

# ENVIRONMENTAL PUBLIC HEALTH: Everyone. Everywhere. Every Day.

*"The emergence of many new issues and threats... Cryptosporidium in drinking water, hantavirus, Escherichia coli, West Nile virus, and most recently homeland terrorism... points to the need for a well prepared environmental public health system."* Source: CDC 2003



## meeting needs in: Iowa

With 97,000 farms, Iowa is first in the nation for soybean, egg, corn and hog production. As a largely rural and agricultural state, many of the environmental public health issues in Iowa are related to agricultural practices, such as pesticide use, agricultural run-off, and those typical of most rural areas, such as limited resources and lack of infrastructure. Source: Iowa Tourism 2004

### CRITICAL ISSUES

#### POOR WATER QUALITY

Runoff from manure spills at livestock operations (confined animal feed operations) and from un-sewered communities is contaminating the water. Eighty-four percent of Iowans are greatly concerned about water quality.\*

Between 1992 and 2002, there were at least 329 reported manure spills from livestock operations.\*\*

An Iowa drinking water report listed more than 408 contaminants above safe levels. Most commonly found were coliform<sup>1</sup> and nitrates<sup>2</sup> (indicators that water may be contaminated with animal waste).\*

An estimated 4.5 billion gallons of raw sewage are released into the environment. An estimated 400 rural communities do not have central wastewater treatment systems, and 80 percent of households in rural Iowa have inadequate septic tanks.\*\*\*

#### RISK OF FOOD POISONING

A majority of restaurants have not been inspected at the frequency required by code. Poor food handling practices can lead to increased occurrences of food poisoning.\*\*\*

\*Sources: Iowa State University 1996; Iowa Drinking Water Report 1998; Iowa Department of Public Health 2001

\*\*Source: Environmental Integrity Project 2004

\*\*\*Source: Iowa Department of Public Health 2004

### GREATEST CHALLENGES

#### FRAGMENTED SYSTEM

Environmental public health programs fall under the jurisdiction of three different state agencies.

#### ILL-PREPARED WORK FORCE

There are no educational or licensing requirements to become an environmental public health specialist in Iowa.

#### STRETCHED RESOURCES

In 49 percent of rural counties, the local environmental public health practitioner is a full-time employee with other significant responsibilities such as emergency management and zoning.

Source: Iowa Department of Public Health 2001

### MODEL PROGRAMS

#### COMBINING RESOURCES

In 1996, four rural counties in southern Iowa combined and centralized environmental public health resources because two of the counties had no funding to support these services.

#### FORMING ALLIANCES

Local environmental public health practitioners from 17 counties in rural northwest Iowa formed a professional alliance. This group meets regularly to discuss emerging issues and to coordinate training and education efforts.

Source: Iowa Department of Public Health 2004

### Community Profile



**Kristi Seiler**  
Owner, Kristi's Café  
Pocahontas, Iowa

*"The local environmental public health department taught me how to serve safe food."*

Kristi Seiler has lived and worked her whole life in Pocahontas, Iowa. In 1998, Kristi decided to open a restaurant. Given everything she heard in the news about cases of *E. coli* 0157:H7 and food poisoning, Kristi was very concerned with making sure she knew the proper and safe food handling procedures. So, she turned to her local environmental public health department to teach her. Through the local department, Kristi became educated in proper food handling procedures and opened her doors in 2002.

Kristi says she continues to depend on the local environmental public health department to guide and educate her about the details of proper and safe food handling and preparation. Serving wholesome and safe food is of utmost importance to Kristi.

Today, Kristi's Café and Catering is a thriving business in Pocahontas.

<sup>1</sup>**Coliform:** Although no long-term health effects from coliform are known, their presence in water indicates that other harmful bacteria may be present. Short-term exposure can cause diarrhea, cramps and nausea.

<sup>2</sup>**Nitrate:** Short-term exposure to high levels of nitrate can cause serious illness, especially in infants. "Blue Baby Syndrome" occurs when nitrate converts to nitrite and can interfere with oxygen uptake in the blood. Long-term exposure can cause diuresis, increase starchy deposits and result in hemorrhaging of the spleen.

## CHALLENGES

### Fragmented System

Environmental public health practitioners in Iowa work within a fragmented system, increasing the complexity and coordination of program activities. Programs fall under the jurisdiction of three different state agencies.

