

University of Massachusetts Medical School

eScholarship@UMMS

Community Engagement and Research
Symposia

2017 Community Engagement and Research
Symposium

Mar 3rd, 1:30 PM

Massachusetts Population Health Information Tools: Tools for Community Health Needs Assessment and Planning

Erin Collins

Massachusetts Department of Public Health

Et al.

Let us know how access to this document benefits you.

Follow this and additional works at: https://escholarship.umassmed.edu/chr_symposium



Part of the [Civic and Community Engagement Commons](#), [Community-Based Research Commons](#), [Community Health and Preventive Medicine Commons](#), and the [Translational Medical Research Commons](#)

Repository Citation

Collins E, Knorr R, Medaglia F. (2017). Massachusetts Population Health Information Tools: Tools for Community Health Needs Assessment and Planning. Community Engagement and Research Symposia. <https://doi.org/10.13028/vx8g-fp49>. Retrieved from https://escholarship.umassmed.edu/chr_symposium/2017/program/10

Creative Commons License



This work is licensed under a [Creative Commons Attribution-NonCommercial-Share Alike 3.0 License](#). This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in Community Engagement and Research Symposia by an authorized administrator of eScholarship@UMMS. For more information, please contact Lisa.Palmer@umassmed.edu.

Massachusetts Population Health Information Tools: Tools for Community Health Needs Assessment and Planning

Community Engagement & Research Symposium/UMMC

March 3, 2017



**CENTER FOR CLINICAL AND
TRANSLATIONAL SCIENCE**

If you would like access the tool we will be demonstrating, please follow these instructions before the session begins :

- 1. Log onto the network labeled “Umassmed-guest”**
- 2. Once connected open web browser and accept the terms and conditions**
- 3. Navigate to**
<http://www.mass.gov/dph/matracking>
- 4. Minimize the page until directed to open it**

Massachusetts Department of Public Health Bureau of Environmental Health

Presenters

Erin Collins, MS , Epidemiologist

Community Assessment Program

Erin.Collins@MassMail.State.MA.US

Dr. Robert Knorr, Director

Environmental Epidemiology Program

Robert.Knorr@MassMail.State.MA.US

Dr. Fran Medaglia, Director

Environmental Health Clinical Outreach & Education

Frances.Medaglia@MassMail.State.MA.US

Massport to Fight Neighborhood
Asthma with Community Health
Groups
AUTHORITY EMBRACES SEMINAL
DPH STUDY RECOMMENDATIONS
Wednesday, May 28, 2014

MassHousing
Important Changes to Get the
Lead Out Program Will Improve
Children's Health
October 28th, 2016



**Public Health Council
approved revisions to the
Determination of Need
regulations in Massachusetts**

Published on January 16, 2017

Discussion Topics

MDPH Health Needs Assessment Tools*

- ▶ Environmental Public Health Tracking (EPHT)
- ▶ Population Health Information Tool (PHIT)
- ▶ Social Determinates of Health (SDoH) Tool

*Data Access

www.mass.gov/dph/research

The Environmental Public Health Tracking Network

The Tracking Network is a system of integrated health, exposure, and hazard information and data from a variety of national, state, and city sources.



<http://www.mass.gov/dph/matracking>

National CDC EPHT



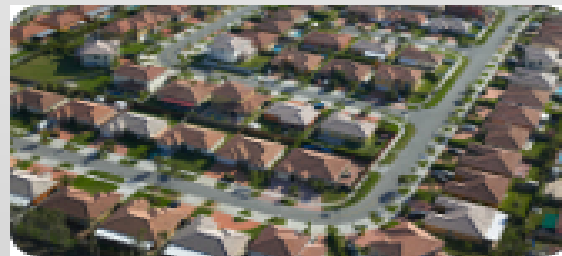
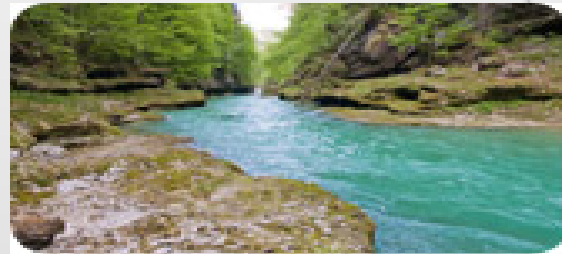
Health Data and Content

- Asthma
- Birth Defects
- Cancer
- Childhood Blood Lead Screening
- CO Poisoning
- Heart Attack
- Heat Stress
- Pediatric Diabetes
- Reproductive Health Outcomes



