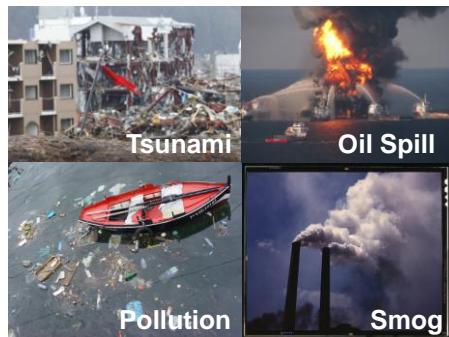


# What is Environmental Health?



## How the Environment and Your Health are Connected

Photos: Stefan Wermli, James Emery



Photos: Yomiuri Shimbun, Stefan Wermli, Luis Miguel Bagalio Sanchez

## Environmental Health: All Around Us



"If you want to learn about the health of a population, look at the air they breath, the water they drink, and the places where they live."

*– Hippocrates, the Father of Medicine, in the 5<sup>th</sup> century B.C.*

Photo: Herzl Pinhas

## Environmental Health




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- The health of the environment is connected to the **health of people**.
- Environmental health professionals are working to better understand the environment and its connections to human health.

Photo: Deepwater Horizon Response, Mark Christal

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## What factors influence your health?




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- Physical Environment Factors
  - Air and water quality, food availability
- Social Factors
  - Health care, education, race, income
- Individual Factors
  - Behaviors, genetics

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## Human Health and the Environment




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- An **environmental health hazard** is a substance that has the ability to cause an adverse health event.
- Health effects from the environment can be both short term (**acute**) and longer term (**chronic**).

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Photo: Susan Rother

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## Acute vs. Chronic



## **Acute Conditions**

- Have a sudden onset
  - Symptoms may worsen or change rapidly
  - Usually relatively short-lived
  - Examples: Cold or flu, food poisoning, heart attack

Photo: Steve Schupe, Sara Jean Smith

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## Acute vs. Chronic



## **Chronic Conditions**

- Develop or worsen over a long period of time
  - May be difficult to determine the specific cause of disease
  - Are among the most common and preventable sources of disease in the U.S.
  - Examples: asthma, cancer, diabetes

Photo: Shawn Semmes

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What is in the environment that can affect health?



- Air, water and soil pollution from transportation, agriculture, industry and other sources include:
    - Chemicals
    - Toxic waste
    - Radiation
    - Disease-causing microorganisms and plants
    - Pesticides
    - Heavy metals

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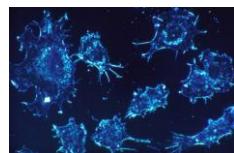
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# Health conditions possibly linked to the environment



- Certain cancers (i.e., bladder, liver)
  - Asthma and other respiratory diseases
  - Neurological (related to the nervous system) diseases
  - Parkinson's disease, multiple sclerosis, Alzheimer's disease
    - Developmental disabilities
  - Cerebral palsy, autism
  - Birth defects

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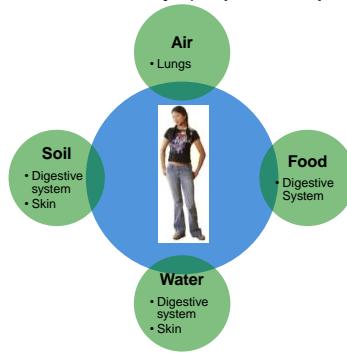
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## How substances in the environment can get into the human body (exposure pathways)



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## Population Characteristics and Environmental Health



- Population characteristics (demographics) include age, gender, race, ethnicity and socioeconomic factors such as where people live, income and education level.
  - Different population groups can have different rates of disease (for example, people who live in cities tend to have higher rates of asthma).

Photo: Super Stockphoto

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## Population Characteristics and Environmental Health



- Scientists study the differences in disease rates among populations to learn more about causes of disease and possible connections between the environment and human health.
  - **Epidemiology** is the study of the sources and causes of disease.

Photo: Elvert Barnes

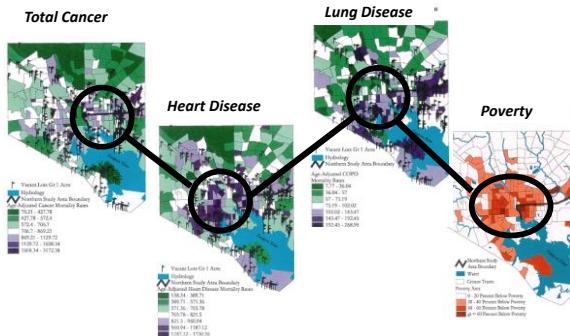
## Population Characteristics and Environmental Health



- Low-income groups and minorities may have a greater likelihood of exposure to environmental hazards because they are more likely to live in areas with more pollution and toxic waste.
  - **Environmental Justice** recognizes that all people are entitled equal protection from environmental and health hazards.

Photo: Laurence Bamer

## Environment and Health in Baltimore



*These maps show links between where people live, poverty and health conditions. The areas with some of the highest rates of cancer, heart disease and lung disease are also some of the poorest.*

Images: Dr. Michael Trush, JHS/PH

## Working in the Field



- There are many exciting careers in environmental health! Some examples include:

- Public Health/Medicine
  - Science/Research
  - Government
  - Media/Journalism
  - Urban Planning
  - Agriculture
  - Industry
  - Engineering
  - Law

Photo: Marion Doss

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## Searching for More Answers



- Researchers have linked specific diseases to specific environmental exposures, such as smoking and lung cancer, but there is still so much we do not know about how environment and health are connected.

Photo: U.S. Fish and Wildlife Service

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What more do we need to learn about environment and health connections?



- We are collecting information and data on environmental hazards, human exposure to the hazards, and diseases to learn more about environment and health connections. An example of this is the national environmental public health tracking program.

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## Environmental Public Health Tracking in Maryland



- Maryland is one of the 23 states funded by the Centers for Disease Control and Prevention to collect environment and health data for the public, policymakers, researchers, and government agencies to use to help learn more about environment and health connections.

# Maryland Environmental Public Health Tracking *Asthma Rates and Ozone Levels*



## Example: Maryland Environmental Public Health Tracking Efforts *Birth Defects and Race*

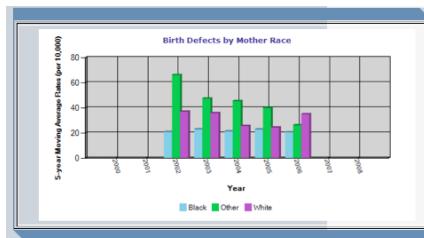


Image: Maryland EPHT

## Discussion



- Why is it important to understand connections between the environment and health?
- What environmental health topics are important to you in your life?
- What do you think are the biggest challenges environmental health professionals face?

Photo: Danielle Guana, Neil Smith

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