PROGRAM >>	water supply/ septic system	food service inspection	swimming pool	public nuisance: vector (rat, mice, mosquito) control and housing conditions
Threat	bacterial, viral, toxic	bacterial, viral, toxic	bacterial, accidents	viral, bacterial, mold
Example	coliform, nitrates	<i>E. coli</i> , <i>Salmonella</i>	<i>Cryptosporidium</i>	hantavirus, West Nile virus
State Agency Jurisdiction	Department of Natural Resources	Department of Inspections and Appeals	Department of Public Health	Department of Public Health

The local environmental public health worker carries out these programs at the local level.\*

\*There are 109 environmental public health workers in Iowa.  
Source: Iowa Department of Public Health 2004

### Ill-Prepared Work Force

A large percentage of environmental public health workers are not educated in a field related to their job.

- + In rural communities, less than 50 percent of environmental public health workers have any college education.

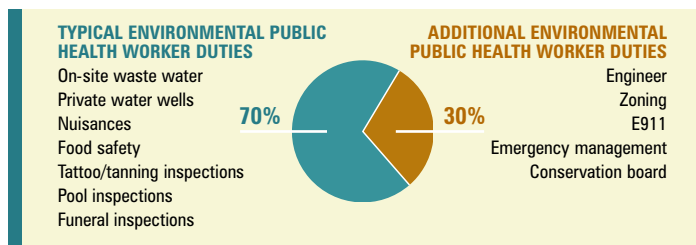


Source: Iowa Department of Public Health 2001

### Stretched Resources

"In a 40-hour work week, it is difficult to see how an environmental public health worker is able to spend 28-35 hours on sanitarian responsibilities as well as serve as county engineer, E911 (zoning), emergency management and weed commissioner."

Source: Iowa Department of Public Health 2001



Source: Iowa Department of Public Health 2001

- + Forty-nine percent of Iowa's counties have one environmental public health worker with many responsibilities.
- + Several small rural communities either share an environmental professional health worker or do not have one.
- + Fifty-five percent of counties have environmental public health budgets of less than \$55,000.

## CDC FUNDED PROGRAMS

**Building Communities of Excellence Through Environmental Health Capacity Building.** A three-year cooperative agreement with the Centers for Disease Control and Prevention, National Center for Environmental Health (CDC, NCEH) allows the Iowa Department of Public Health to award local communities mini-grants to purchase needed equipment, train employees and conduct local needs assessments.

**Assessment of the Off-Farm Transport of Waste-Associated Chemical and Microbial Constituents Present in Swine Feeding Operations.** The Iowa Department of Public Health and Iowa State University study (supported by CDC, NCEH) was designed to determine whether antibiotics, resistant bacteria and other constituents in swine manure are traveling from agricultural fields to nearby soil and water systems.

Source: CDC, NCEH, Iowa Fact Sheet 2004

**Environmental Health Emergency Response Team.** The Iowa Department of Public Health is creating this team to support local public health agencies that become overwhelmed during a public health emergency. Resources and training are being provided to the 20-member team that will serve the entire state.

Source: Iowa Department of Public Health 2004

### Support Environmental Public Health Services

Environmental public health practitioners are responsible for protecting and preventing public exposure to harmful agents. Protection of the public's health comes through the many services they provide, including monitoring air quality, safe drinking water and food safety, integrated pest management (e.g., West Nile virus), toxic chemical control, disaster planning and control (terrorism) and public education. State and local environmental public health programs are typically underfunded and stretched beyond capacity. Environmental public health practitioners are often not sufficiently trained or supported to handle the emerging and complex environmental public health issues they face every day. Programs lack infrastructure to manage these issues, and research is needed. There is a need to continue and *increase* the federal funding that is so critical to these programs. Without this support, the environmental public health systems may not be able to fulfill their responsibilities, resulting in an increased risk to the public's health. CDC, NCEH, Environmental Health Services Branch is spearheading an effort to revitalize environmental public health services. For more information on this program, visit [www.cdc.gov/nceh/ehs](http://www.cdc.gov/nceh/ehs), or call APHA's Director of Government Relations and Affiliate Affairs at (202) 777-2541.



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