Environmental Hazard Data & Content

- Air Quality (ozone, PM 2.5)
- Drinking Water Quality
- Climate Change
- Radon Resources



3 Modules within EPHT to Examine Data

- Community Profiles (by town)
- <http://www.mass.gov/dph/matracking>
- Childhood Lead Screening Community Progress Report (by town)
- <http://www.mass.gov/dph/clppp>
- National Portal “Info by Location” (by county)
- <https://ephtracking.cdc.gov/InfoByLocation/>

Demonstration

<http://www.mass.gov/dph/matracking>

Thought Exercise

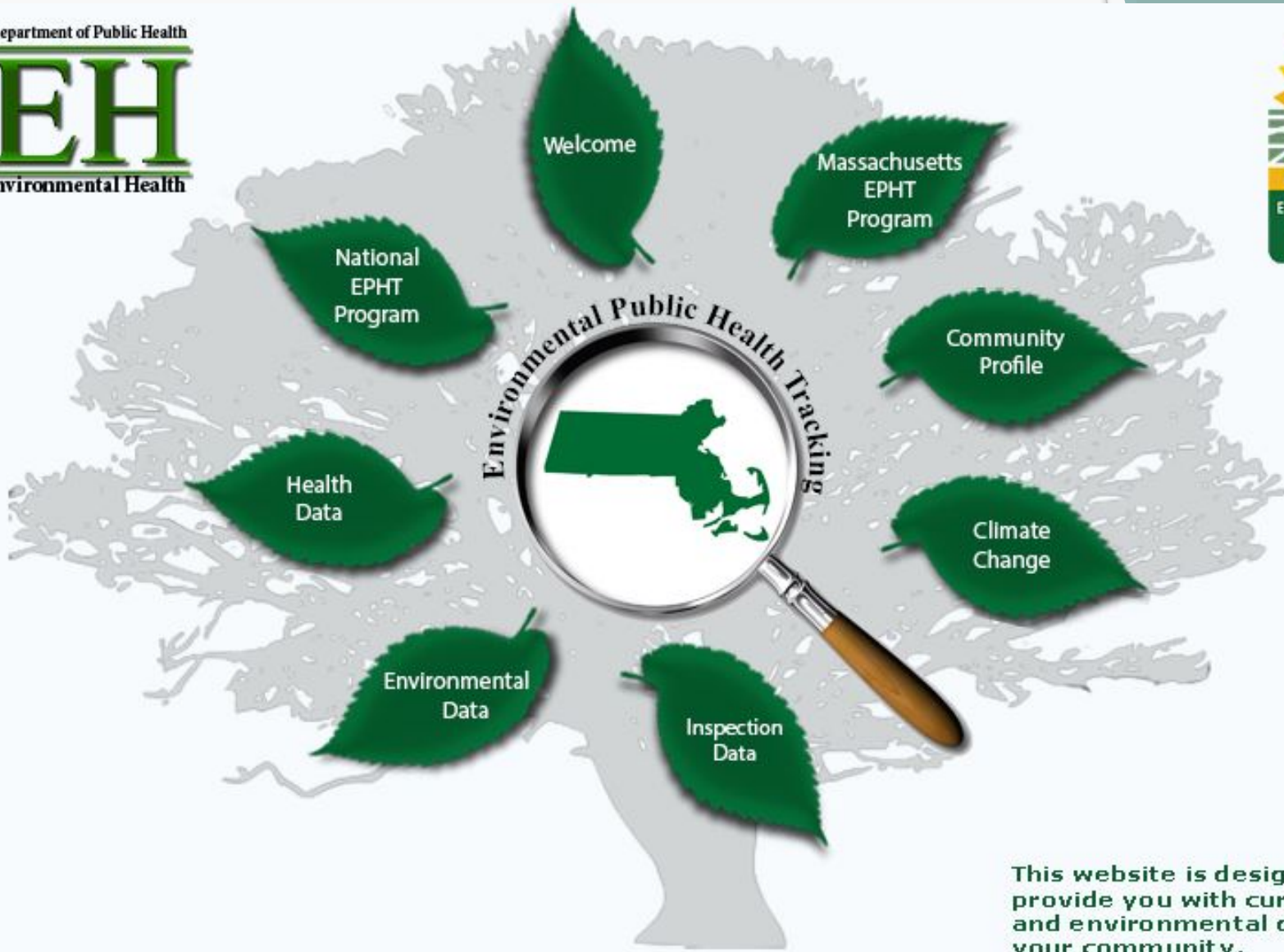
There have been several recent reports in the media about lead paint in homes within environmental justice (EJ) communities in Massachusetts. As a community leader in Worcester, you decide to review the lead data available on the EPHT portal for the city of Worcester.

