

# Environmental Health Specialists Network (EHS-Net)

U.S. EPA Office of Water

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# What is EHS-Net?

- **Food component began January 2000**
- **Branched off from FoodNet**
- **Need to understand the “environmental why” behind foodborne illness**
- **Expanding to include water component in 2005**



# EHS-Net Purpose

- To better understand the environmental factors and underlying causes of foodborne illness
- To prevent foodborne illness from occurring in the future
- To evaluate the effectiveness of existing foodborne illness interventions
- To provide state and local food protection programs with insights on new methods of preventing foodborne illness



# EHS-Net Purpose

- To identify environmental antecedents (underlying factors) to illness and disease outbreak
- To translate findings into improved prevention efforts using a systems based approach
- To offer training opportunities to current and future environmental health specialists
- To strengthen relations among epidemiology, laboratory, and environmental health service programs



# Systems Approach

**evaluates entire system of food delivery:**

**source → processing → consumer  
to assess public health protection**

**also assesses existence and effectiveness of barriers in system**





# Why Expand EHS-Net to Water?

- **Network in place**
- **Demonstrated impact with food**
- **Fulfills expressed need**
- **Beneficial to partners (e.g., FDA)**
- **Mechanism in place for pilot water project**

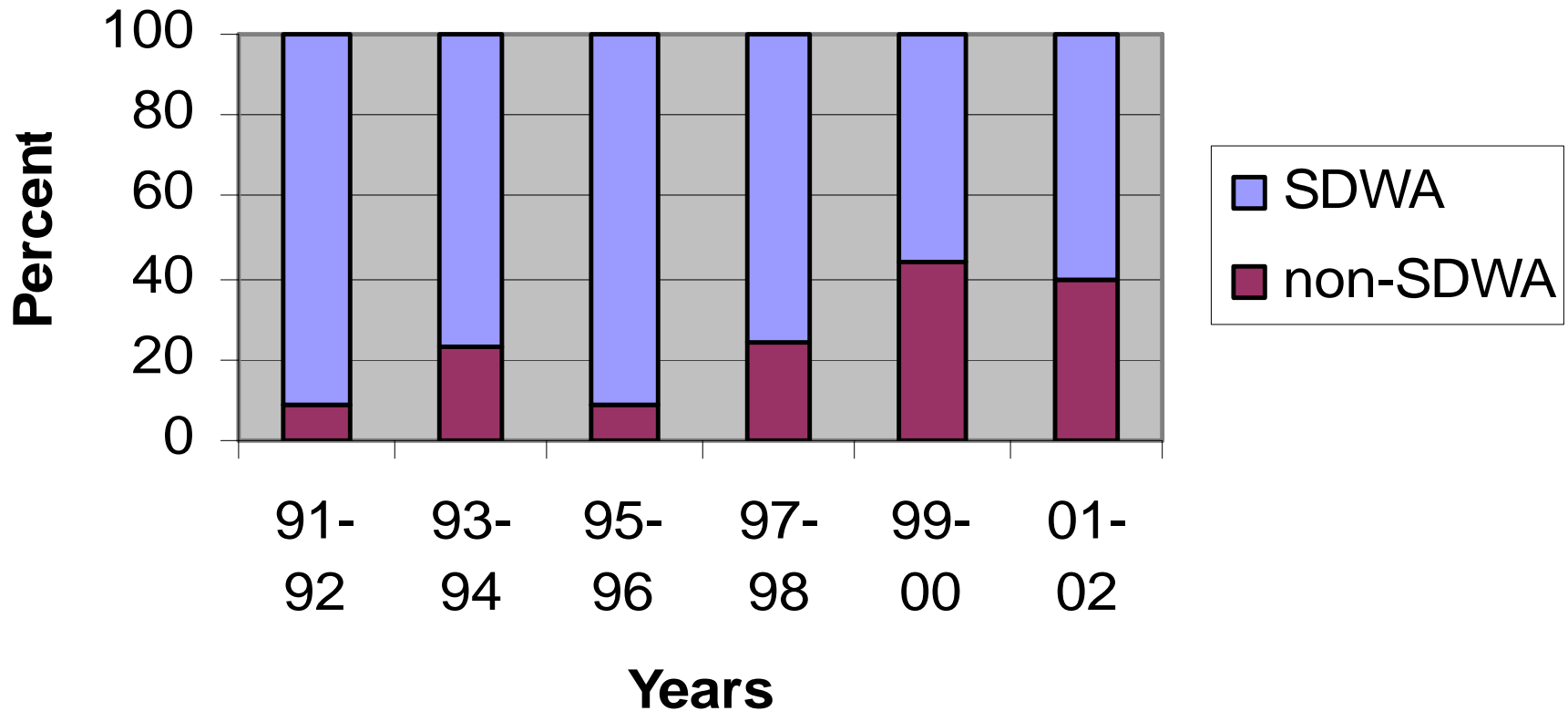


# Waterborne Disease Surveillance

- **2001–2002:**
  - ◆ **Total of 31 outbreaks reported (drinking water)**
  - ◆ **< 1/3 outbreak/state/year**
  - ◆ **Do you believe that?**



