

Prepared by:

**NATIONAL ASSOCIATION OF COUNTY HEALTH OFFICIALS
440 First Street N.W.
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FOREWARD

On behalf of the National Association of County Health Officials (NACHO), we are pleased to present the results of the Environmental Health Project Study.

This report will add to the growing body of knowledge first gained from NACHO's National Profile of Local Health Departments (National Profile) which was developed in July 1990. The National Profile was developed to provide the public health community with a current and comprehensive description of the nation's local health departments.

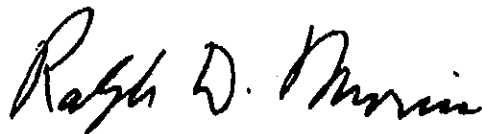
The purpose of the Environmental Health Project Study is to identify the current environmental health issues challenging local health departments, how these challenges are currently being met, and the factors which local health officials believe would most likely increase their capacity to meet these challenges in the future. The report is not designed to prescribe the role of local health departments, but rather to describe the current status and identify potential future trends in environmental health programming.

We would like to thank all the local health officials and their staffs who participated in this project and made this study possible. Further, we commend all local health officials for their contribution to protecting the health of the public and the environment.

Your suggestions and comments on this report are invited. Please address your communications to the National Association of County Health Officials, 440 First Street, N.W., Suite 500, Washington, D.C. 20001.



Mary McGlothlin, MPH, MPA
Secretary/Treasurer, NACHO
Co-Chair, Environmental Health Project
Public Health Director,
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Ralph Morris, MD, MPH
NACHO Board Member
Co-Chair, Environmental Health Project
Executive Director,
Galveston County Health District, Texas

INTRODUCTION

The past twenty years have been marked by three trends affecting the management of environmental health at the local level:

- 1) increasing citizen concern,
- 2) the growing complexity of environmental health issues; and
- 3) the separation of environmental health issues from public health agencies.¹⁻⁴

In combination, these have led to increasing demands on local health agencies and have stretched their ability to meet current environmental health challenges.

To address these concerns and to begin to plan for the future, studies have been undertaken to characterize and prioritize current and future environmental health challenges.^{1,2} Assessments of the ability of the environmental health workforce to respond to these upcoming challenges have also been made.⁵⁻⁷ However, few major studies have been conducted of the capability of our public health agencies to respond to environmental health challenges at the local level.⁷

To begin to fill this gap, the National Association of County Health Officials (NACHO) undertook a national study in February 1990 to assess the needs and resources of local health departments with respect to environmental health.

The purpose of the study was to identify the following:

- 1) the various environmental health issues which challenge local health departments;
- 2) how these challenges are being met; and
- 3) the kinds of educational, training, and other supports needed for local health departments to adequately assess, communicate, and remediate environmental health risks.

The results of the study are useful in describing the roles and capabilities of health departments in meeting environmental health challenges at the local level. This information can be used to focus limited resources in a strategic manner to assist and enable local health departments to protect the public's health. The results will also be useful in guiding education and training efforts and other activities for NACHO and others involved in environmental health at the local level.

OVERVIEW

Data Source

Using a six page written questionnaire, data were gathered from a stratified random sample of 670 local health departments.⁶ The study is based solely on primary and current data; the data were gathered specifically with the intent to answer the stated purposes and questions of this study.

The sample was stratified according to the size of the population served; population size is considered to be an excellent indicator of the size and resources of the department. Representative percentages of the total sample in each population range were chosen to reflect the national picture. This capacity is made possible through the national database of local health departments established for the National Profile of Local Health Departments.⁷

The assessment form was developed by members of the Environmental Health Project Advisory Committee. The questions were structured with two specific intents: 1) to meet the primary objectives of the study, as described above; and 2) to build upon the conclusions and recommendations of the Institute of Medicine's report, The Future of Public Health⁴, and the Healthy Communities 2000: Model Standards.⁸ Therefore, the issues addressed in the assessment form reflect the content of these two sources.