LANDING PAGE

Massachusetts Department of Public Health

BEH

Bureau of Environmental Health



This website is designed to provide you with current health and environmental data for your community.



NAVIGATION

[Skip to main content](#)



Massachusetts Environmental Public Health Tracking



- [Home](#)
- [About MA EPHT](#)
- [Health](#)
- [Environment](#)
- [Inspections](#)
- [Climate Change](#)
- [Community Profile](#)
- [Planning & Tools](#)

Welcome to the Massachusetts Environmental Public Health Tracking (MA EPHT) Program Website

This website is designed to provide you with access to current and accurate health and environmental information available for Massachusetts. You can use Massachusetts Environmental Public Health Tracking (MA EPHT) information to learn about the health of your community and access information about your environment.

The MA EPHT Portal includes the latest available data for:

[Health Data:](#)

- [ALS](#)
- [Asthma](#)
- [Birth Defects](#)
- [Cancer](#)
- [Carbon Monoxide Poisoning](#)
- [Childhood Lead Poisoning](#)
- [Heart Attack](#)
- [Heat Stress](#)
- [Pediatric Diabetes](#)
- [Reproductive Outcomes](#)

[Environmental Data:](#)

- [Air Quality](#)
- [Drinking Water Quality](#)
- [Radon](#)

[Climate Change Data:](#)

- [Vulnerable Populations](#)

[Inspection Data:](#)

- [Food Protection](#)
- [Lead Inspections](#)
- [Mammography](#)

What's New on MA EPHT

[December 8, 2016](#)

New Data Available! You can now look at 2015 for [Childhood Blood Lead](#) data, and 2014 for [Outdoor Air Quality](#) data.

[October 8, 2016](#)

New Content Posted! Check out our [Health Impact Assessment](#) web page, under Planning & Tools tab in the main menu and the [Recreational Beaches](#) web page, under the Environment tab in the main menu.

[October 1, 2016](#)

We've Upgraded! You might notice a new look and feel to our data queries and reports - we've recently upgraded the software that runs our system that enhances performance.

"...linking environmental and health data enables a timely response to potential public health problems related to the environment"
Former CDC Director Dr. Julie L. Gerberding

NAVIGATION

[Skip to main content](#)



Massachusetts Environmental Public Health Tracking



- Home
- About MA EPHT**
- Health
- Environment
- Inspections
- Climate Change
- Community Profile
- Planning & Tools

- Welcome to MA EPHT
- National EPHT Program
- EPHT In Action Video
- Success Stories
- Video Tutorial
- Nurse and the Tracking Network Podcast
- Tracking-related Online Training
- Related Links
- About Our Data
- Contact Us
- Glossary

Welcome

This website is dedicated to providing you with the most current and accurate health and environmental information available for Massachusetts. It is designed to help you track environmental public health information to learn about the health of your community.

The MA EPHT Program

Health Data

- [ALS](#)
- [Asthma](#)
- [Birth Defects](#)
- [Cancer](#)
- [Carbon Monoxide Poisoning](#)
- [Childhood Lead Poisoning](#)
- [Heart Attack](#)
- [Heat Stress](#)
- [Pediatric Diabetes](#)
- [Reproductive Outcomes](#)

[Radon](#)

Environmental Public Health Tracking (MA EPHT) Program Website

...ent and accurate health and environmental information available for Environmental Public Health Tracking (MA EPHT) information to learn about the health of the environment.

Data: [Climate Change Data:](#) [Inspection Data:](#)

- [Vulnerable Populations](#)
- [Food Protection](#)
- [Lead Inspections](#)
- [Mammography](#)

What's New on MA EPHT

December 8, 2016
New Data Available! You can now look at 2015 for [Childhood Blood Lead](#) data, and 2014 for [Outdoor Air Quality](#) data.

October 8, 2016
New Content Posted! Check out our [Health Impact Assessment](#) web page, under Planning & Tools tab in the main menu and the [Recreational Beaches](#) web page, under the Environment tab in the main menu.

October 1, 2016
We've Upgraded! You might notice a new look and feel to our data queries and reports - we've recently upgraded the software that runs our system that enhances performance.

