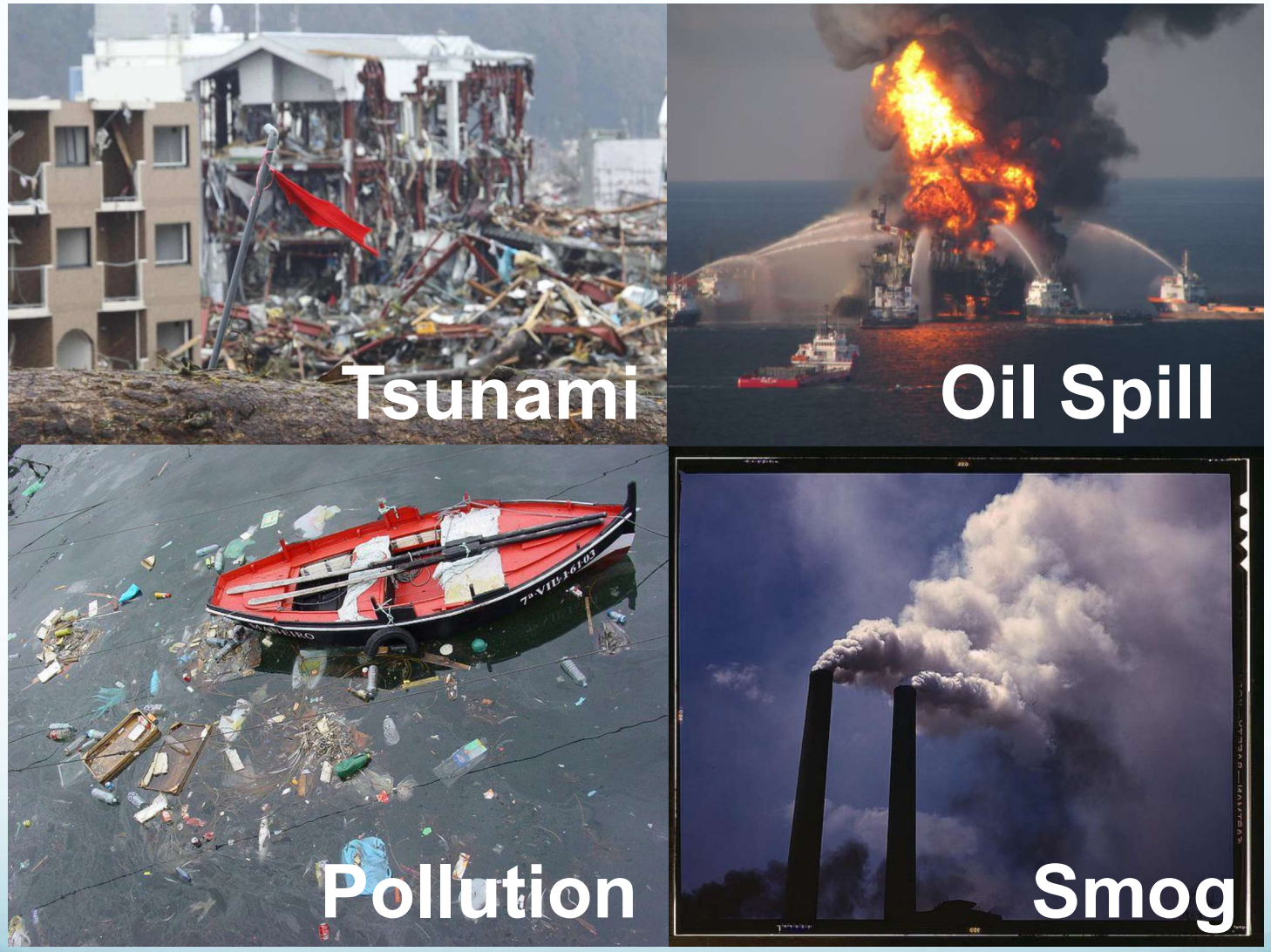
What is Environmental Health?

