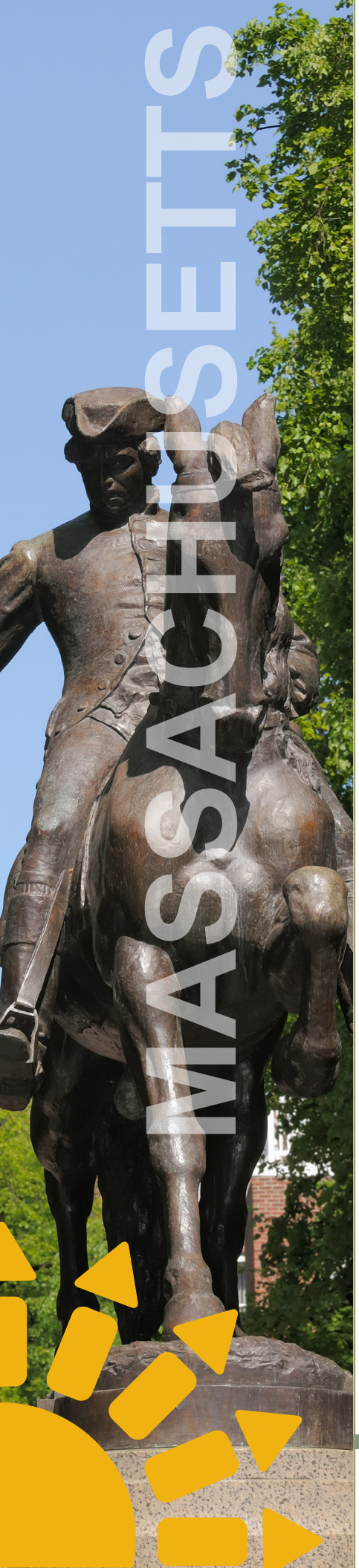


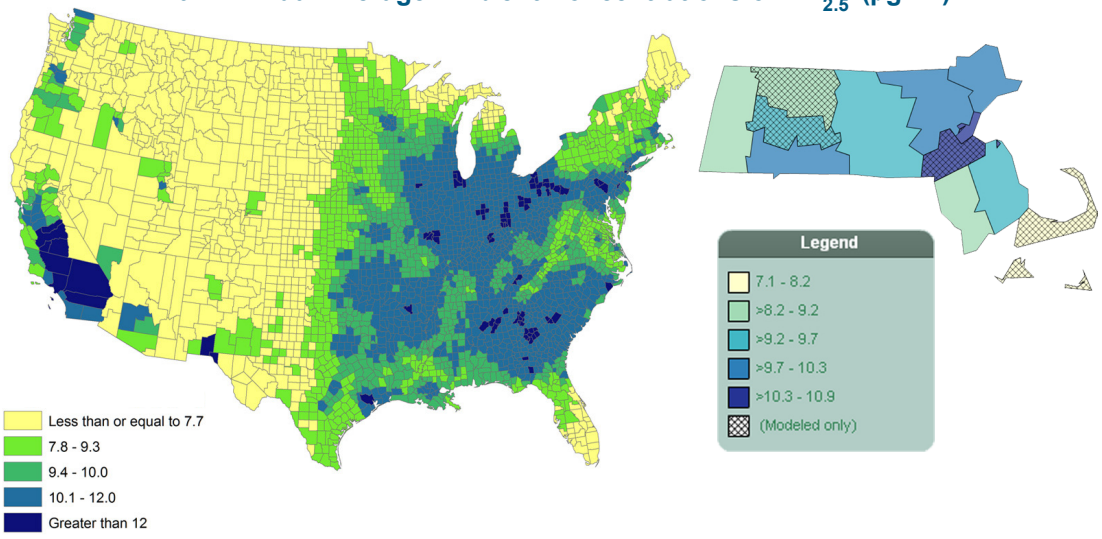
CDC's National Environmental Public Health Tracking Network

The Environmental Public Health Tracking Network is a dynamic system that provides information and data about environmental hazards and potentially related health problems. It presents what is known about environmental hazards, such as air pollution, and where they might exist, where people are exposed to hazards, and how targeted action can protect health, reduce illness, and save lives.

AIR POLLUTION ($PM_{2.5}$) AND HEALTH

Air pollution is a leading environmental threat to human health. Particles in the air such as dust, dirt, soot, and smoke are kinds of air pollution that have been linked with health problems. Some particles in the air are large or dark enough to be seen, like some kinds of smoke and soot. Other particles are so small that you cannot see them. Very small particles that are less than 2.5 micrometers wide (smaller than a grain of sand) are known as fine particulate matter or $PM_{2.5}$.

2011 Annual Average Ambient Concentrations of $PM_{2.5}$ ($\mu g/m^3$)



$PM_{2.5}$ particles are small enough to be inhaled deeply into the lungs. Once fine particles are in the lungs, they can affect the heart, blood vessels, and lungs. People exposed to fine particles over a long period of time can have more heart and lung problems than people who are not breathing this kind of air pollution. Being exposed to any kind of particulate matter may lead to increased emergency department visits and hospital stays for breathing and heart problems and other health problems. In Massachusetts:

72 /10,000 *Age-adjusted Rate of Emergency Department Visits for Asthma - 2011*

31 /10,000 *Age-adjusted Rate of Hospitalizations for Heart Attacks (Over 35) - 2011*

cdc.gov/ephtracking

CDC's National Environmental Public Health Tracking Network

Preventing Childhood Lead Poisoning

Massachusetts is examining the association between environmental justice (EJ) communities and food stamp assistance as predictors of childhood blood lead levels. EJ 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. The state defines an EJ community as one that has a high percentage of lower-income, minority, or immigrant residents with language barriers. EJ residents may be at higher risk than other communities for environmental hazards. More than 85% of homes in EJ communities in Massachusetts were built before 1978 and may contain lead paint and dust. Children under the age of 6 years old are at risk because they are growing so rapidly and because they tend to put their hands or other objects, which may be contaminated with lead dust, into their mouths. Lead exposure during childhood can lead to lifelong learning and behavior problems. A Massachusetts Environmental Public Health Tracking Program analysis showed that young children of families receiving food assistance in EJ communities were more likely to have elevated (≥5 ug/dL) blood lead levels compared to the state average.

Environmental Hazards

The **top 10** high risk communities for lead are also EJ communities.

MA removed lead from **6,230** homes in 2013.

Health Effects

87% of children living in EJ communities are screened for lead, compared with **74.4 %** of children statewide (2013).

4.3 % of children living in EJ communities had BLLs ≥ 5 ug/dL vs **3.9%** of children statewide (2013).

Tracking Diabetes among Children 5-14 Years Old

In 2010, an estimated 215,000 Americans younger than age 20 had diabetes, either Type 1 or Type 2. Between 2001 and 2009, the number of cases of Type 1 diabetes increased 23% for this age group. Type 1 Diabetes develops suddenly and is an autoimmune disease. While a clear cause of Type 1 Diabetes is unknown, risk factors include genetics and the environment. Type 2 diabetes is thought to be influenced by environmental hazards as well. To date, research into exposure to air pollution and persistent organic pollutants (POPs) and the development of Type 2 diabetes has only focused on adults. Little work has been done on children. Given the rise in cases of both types of disease, Massachusetts began tracking diabetes in children in 2009.

Health Effects

There are **1,763** children with type 1 diabetes in MA among children 5-14 years (2013).

There are **83 children** with type 2 diabetes in MA among children 5-14 years (2013).