"...linking environmental and health data enables a timely response to potential public health problems related to the environment"
 Former CDC Director Dr. Julie L. Gerberding

NAVIGATION

[Skip to main content](#)

Community Profile



Massachusetts Environmental Public Health Tracking

- Home
- About MA EPHT
- Health
- Environment
- Inspections
- Climate Change
- Community Profile
- Planning & Tools

Welcome to the Massachusetts Environmental Public Health Tracking (MA EPHT) Program Website

This website is designed to provide you with access to current and accurate health and environmental information available for Massachusetts. You can use Massachusetts Environmental Public Health Tracking (MA EPHT) information to learn about the health of your community and access information about your environment.

The MA EPHT Portal includes the latest available data for:

Health Data:

- [ALS](#)
- [Asthma](#)
- [Birth Defects](#)
- [Cancer](#)
- [Carbon Monoxide Poisoning](#)
- [Childhood Lead Poisoning](#)
- [Heart Attack](#)
- [Heat Stress](#)
- [Pediatric Diabetes](#)
- [Reproductive Outcomes](#)

Environmental Data:

- [Air Quality](#)
- [Drinking Water Quality](#)
- [Radon](#)

Climate Change Data:

- [Vulnerable Populations](#)

Inspection Data:

- [Food Protection](#)
- [Lead Inspections](#)
- [Mammography](#)

What's New on MA EPHT

December 8, 2016

New Data Available! You can now look at 2015 for [Childhood Blood Lead](#) data, and 2014 for [Outdoor Air Quality](#) data.

October 8, 2016

New Content Posted! Check out our [Health Impact Assessment](#) web page, under Planning & Tools tab in the main menu and the [Recreational Beaches](#) web page, under the Environment tab in the main menu.

October 1, 2016

We've Upgraded! You might notice a new look and feel to our data queries and reports - we've recently upgraded the software that runs our system that enhances performance.

"...linking environmental and health data enables a timely response to potential public health problems related to the environment"
Former CDC Director Dr. Julie L. Gerberding

CANCER



Massachusetts Environmental Public Health Tracking



- Home
- About MA EPHT
- Health
- Environmental
- Inspections & Licenses
- Climate Change
- Community Profile
- Glossary

- Cancer
- Direct Incidence Rates
- Indirect Incidence Rates (SIRs)
- Risk Factor Summaries

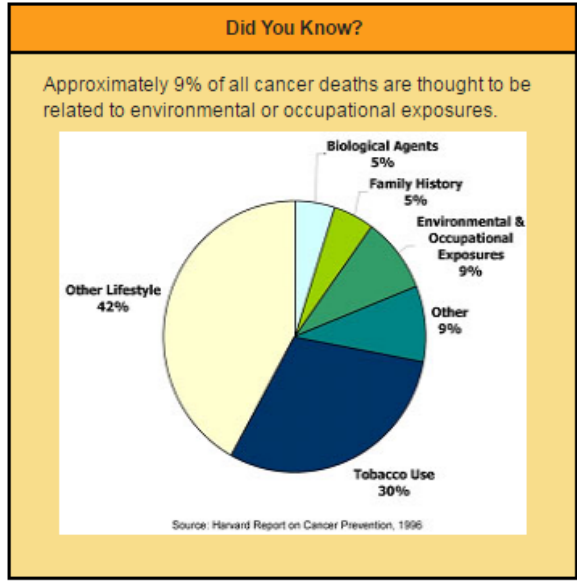
Cancer Overview

Cancer is not one disease, but a group of diseases. According to the American Cancer Society, one in two men and one in three women will develop cancer during his or her lifetime. Research has shown that there are more than 100 different types of cancer, each with different causative (or risk) factors. A risk factor is anything that increases a person's chance of developing cancer and may include hereditary conditions, medical conditions or treatments, lifestyle factors, or environmental exposure. Cancer may be caused by several factors acting together over time. In general, most adult cancers have a long period of development that can range from 10 to 40 years.

The World Health Organization (WHO) estimates that 30% of cancer could be prevented, mainly by not using tobacco, having a healthy diet, being physically active and preventing infections that may cause cancer.

Cancer incidence data provided on this website are obtained from the Massachusetts Cancer Registry (MCR) within the MDPH Office of Data Management and Outcomes Assessment. The MCR is a population-based cancer registry that collects information on new diagnoses of cancer in Massachusetts.