Response Rate

NACHO received 355 responses (response rate=52%) with close to proportionate representation from local health departments of all sizes. NACHO received a slightly greater response from the larger health departments. This means that larger departments will be slightly over-represented, and the results may be somewhat more reflective of the experience of officials from the larger health departments.

a. For the purposes of this study, and in accordance with the National Profile of Local Health Departments, a local health department is defined as an administrative or service unit of local or state government, concerned with health, and carrying some responsibility for the health of a jurisdiction smaller than the state. According to this definition there are currently 3169 local health departments in the United States.⁹

FINDINGS

These descriptive results provide an initial look at the current environmental health issues challenging local health departments, how these challenges are currently being met, and the factors which local health officials believe would most likely increase capacity in meeting these challenges in the future. A full report of the data can be found in the charts and graphs at the end of the paper.

Environmental Health Challenges

Respondents were asked to note the current environmental health issues facing their communities according to whether the issues were longstanding or new/emerging. The following is a summary of the key responses. Again, all of the data can be found in the accompanying charts and graphs at the end of the report.

According to the study, almost all communities in the U.S. today are facing several common environmental issues. Most respondents indicated that the following environmental health issues need attention in the communities they serve:

Overall (Longstanding and New). Over 80% of the respondents indicated the following environmental health issues were problems in their community:

- o groundwater contamination (91.7%);
- o illegal dumping of waste (90.5%);
- o private well contamination (90.4%);
- o recycling (85.5%);
- o hazardous materials spills/accidental releases (85.4%);
- o radon (82.8%);
- o illegal dumping of hazardous wastes (82.4%);
- o surface water contamination (82.4%);
- o asbestos (81.8%);
- o public water contamination (81.3%);
- o leaking underground storage tanks (81.2%); and
- o lead contamination (80.6%).

Longstanding Issues. The most common longstanding environmental health issues identified by the respondents included:

- o illegal dumping of waste (83.9%),
- o private well contamination (75.2%), and
- o groundwater contamination (73.3%).

New/Emerging Issues. The most common new or emerging environmental health issues reported were:

- o recycling (73.9%);
- o radon (66.6%);
- o household hazardous waste (55.5%); and
- o leaking underground storage tanks (50.3%).

Meeting the Challenge: Role of the Local Health Department

Respondents were asked a series of questions about their role in environmental health issues and the types of services they provide and assure. Again, the following is a brief description of the results. A full report of the data can be found in the accompanying figures and charts.

Jurisdiction for Environmental Health. Eighty-six percent (86%) of the respondents reported that their local health department has jurisdiction for at least some elements of environmental health. Other agencies identified with jurisdiction include the state health or environment department or a local environmental health department. In addition, some environmental health programs may be administered by other governmental agencies at the local level, such as the Public Works and City Planning.

Local Health Department Role. The six most common issues, in which at least 80% of local health departments reported playing some or a major role, include the following:

- o private wells (90.3%);
- o groundwater (87.5%);
- o illegal dumping (85.5%);
- o radon (83.8%);
- o surface water (81.8%); and
- o hazardous materials spills/accidental releases (80.2%).

It should be noted that these, in fact, correspond to the top longstanding environmental health issues previously identified by the respondents.

The areas in which most local health departments do not report a role include: old mining sites (16%); oil and gas industry pollution (30%); waste incineration (41%); and composting (46%). This may in large part be due to the fact that these are not issues considered to be problems in the communities of most of the respondents.

Local Health Department Activities. When asked specifically about environmental health services assured by local health departments, the most common responses given were:

- o food protection (91.8%);
- o nuisance control (88.4%);
- o sewage treatment (84.9%);
- o animal/vector control (84.6%);
- o private well testing (83.1%);
- o swimming pool inspection (82.8%);
- o and emergency response (79.5%).

These services were reported by more than 80% of respondents and represent the mainstay of "traditional" sanitation-related environmental health programs. Only private well testing and emergency response (hazardous materials spills/accidental releases) relate directly to the primary issues identified as current environmental health challenges.

Enhancing the Capacity of Local Health Departments

Environmental health issues are becoming more complex, and the range of demands for effective action are increasing. An ongoing challenge for local health departments and others involved in environmental health therefore, is how to increase their ability to meet the current and future demands.