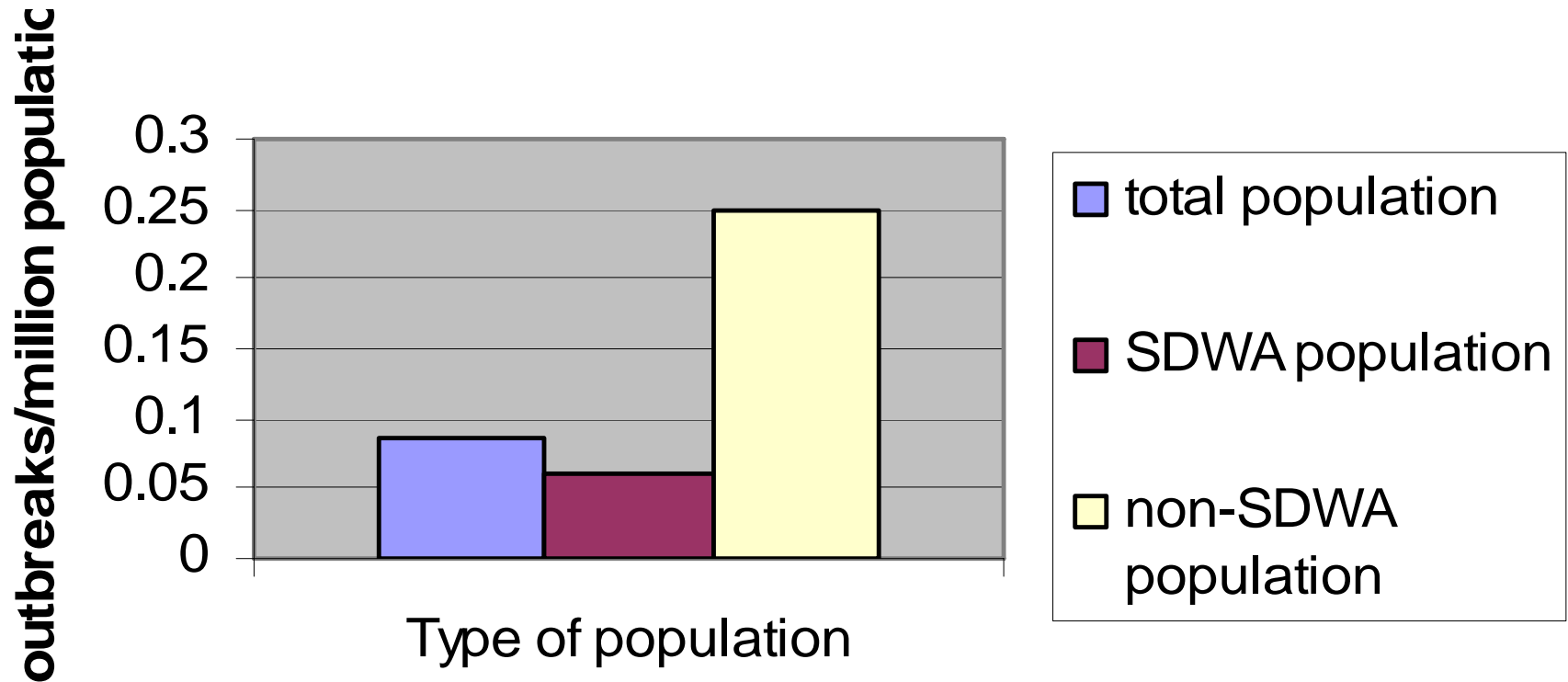
# MMWR: Waterborne Disease Summaries





# Proportion of Outbreaks in Non-SDWA Systems

## Rate of reported outbreaks/population



# MMWR: Waterborne Disease Summaries

- **Non-SDWA (individual) systems disproportionately represented: 40% of reported outbreaks in 15% of population (2001–2002)**



# MMWR: Waterborne Disease Summaries

- Data show that proportion of outbreaks in regulated systems are trending down
  - ◆ Performance measure of health benefit of regulations
- Better surveillance could reinforce these findings



# Waterborne Disease Surveillance

- **1979–1982 Nationwide:**
  - ◆ Ave = 41 outbreaks reported
  - ◆ → 0.82 WBDO/state/year
- **Colorado 1980–1983**
  - ◆ Intensive WBDO surveillance
  - ◆ 18 outbreaks reported
  - ◆ → 6 WBDO/state/year