The MA EPHT website presents cancer data using two different types of statistics: direct incidence rates and indirect incidence rates. For more information on these statistics, select the Direct Incidence Rates and Indirect Incidence Rates tabs located at the top of this page.



- [Cancer](#)
- [FAQs](#)
- [Related Links](#)



Click on the Maps & Tables button to begin a query

Data Considerations

When reviewing and interpreting cancer incidence data, it is important to consider the following:

CANCER QUERY



Massachusetts Environmental Public Health Tracking



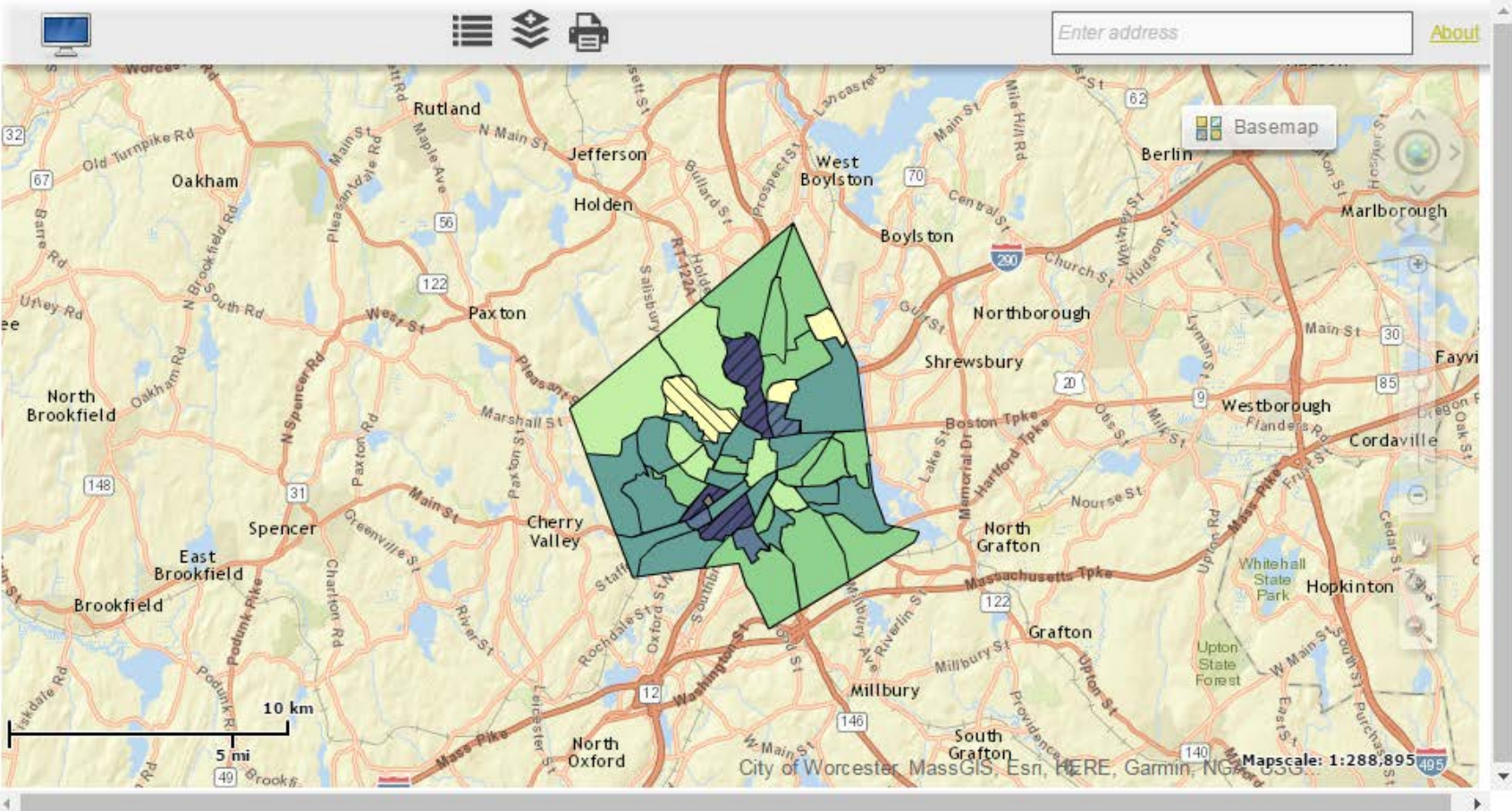
1 Report Type	2 Content Area	3 Year Range	4 Geography Type
<p>Select Report Type:</p> <ul style="list-style-type: none"><input checked="" type="radio"/> Indirect Incidence Rates<input type="radio"/> Direct Incidence Rates	<p>Select Cancer Type:</p> <ul style="list-style-type: none"><input type="radio"/> Bladder Cancer<input type="radio"/> Brain and Central Nervous System Car<input type="radio"/> Breast Cancer<input type="radio"/> Colorectal Cancer<input type="radio"/> Esophagus Cancer<input type="radio"/> Hodgkin Lymphoma <p>Deselect</p>	<p>Select a 5 Year Time Period:</p> <ul