How the Environment and Your Health are Connected

Photos: Stefan Wernli, James Emery



Photos: Yomiuri Shimbun, Stefan Wernli, 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 5th century B.C.

Photo: Herzi Pinkl

Environmental Health

•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

What factors influence your health?

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

Human Health and the Environment

- 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**).

Photo: Susan Rattner

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

Acute vs. Chronic

Chronic Conditions

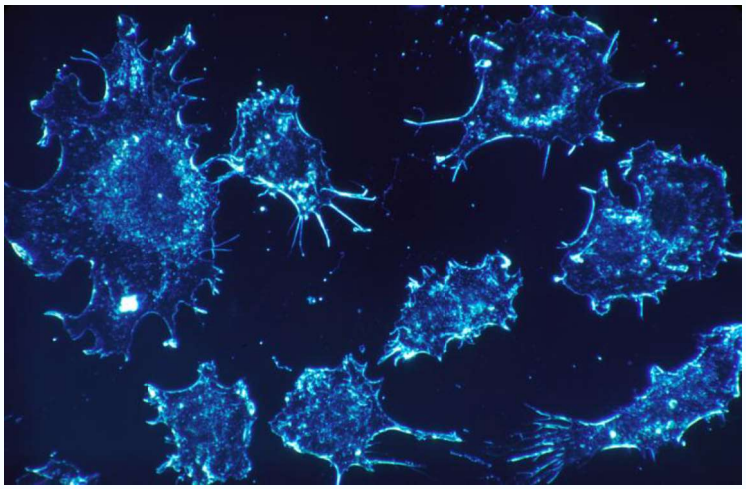
- Develop or worsen over a long period of time
- May be difficult to determine the specific cause of disease
- Are among the most common and preventable sources of disease in the U.S.
- Examples: asthma, cancer, diabetes

Photo: Shawn Semmes

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

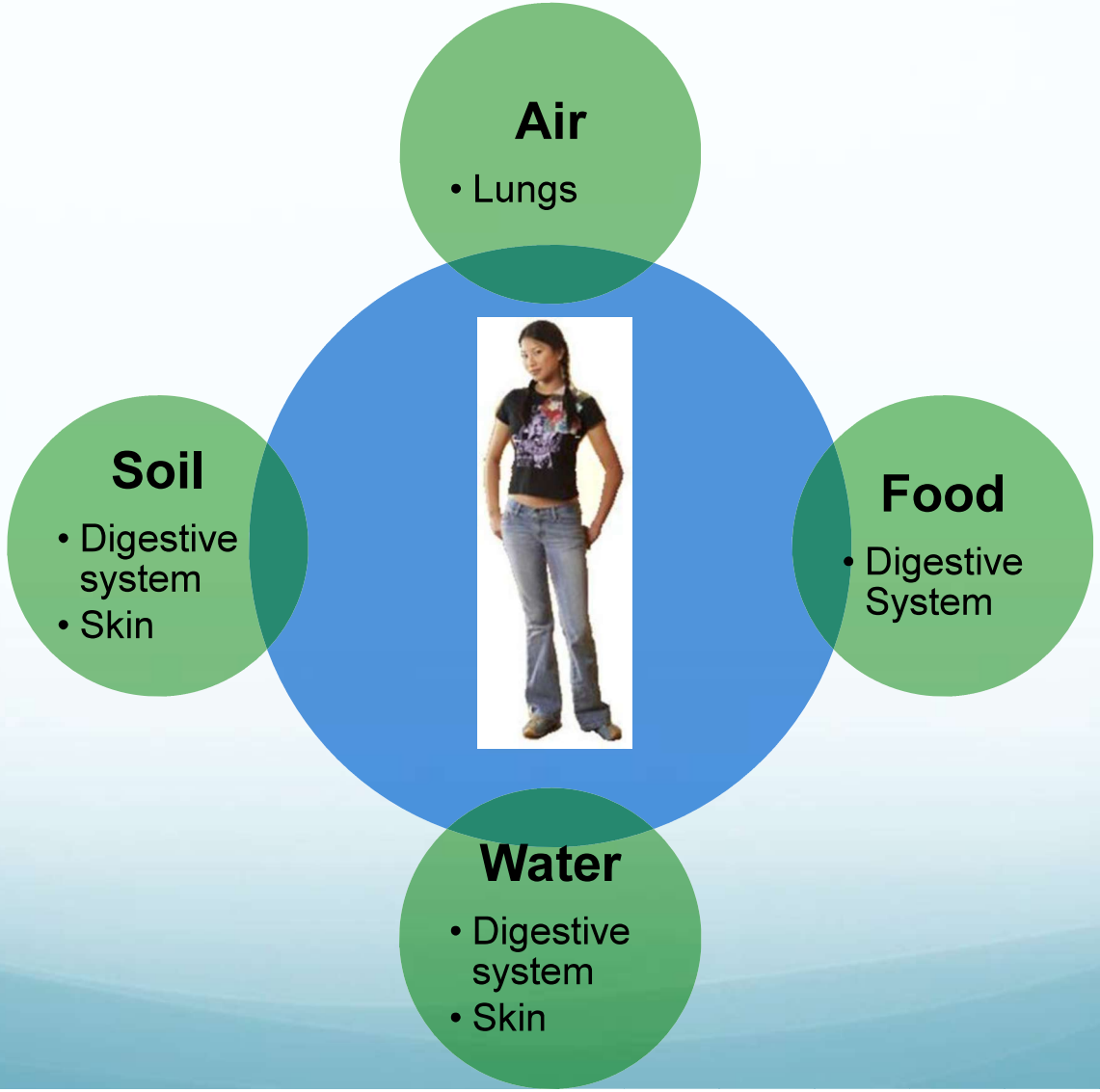
Health conditions possibly linked to the environment