Rank of Factors to Enhance Capacity. When asked to identify factors that would increase their capacity to meet challenges, respondents ranked the following factors, from most to least likely:

- 1) more resources;
- 2) greater awareness of environmental health issues by local elected officials;
- 3) more education and training;
- 4) statutory authority for environmental health;
- 5) better state/local coordination; and
- 6) more federal communication and outreach.

It is interesting to note that when responses for local health departments with jurisdiction for environmental health were separated from the responses of departments without jurisdiction, the priorities changed. When health departments lack jurisdiction for environmental health, the support by local elected officials, statutory authority and better state/local coordination become more important. On the

other hand, education and training rank higher for those health departments with jurisdiction for environmental health.

The following is a brief description of data related to the top four factors identified as likely to enhance local health department capacity.

1. Resources. "More resources" ranked first as the factor most likely to increase health department capacity in environmental health. In addition, many of the responding local health departments indicated additional staff resources would increase their capacity. Sixty-two percent (62%) reported vacant staff positions which significantly decreased the capacity of the local health department to meet environmental health needs. These vacancies are reportedly due to insufficient funds to hire additional staff (49%), scarce supply of qualified personnel or problems in recruitment (18%), and low salaries (27%).

Staff resources allocated to environmental health vary greatly in local health departments. Registered Sanitarians are the most common employee with 72% of the local health departments reporting at least one on staff. The next most common employees working at least part-time on environmental health include Environmental Health Specialists (38%), Physicians (26%) and Health Educators (24%). Very few health departments employ Environmental Epidemiologists (8%), Toxicologists (1.4%) or Risk Assessors (0.6%).

2. Awareness by Elected Officials. Greater awareness by elected officials ranked second as the factor most likely to enhance capacity in environmental health. When respondents were asked to indicate their level of agreement with the statement, "Our local elected officials recognize environmental health as a priority" 62% agreed (or strongly agreed). When asked whether the health department budget allocated to environmental health reflected this commitment, only 38% agreed (or strongly agreed).

3. Education and Training. More education and training ranked third in increasing local health department capacity in addressing environmental health challenges. Respondents were asked a number of questions to identify where staff receive training, the priorities for education and training, and the most useful methods of training.

a. Staff Training. Most respondents (66%) believed their staff are adequately trained to perform their duties both safely and effectively. However, only 40% of those stated it is because these individuals were trained before they are hired. Therefore, many are trained on the job. The most common ways staff receive training are through local professional meetings (70%) and university-based programs (42%). Some of the constraints identified in ensuring adequate education and training for staff include travel, time, and resources.

b. Priorities for Education and Training. The following areas were identified as the top six priorities for education and training:

- o groundwater contamination (68.4%),
- o communicating environmental health risks (63.2%),
- o risk assessment (49.0%),
- o private well contamination (47.0%),
- o environmental epidemiology (43.5%) and
- o hazardous waste management (29.9%).

c. Most Useful Methods of Education. The most useful methods of education and training identified were workshops (76%), hands-on demonstration (64%), and short courses (63%).

4. Statutory Authority. Statutory authority ranked fourth as the factor most likely to enhance local health department capacity. As previously mentioned, 86% of local health departments have jurisdiction for some components of environmental health. The health department, however, may share this responsibility with other federal, state or local environmental agencies. Local health departments also collaborate with other governmental agencies and public/private organizations which may have public/environmental health as part of their mandate. Unclear lines of authority and lack of enforcement authority were mentioned as factors which hinder the effectiveness of the health department.

DISCUSSION

The Challenge

As environmental health issues gain prominence and become more complex, efforts should be focused on enhancing the capacity of the agencies responsible for protecting the public's health. Despite current trends in separation of environmental and public health at the federal and state levels, local health departments remain a predominant local agency with responsibility for environmental health.