style="list-style-type: none"><input type="radio"/> 2000 - 2004<input type="radio"/> 2001 - 2005<input type="radio"/> 2002 - 2006<input type="radio"/> 2003 - 2007<input checked="" type="radio"/> 2004 - 2008<input type="radio"/> 2005 - 2009<input type="radio"/> 2006 - 2010<input type="radio"/> 2007 - 2011	<p>Select Geography:</p> <ul style="list-style-type: none"><input type="radio"/> County<input type="radio"/> Community<input type="radio"/> EP Region<input type="radio"/> EOHHS Region<input checked="" type="radio"/> Community by Census Tract <ul style="list-style-type: none"><input type="checkbox"/> Windsor<input type="checkbox"/> Winthrop<input type="checkbox"/> Woburn<input checked="" type="checkbox"/> Worcester<input type="checkbox"/> Worthington<input type="checkbox"/> Wrentham<input type="checkbox"/> Yarmouth <p>Select all Deselect all</p>
<p>Demographic Information</p>			
<p>Select Sex:</p> <ul style="list-style-type: none"><input type="radio"/> Male<input type="radio"/> Female<input checked="" type="radio"/> Total			
<p>Select Age Category:</p> <ul style="list-style-type: none"><input type="radio"/> Childhood<input checked="" type="radio"/> All			











