

Building and Sustaining an Environmental Health Services Workforce to Address Emerging Environmental Health Concerns & Ensure Healthy Homes and Communities

Chris Kochitzky, MSP

**Associate Director for Program Development
CDC's Division of Emergency & Environmental Health Services**

National Center for Environmental Health

Division of Emergency & Environmental Health Services



**How many of you have utilized the
public health system in the last
month?**

Background

- ❑ Of the 10 great public health achievements of the 20th century, at least five—safer workplaces, control of infectious diseases, safer and healthier foods, fluoridation of drinking water, and the reduction in childhood lead poisoning—were the result of state and federal environmental health policies and interventions.
- ❑ Environmental health programs provide some of the most basic forms of public health protection.
- ❑ An adequate supply of qualified environmental health professionals is critical to the nation's health.

Foundational Definitions

- ***Public Health*** is “what we, as a society, do collectively to assure the conditions in which ***all people*** can be healthy.” (IOM, 2002)

- ***Health Promotion*** is “the process of enabling ***all people*** to increase control over and improve their health.” To reach a state of complete physical, mental, and social well-being, “***an individual or group*** must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with their environment.”

(WHO, 1986)

Vulnerable populations are those made vulnerable by financial circumstances, place of residence, health, age, or functional/developmental status; ability to communicate effectively; presence of chronic or terminal illness or disability.