# Effect of an Active Program

- Florida

- ◆ 2001–2002

- ★ 8 of 31 reported outbreaks  
(26%)

- ◆ 1999–2000

- ★ 15 of 39 reported outbreaks  
(38%)





# Small Systems

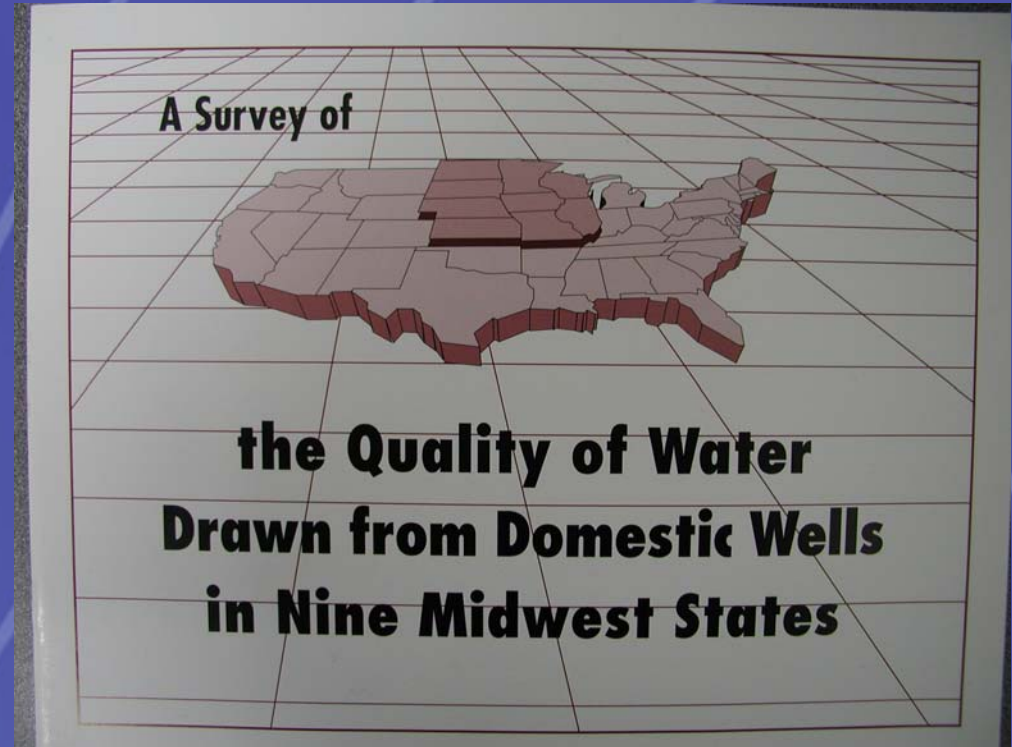
- ~15 percent (over 40 million) of U.S. population drink water from small systems not regulated under the Safe Drinking Water Act (SDWA)
- Water quality from these systems generally unknown and may be unsafe



# Small Systems

## 1994 multistate survey of 5,520 private wells:

- 41.3% contaminated with coliform bacteria
- 11.1% contaminated with *E. coli*.
- Nitrate detected in 65.4%



# EHS-Net Water: Possible Projects

- **Enhanced waterborne outbreak investigations (including in-depth environmental health assessment)**
- **Active surveillance for waterborne disease**
- **Characterize the population of non-SDWA regulated water systems**
- **Other projects based on partner (EPA, states) input**



# Potential EHS-Net projects

- 1. Active WBDO surveillance
  - ◆ Level of reporting dependent on interest of state partners
  - ◆ e.g., Florida: active partners
    - more reporting



# Potential EHS-Net projects

- **2. Better investigation of outbreaks**
  - ◆ in-depth EH assessment
  - ◆ develop standardized EH investigation procedures/tools for outbreak/nonoutbreak use  
(risk-focused sanitary surveys)





# Potential EHS-Net projects

- **3. Update/enhance existing CDC WBDO surveillance**
  - ◆ **EFORS: to include existing WBDO system in 2006**
  - ◆ **Possible inclusion of enhanced EH data in 2007 revision**



# Potential EHS-Net projects

- 4. Gather information on population served:
  - ◆ “burden of exposure”
- 5. Opportunities for special studies to link exposure to disease



# Summary: EHS-Net Water

- A unique opportunity to integrate environmental health data into WBDO reporting
- Fills public health gaps expressed by both EPA and states related to small drinking water systems



# PROGRAM ANNOUNCEMENT



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# FUNDING NEEDS



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