Cancel Submit

Enter your selections top to bottom, left to right. Options in later columns are dependent on earlier selections

DEFAULT MAP

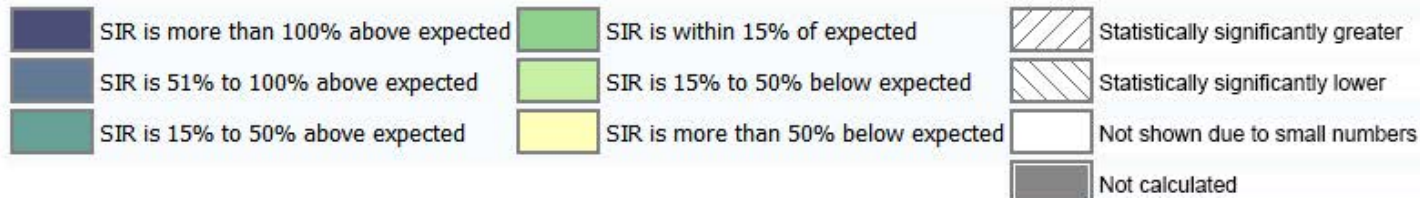
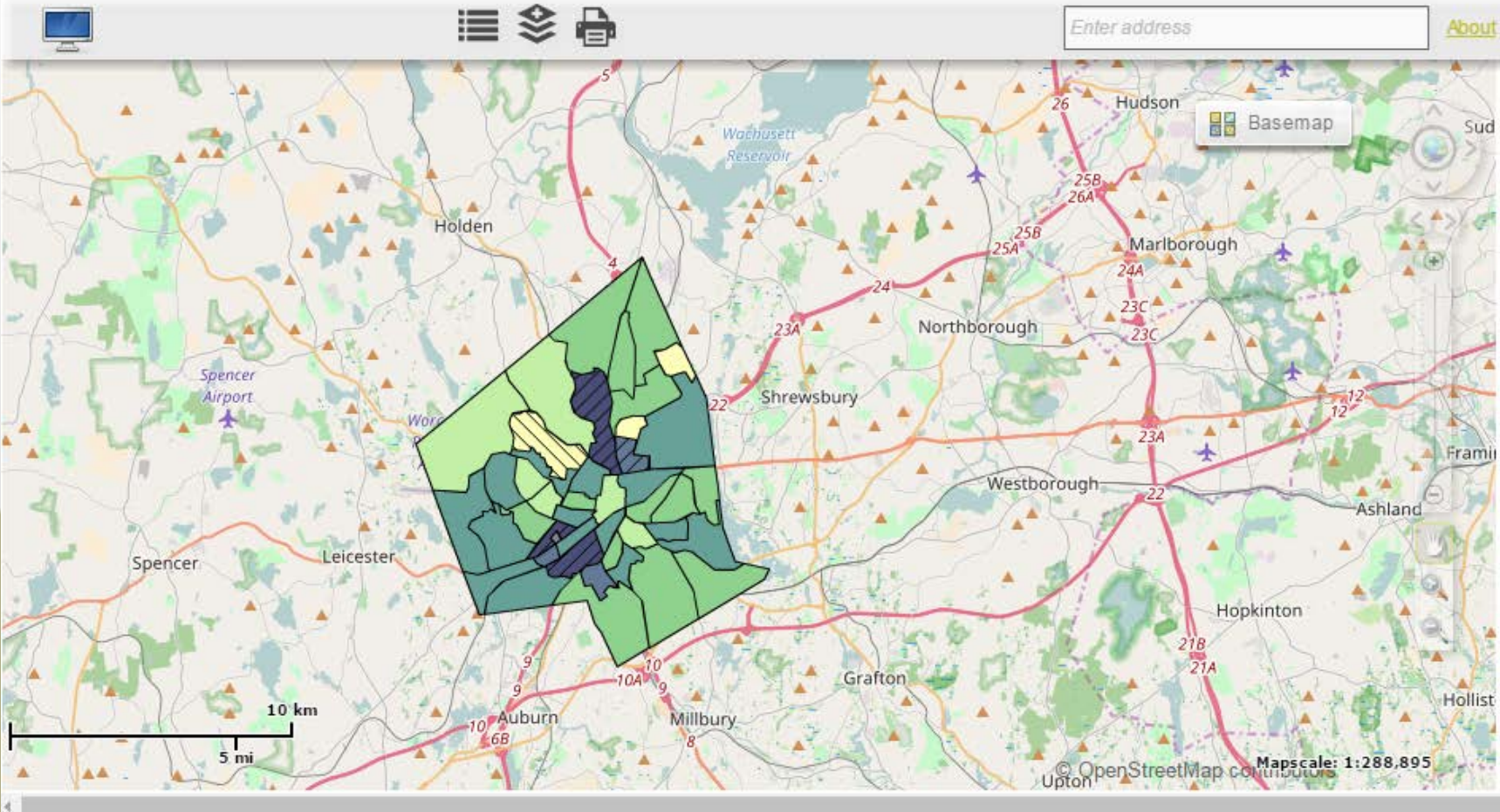
Lung and Bronchus Cancers for Males and Females Combined in Worcester
for 2004 - 2008



	SIR is more than 100% above expected		SIR is within 15% of expected		Statistically significantly greater
	SIR is 51% to 100% above expected		SIR is 15% to 50% below expected		Statistically significantly lower
	SIR is 15% to 50% above expected		SIR is more than 50% below expected		Not shown due to small numbers
					Not calculated