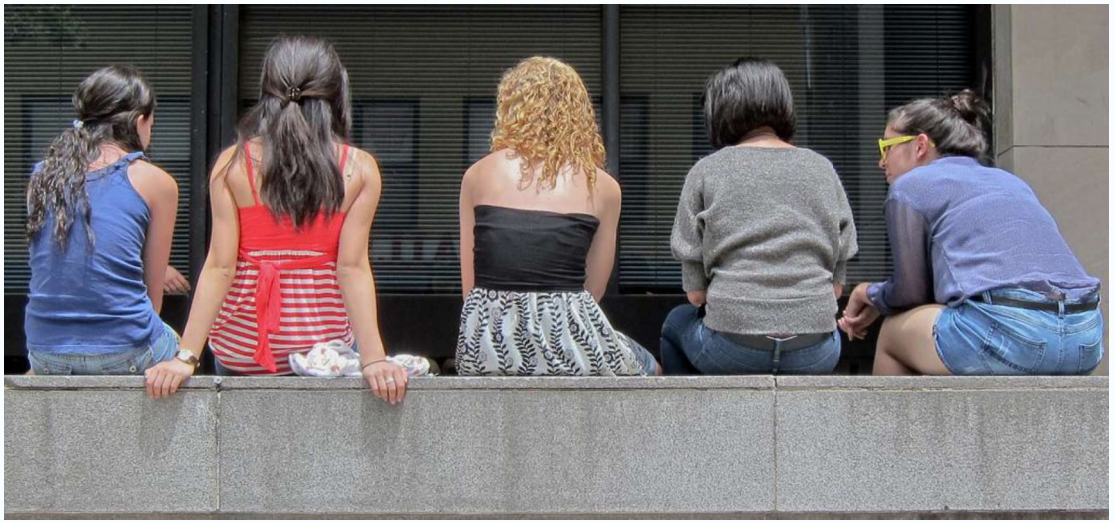
- Certain cancers (i.e., bladder, liver)
- Asthma and other respiratory diseases
- Neurological (related to the nervous system) diseases
- Parkinson's disease, multiple sclerosis, Alzheimer's disease
- Developmental disabilities
- Cerebral palsy, autism
- Birth defects

Photo: NCI

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



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: Susan Sermonetta

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.