This study identified a number of issues commonly identified by local health officials as current environmental health challenges. These include groundwater contamination, illegal dumping of waste, and private well contamination. Generalizations about the type of environmental health issues, however, must be made with a certain amount of care. A few factors may influence the type of environmental health issues facing a particular community. For example, some environmental health issues (i.e. radon, oil and gas industry pollution) may be geographically specific. Whether a community is urban, suburban or rural may also influence the type of environmental health issues (i.e. pesticides, noise pollution).

A number of new and emerging issues were also identified. This list of emerging issues gives an indication of the environmental health challenges which will be seen at the local level in the future and demand attention now. These issues include recycling, radon and household hazardous waste.

Meeting the Challenge

The study set out to describe the role of local health departments in meeting current environmental health challenges. The results indicate that local health departments have been responsive to the longstanding environmental health issues they perceived as problems in their communities. Health departments are most likely to be involved in traditional sanitation-related environmental health services, such as food inspections, water testing and nuisance control.

Addressing the newer environmental health issues will require specialized knowledge, skills and training. These issues, therefore, will bring new challenges to the management of environmental health at the local level and may require a greater level of investment in technology and training. Additional resources will also be needed.

Enhancing Capacity

Results of this study indicate that the ability of local health departments to respond to the environmental health demands of their communities would be significantly enhanced by increases in four major categories: resources, support of local elected officials, statutory authority, and well trained and educated staff.

Resources. As noted above, additional resources are viewed as the factor most likely to enhance local health department capacity. Some new and creative methods for increasing resources to be explored include: a fee for service system for environmental health programs where local statutes permit; increased collaboration with other local agencies and businesses to maximize use of existing resources and expertise; and regional approaches when appropriate.

Support of Elected Officials. Gaining the support of local elected officials was identified as another key factor in enhancing capacity. The data suggest that the majority of respondents believe that local elected officials recognize environmental health as a priority, yet only just above half of those respondents feel the budget allocated to environmental health reflected this commitment. Therefore, the issue may not be gaining "support" of elected officials but rather translating that support into increased resources. Although securing additional resources may be difficult due to the current retrenchment, an opportunity exists to capitalize on the high levels of citizen concern to gain support for additional programs.

Statutory Authority. The potential for obtaining statutory authority for environmental health in the future is unclear. What is clear is that the existing lack of delineation of responsibility and authority between levels of government impedes effective management of environmental health.⁴ Currently, the health department may share responsibility with another agency. In some cases, another local or state entity may be responsible for oversight, enforcement, or the provision of services. In addition, the current trend to separate environmental authority from public health agencies "has led to diffused patterns of responsibility, lack of coordination and inadequate analysis of the health effects of environmental problems" (Pg. 150). An effective method to address the current situation and the problem of fragmentation remains to be developed.

Education and training. Continuing education and on-the-job professional training for practicing environmental health professionals is vital in order to keep up with the changes in environmental health. Due to travel limitations and budgetary constraints, efforts should be focused on getting programs and materials as close to the local health department as possible. The education and training methods which have been identified as most effective include workshops, hand-on training and short courses.

In order to maximize efforts and reach the broadest target audience, a set of core programs could be developed which focus on groundwater contamination, communicating environmental health risks and risk assessment.

Also, as documented in recent reports on the state of public health,³⁻⁶ and supported by the data of this study, health department staff do not receive adequate training prior to employment at the department. Improving linkages between professional training programs and local health departments and designing curriculum to meet the needs of health department staff may help to assure better and more applicable training.

Conclusion

Currently, local health departments play a vital role in assuring and providing services to meet the environmental health problems of their communities. The challenge for the future lies in clearly defining and articulating the appropriate role of local health departments in environmental health and, ultimately, assuring adequate resources at the local level to increase their capacity in meeting emerging environmental health demands. This study is a step in that direction.

Some areas for future study include:

- 1) identification of the specific environmental health issues being addressed by local health departments and those under the authority of other agencies;
- 2) analysis according to the size of the health department and the type of community it serves (i.e. urban/rural) of the issues, roles and resources in environmental health; and
- 3) analysis of the effects of consolidating environmental health programs in one agency (whether that is a health or environmental agency) as a means of addressing the current fragmentation of responsibility and programs.

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