

# The Connection of Environmental Health to Disease Prevention and National Health Reform

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# Overview

- Background and History
- Reality
- Opportunity
- Recommendations

# Think about how the environment impacts your health....

- Where you live
- What you eat/drink/breathe
- Where you work
- How you feel?

## Top 10 causes of Death (CDC 2007)

- Heart disease: 616,067
- Cancer: 562,875
- Stroke (cerebrovascular diseases): 135,952
- Chronic lower respiratory diseases: 127,924
- Accidents (unintentional injuries): 123,706
- Alzheimer's disease: 74,632
- Diabetes: 71,382
- Influenza and Pneumonia: 52,717
- Nephritis, nephrotic syndrome, and nephrosis: 46,448
- Septicemia: 34,828

# Epidemiological Triad



# Somebody said...

- All diseases are 100 percent genetics and 100 percent environment

# Who does environmental health?

- EPA
- CDC
- USDA
- FDA
- State agencies
- Local public health
- Hospitals
- Community health centers
- Individual providers
- Insurance companies
- Schools
- Advocacy groups
- All of the above?

# So... why haven't we put it all together?

- The agencies...laws, missions, culture
- The stakeholders...
- The science...limited approach, inadequate surveillance
- The incentives...funding, prevention
- The leadership?

# **The Future of Public Health**

**“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.”**

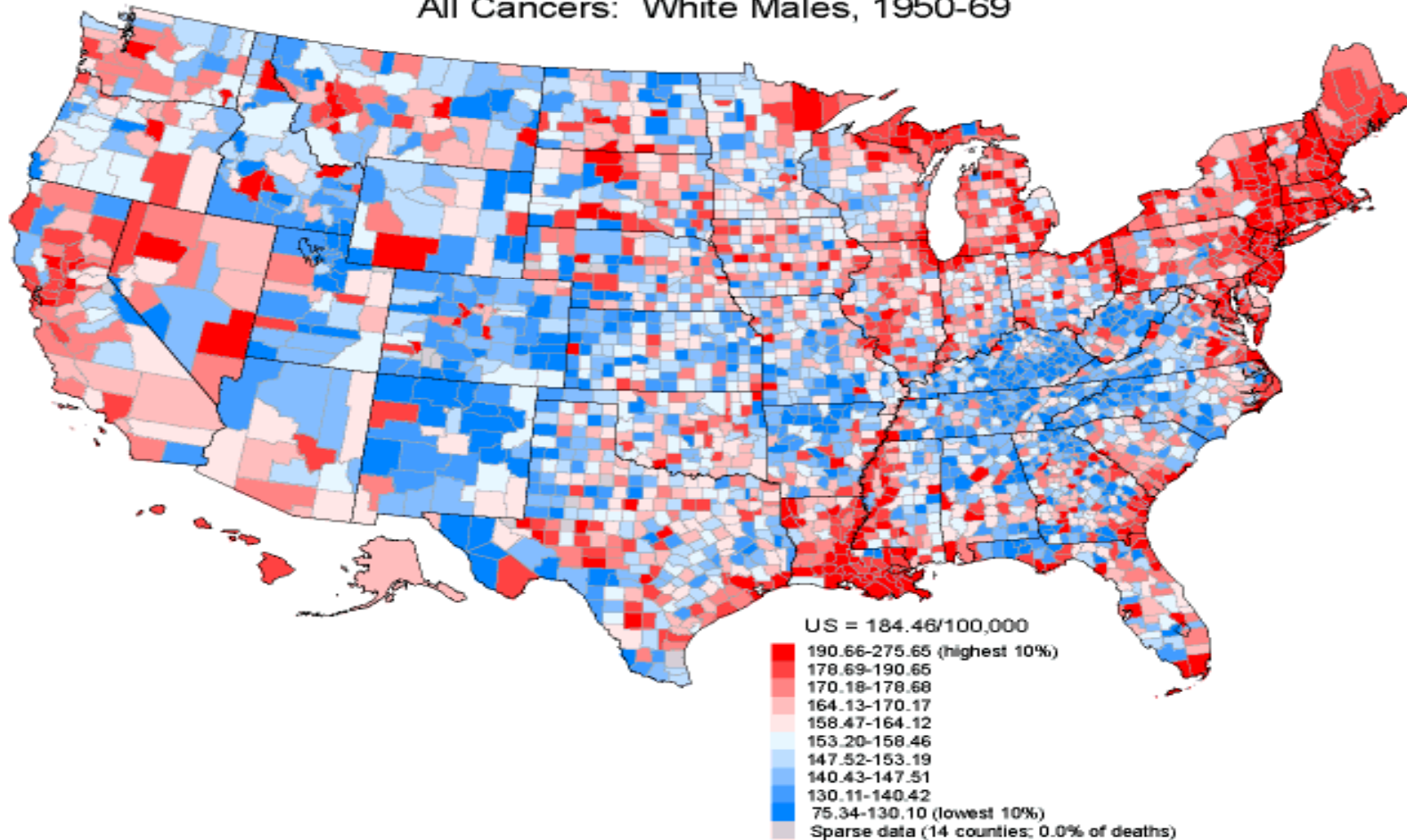
**- IOM 1988**

# Health Reform: A New Lens?



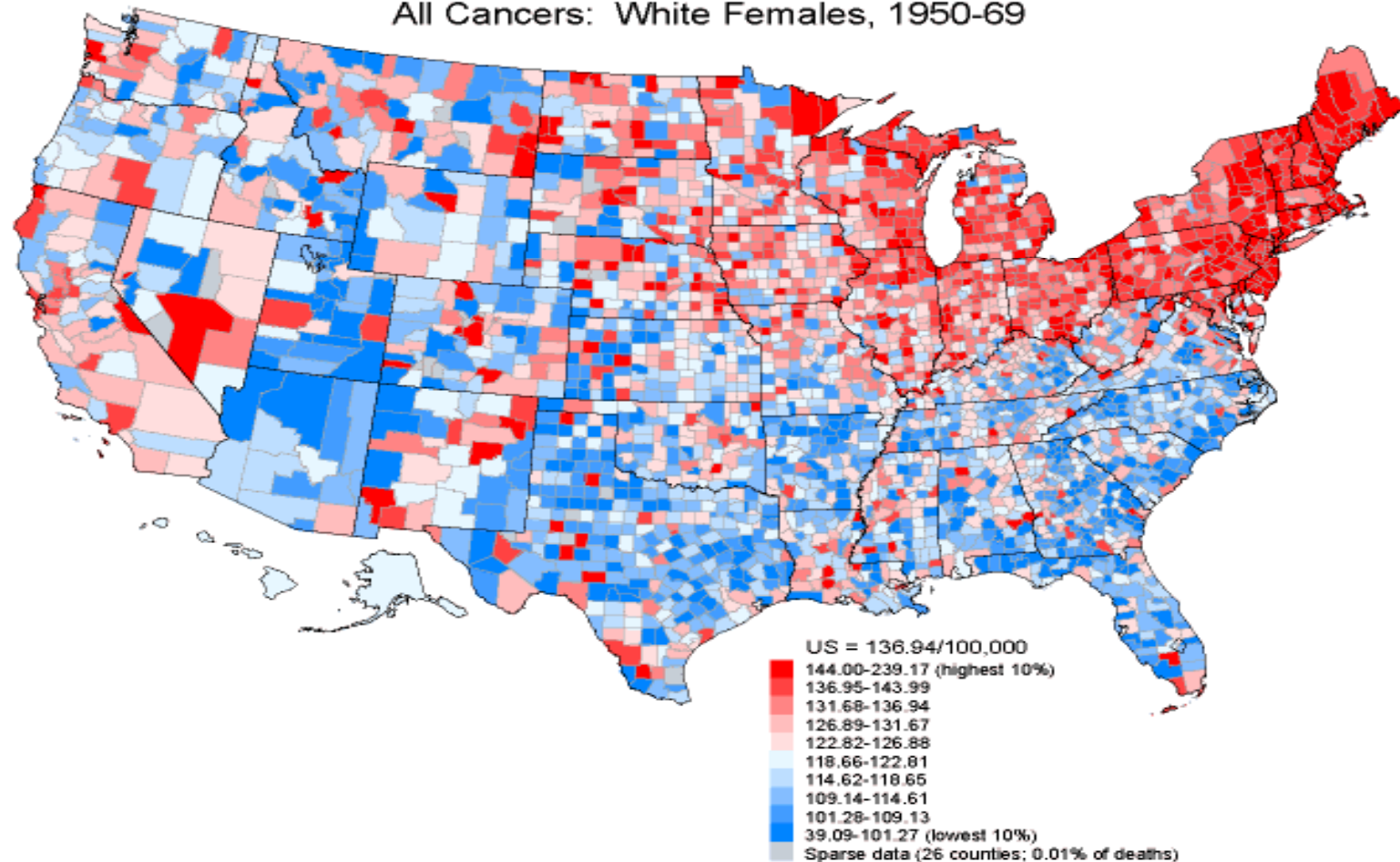
# Male Cancer Mortality 1950-1969

Cancer Mortality Rates by County (Age-adjusted 1970 US Population)  
All Cancers: White Males, 1950-69