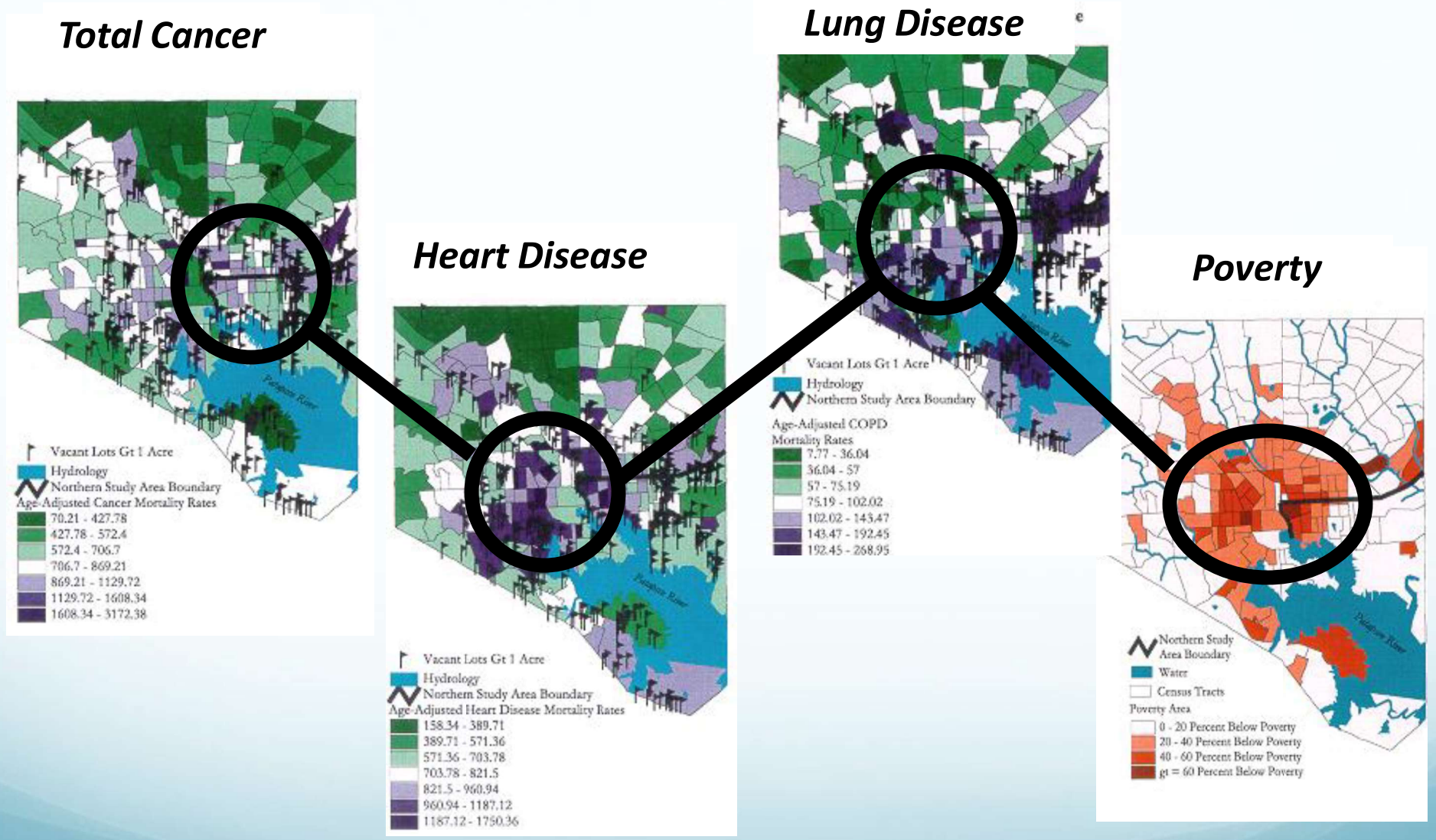
Photo: Elvert Barnes

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 Barnes

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, JHSPH

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

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. Saskatchewan