Agency for Health Care Policy and Research

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

U.S. Environmental Protection Agency

One Model of Population Health

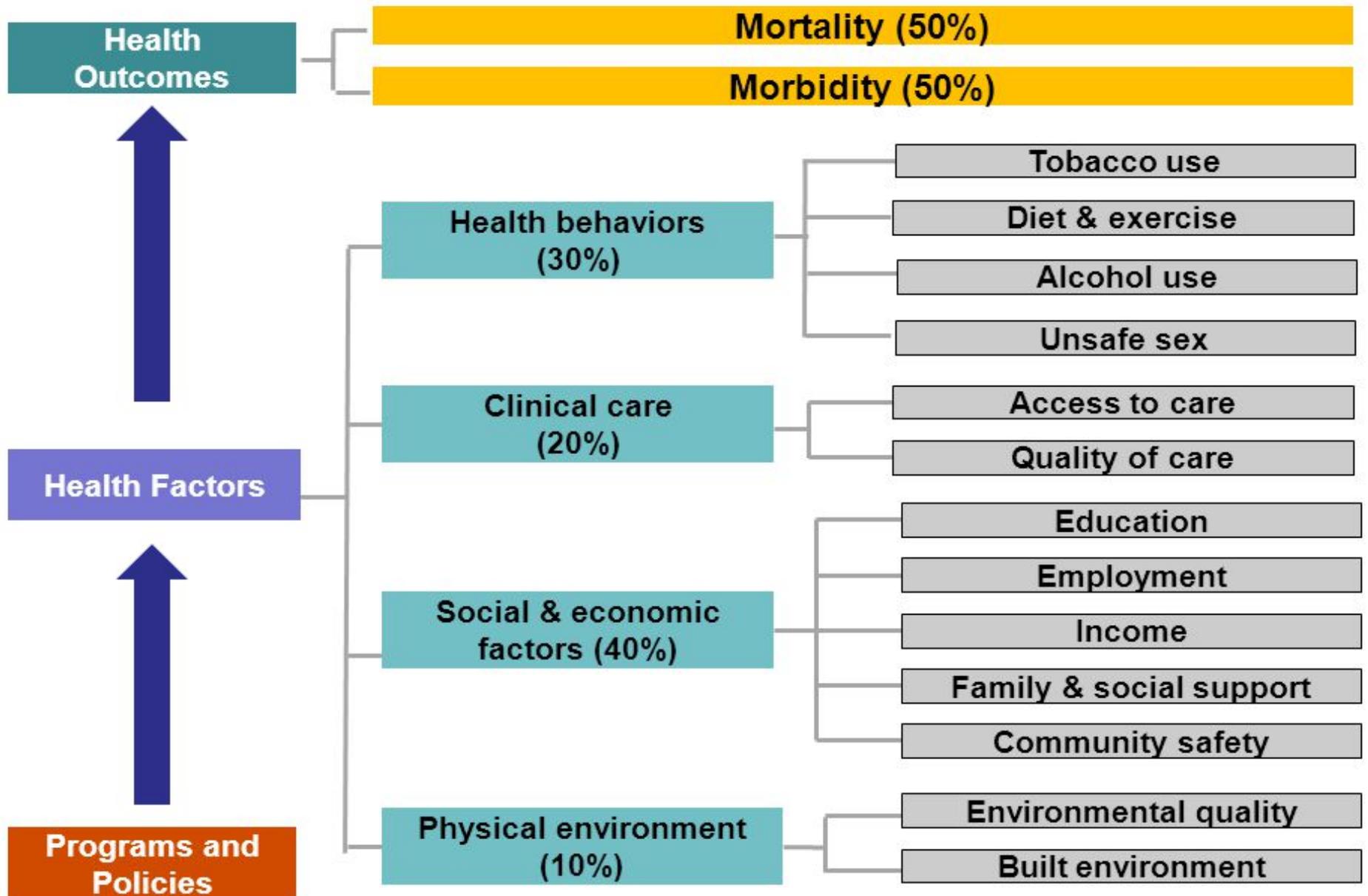


TABLE 1

Top 12 Diseases Attributable to the Environment in the United States

Rank	Disease/Injury Group	Disability-Adjusted Life Years (DALY) per Year
1	Cardiovascular disease	1,072,800
2	Neuropsychiatric disorders	894,000
3	Cancer (excluding lung cancer)	625,800
4	Other unintentional injuries (excluding road traffic injuries)	596,000
5	Lung cancer	357,600
6	Asthma	298,000
7	Intentional injuries	268,200
8	Chronic obstructive pulmonary disease	238,400
8	Musculoskeletal diseases	238,400
9	Road traffic injuries	208,600
10	Diarrhea	89,400
11	Respiratory infections	59,600

Source: World Health Organization (2007).