# Female Cancer Mortality 1950-1969

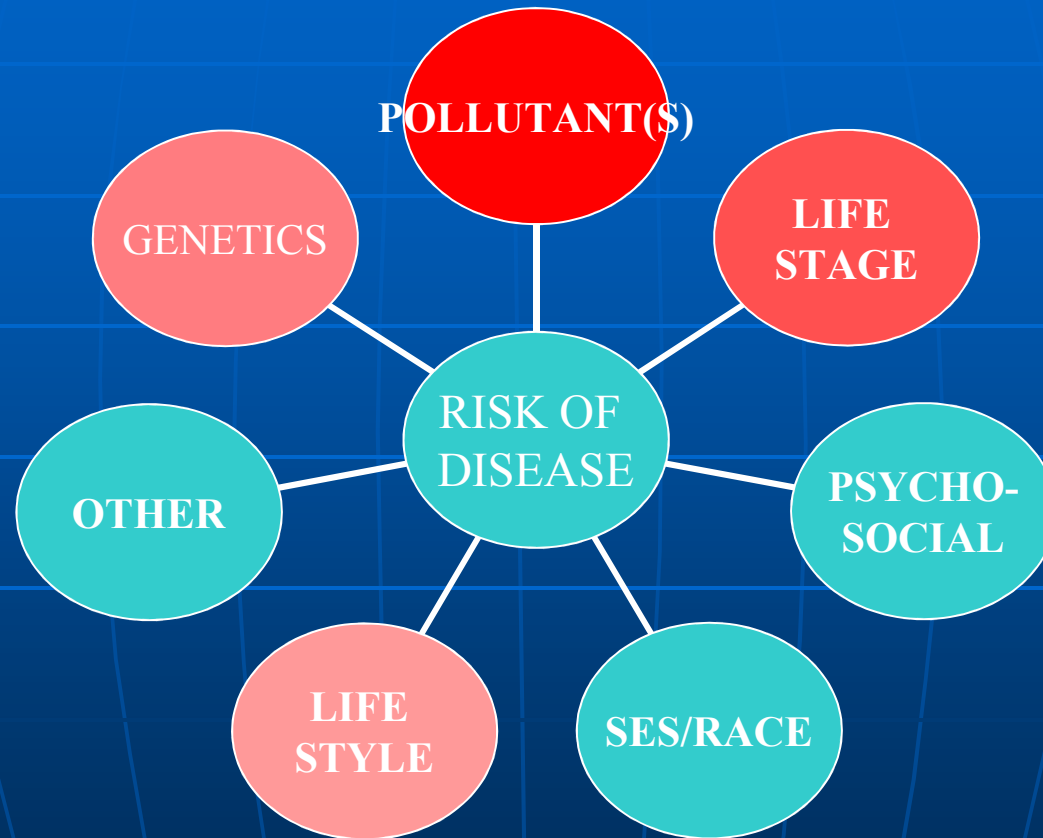
Cancer Mortality Rates by County (Age-adjusted 1970 US Population)  
All Cancers: White Females, 1950-69



# New Possibilities

- Increased population
- Incentives for prevention
- New partnerships?
- Electronic medical records have the potential to redraw the Nation's maps
- Coordinated strategy for population health?

# *Understanding the Risks of Disease*



# The Silver Book

**R**isk assessment has become a dominant public policy tool for making choices, based on limited resources, to protect public health and the environment. It has been instrumental to the mission of the U.S. Environmental Protection Agency (EPA) as well as other federal agencies in evaluating public health concerns, informing regulatory and technological decisions, prioritizing research needs and funding, and in developing approaches for cost-benefit analyses.

However, risk assessment is at a crossroads. Despite advances in the field, risk assessment faces a number of significant challenges including lengthy delays in completing complex risk assessments; lack of data leading to significant uncertainty in risk assessments; and many chemicals in the marketplace that have not been evaluated and emerging agents requiring assessment.

*Science and Decisions* makes practical scientific and technical recommendations to address these challenges. This book is complement to the widely used 1983 National Academies book, *Risk Assessment in the Federal Government* (also known as the Red Book). The earlier book established a framework for the concepts and conduct of risk assessment that has been adopted by numerous expert committees, regulatory agencies, and public health institutions. The new book embeds these concepts within a broader framework for risk-based decision-making. Together, these are essential references for those working in the regulatory and public health fields.

#### Also of Interest:

*Risk Assessment in the Federal Government: Managing the Process*  
978-0-309-03349-7 • 191 pages • 6 x 9 • paperback (1983)

*Environmental Health Sciences Decision Making: Risk Management, Evidence, and Ethics: Workshop Summary*  
978-0-309-12454-6 • 92 pages • 6 x 9 • paperback (2009)

*Toxicity Testing in the 21st Century: A Vision and a Strategy*  
978-0-309-10992-5 • 216 pages • 6 x 9 • hardcover (2007)

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# SCIENCE AND DECISIONS

Advancing Risk Assessment

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# New Tools for Risks

- Problem Formulation
- Cumulative Risk
- Health Impact Assessment
- Integrated decision making

# Environmental Health Paradigm



# Recommendations

- Now is the time to forge new partnerships
- Environmental health is an essential component of Health Reform and improving the Nation's health
- Get over the old turf battles!
- Assess information and surveillance strategies
- Ask the right questions...
- Evaluate the health impacts