Framework for Assessing Factors That Impact Potentially Vulnerable Populations

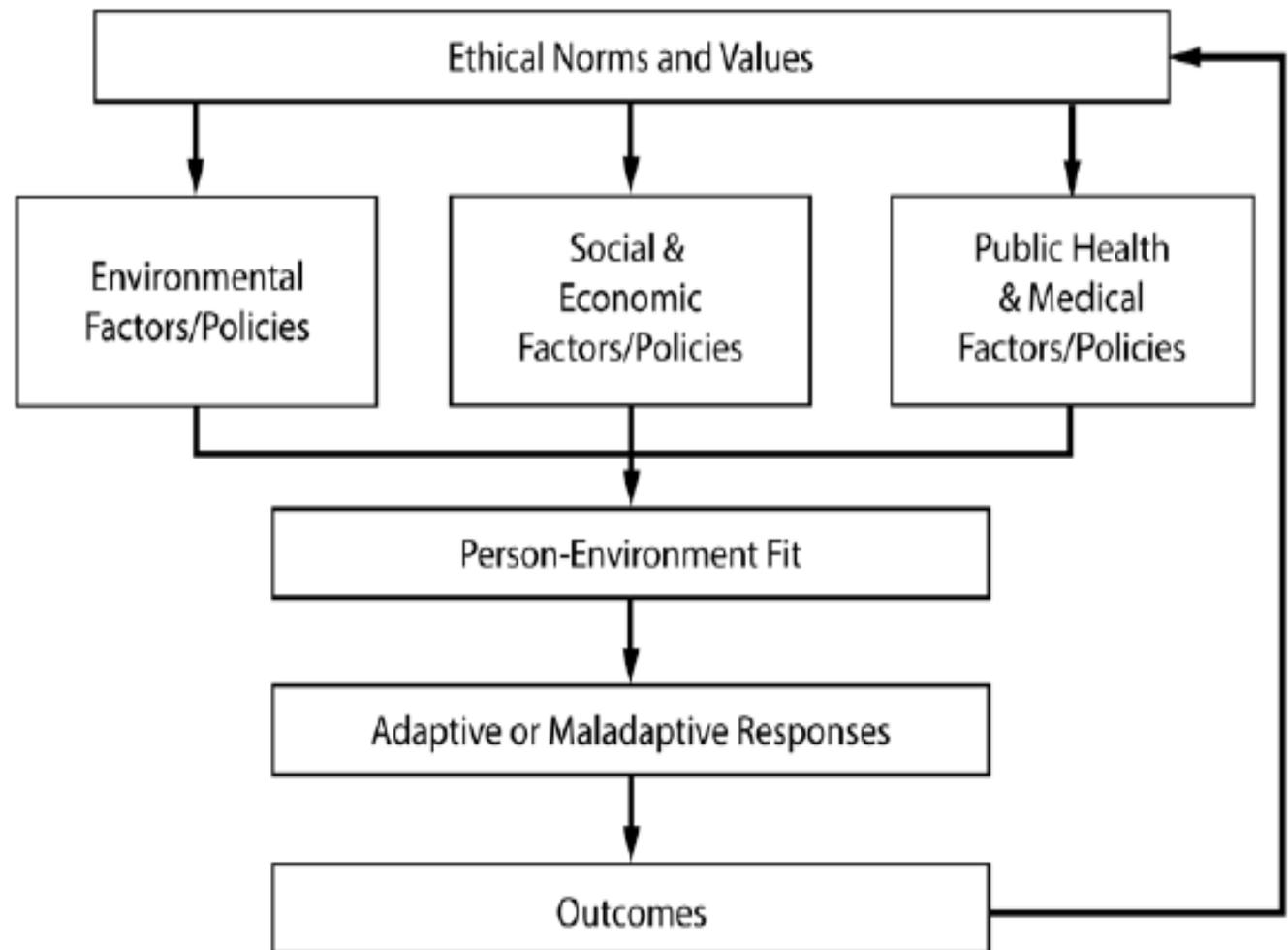


Figure 9.1 A framework for assessing factors that impact vulnerable populations (adapted from models by Aday 2001; WHO 2002; and Glass and Balfour 2003 [adapted from Lawton and Nahemow 1973]).

TABLE 1

Percentages of Local Health Departments That Reduced or Eliminated Environmental Health Services for Budgetary Reasons (N = 280–291)

Environmental Health Service	Reduced or Eliminated (%)
At least one service	33.7
Food safety	12.8
Vector control	12.7
Ground water	10.7
Surface water	8.5
Drinking water	10.0
Recreational water	8.3
Indoor air	7.8
Outdoor air	3.2
Pollution prevention	5.3
Land use	5.6
Hazardous material	2.6
Air pollution	1.6
Hazardous waste	5.3
Animal control	6.8
Climate change	1.5

TABLE 2

Percentages of Local Health Departments for Which Budgetary Constraints Negatively Impacted Environmental Health Service Outcomes (N = 289–307)

Environmental Health Service	Negative Impact (%)
Any service	39.6
Food safety	20.7
Vector control	16.8
Ground water	14.9
Surface water	13.5
Drinking water	15.6
Recreational water	13.6
Indoor air	8.9
Outdoor air	3.2
Pollution prevention	6.9
Land use	7.1
Hazardous material	3.5
Air pollution	1.8
Hazardous waste	5.9
Animal control	8.8
Climate change	1.1

2013 ASCE Report Card for U.S. Infrastructure

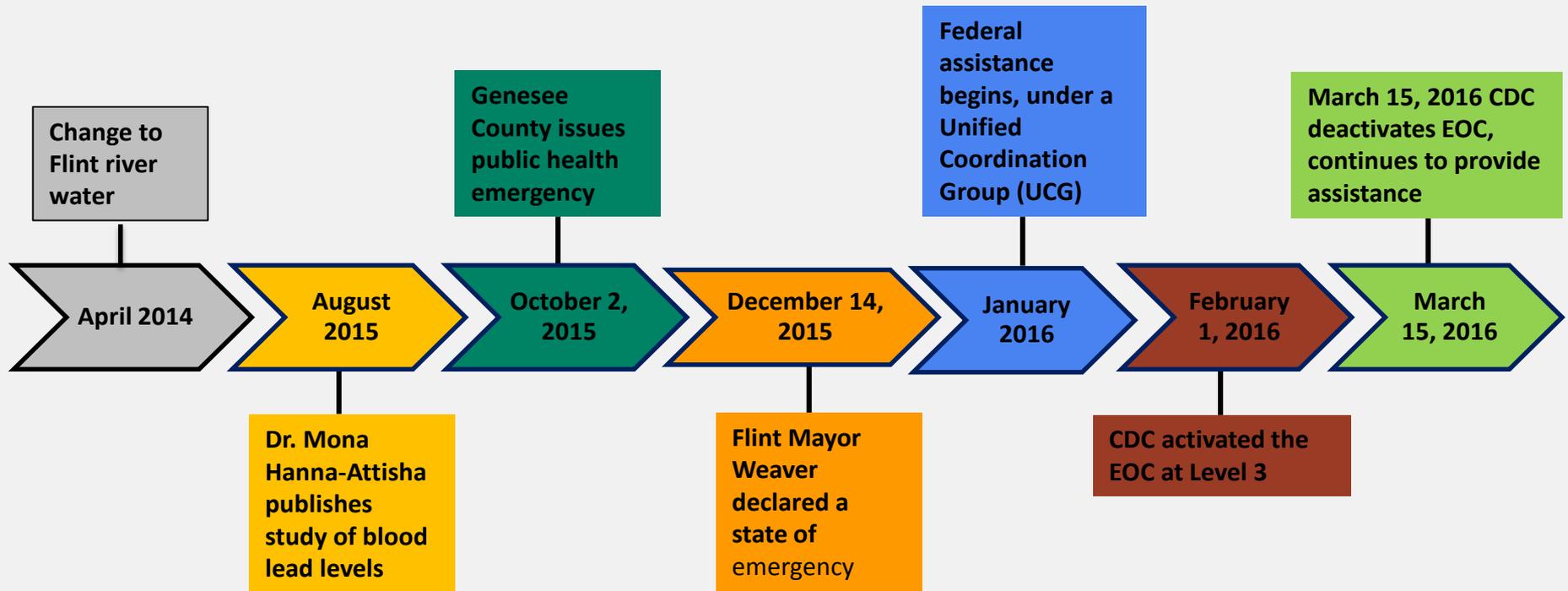
- ❑ **Bridges: C+**
- ❑ **Drinking Water: D**
- ❑ **Hazardous Waste: D**
- ❑ **Public Parks & Recreation: C-**
- ❑ **Roads: D**
- ❑ **Solid Waste: B-**
- ❑ **Transit: D**
- ❑ **Wastewater: D**

Agenda

- **NCEH and ATSDR's role in the response**
 - MMWR on blood lead levels
 - Assessment of chemical exposure (ACE) rash investigation
 - Point of use water filter testing
- **NCIRD Legionella response**



Background on Flint Water Contamination - Timeline



U.S. Government Objectives in Flint

- **Immediate access to safe water (FEMA)**
- **Long term safety of the water supply (EPA)**
- **Immediate needs regarding health (HHS and Unified Command Group)**
- **Community resilience (HHS and Unified Command Group)**



NCEH/ATSDR Response to Flint

- **Mid-January 2016: NCEH/ATSDR deployed first team to Flint**
- **Established 3 activities:**
 - ACE
 - Water quality
 - Case management
- **Issued guidance and MI tested children <6 years old for lead**



NCEH/ATSDR Response to Flint (continued)

- Case management to families with children identified as elevated blood lead levels, reduced backlog
- Provided support for 107 communication products
- Conducted 12 Congressional briefings
- Responded to more than a dozen Congressional requests for information
- Planned behavioral health assessment with SAMHSA - CASPER to begin May 16

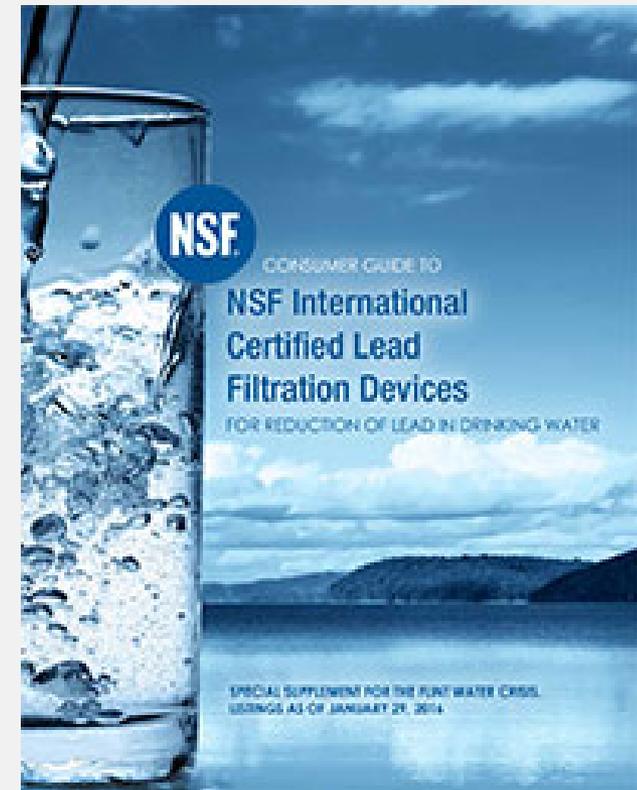


ACE Rash Investigation

- **CDC assisted the Michigan Department of Health and Human Services in conducting the rash investigation**
- **The investigation consisted of 3 parts:**
 - Questionnaire
 - Clinical – Referral to a dermatologist
 - Water Sampling
- **Preliminary results show approximately 30% of the rashes were not caused by the water, leaving 70% indeterminate**

Point of Use Water Filter Testing

- **NCEH/ATSDR is working with EPA to determine if drinking filtered tap water is safe for pregnant women and children**
 - The City of Flint and other local and state health officials would like to advise these populations that bottled water for consumption is no longer necessary.
 - ATSDR is working with EPA to coordinate the logistics for implementation of the protocol to test additional filters in homes.



Chris Kochtitzky, MSP

CDC's Division of Emergency & Environmental Health Services

csk3@cdc.gov

National Center for Environmental Health

Division of Emergency & Environmental Health Services