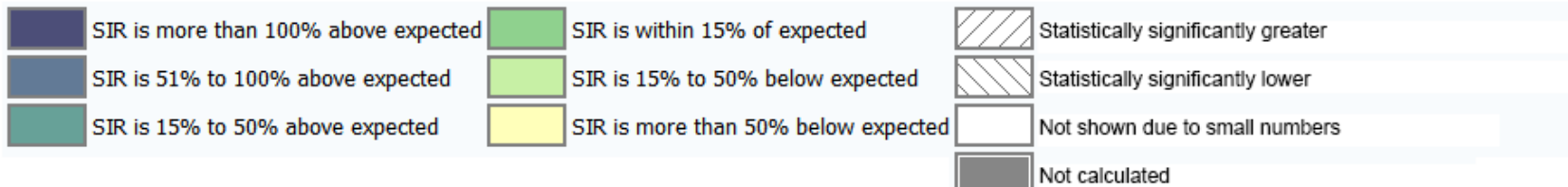
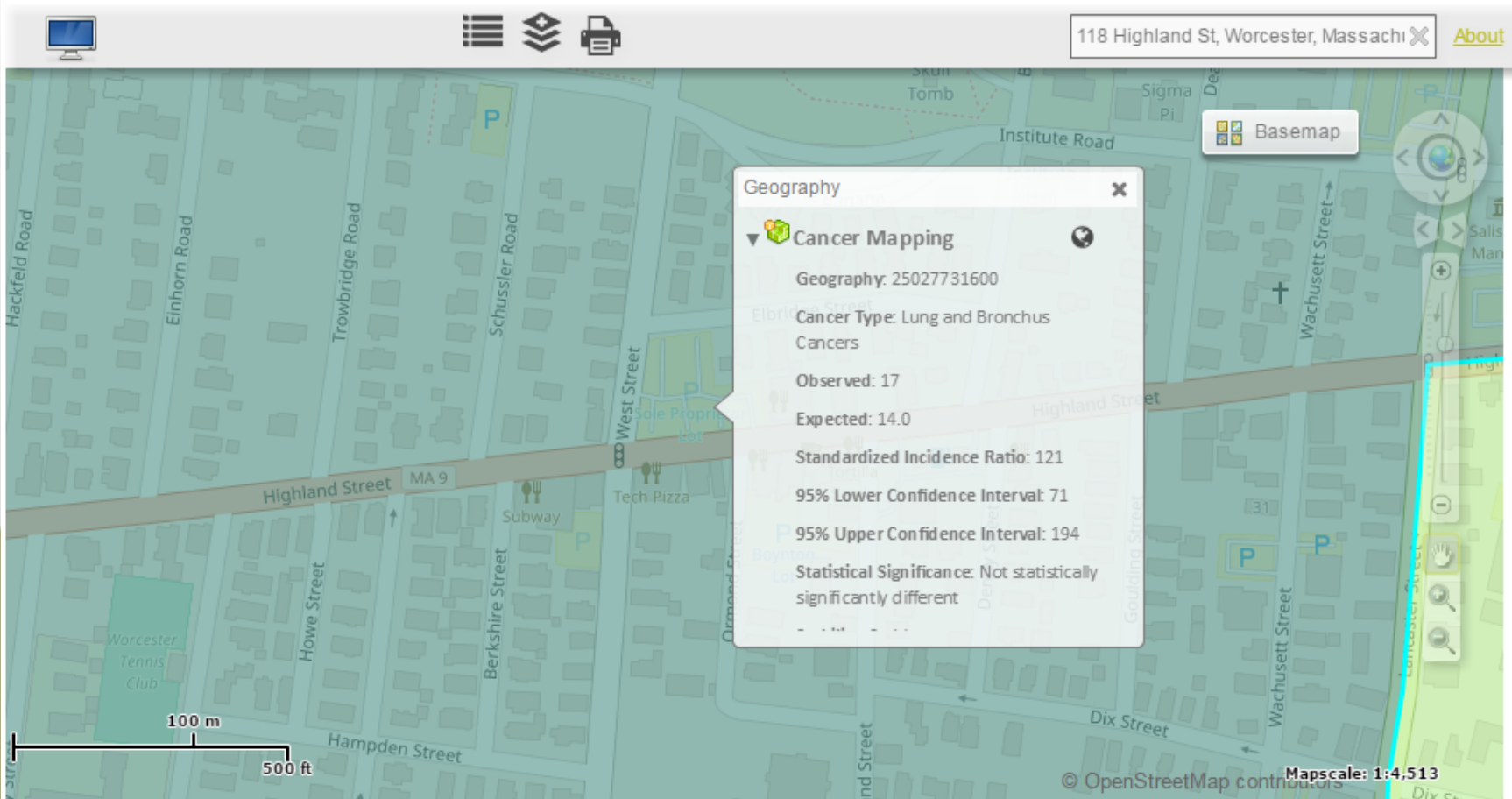
ALTERNATIVE BASEMAP: CANCER

Lung and Bronchus Cancers for Males and Females Combined in Worcester
for 2004 - 2008



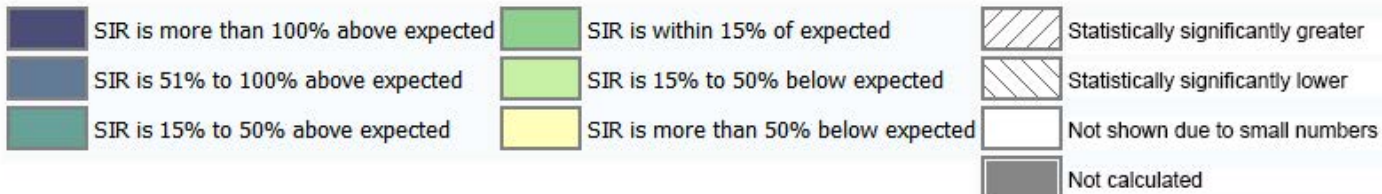
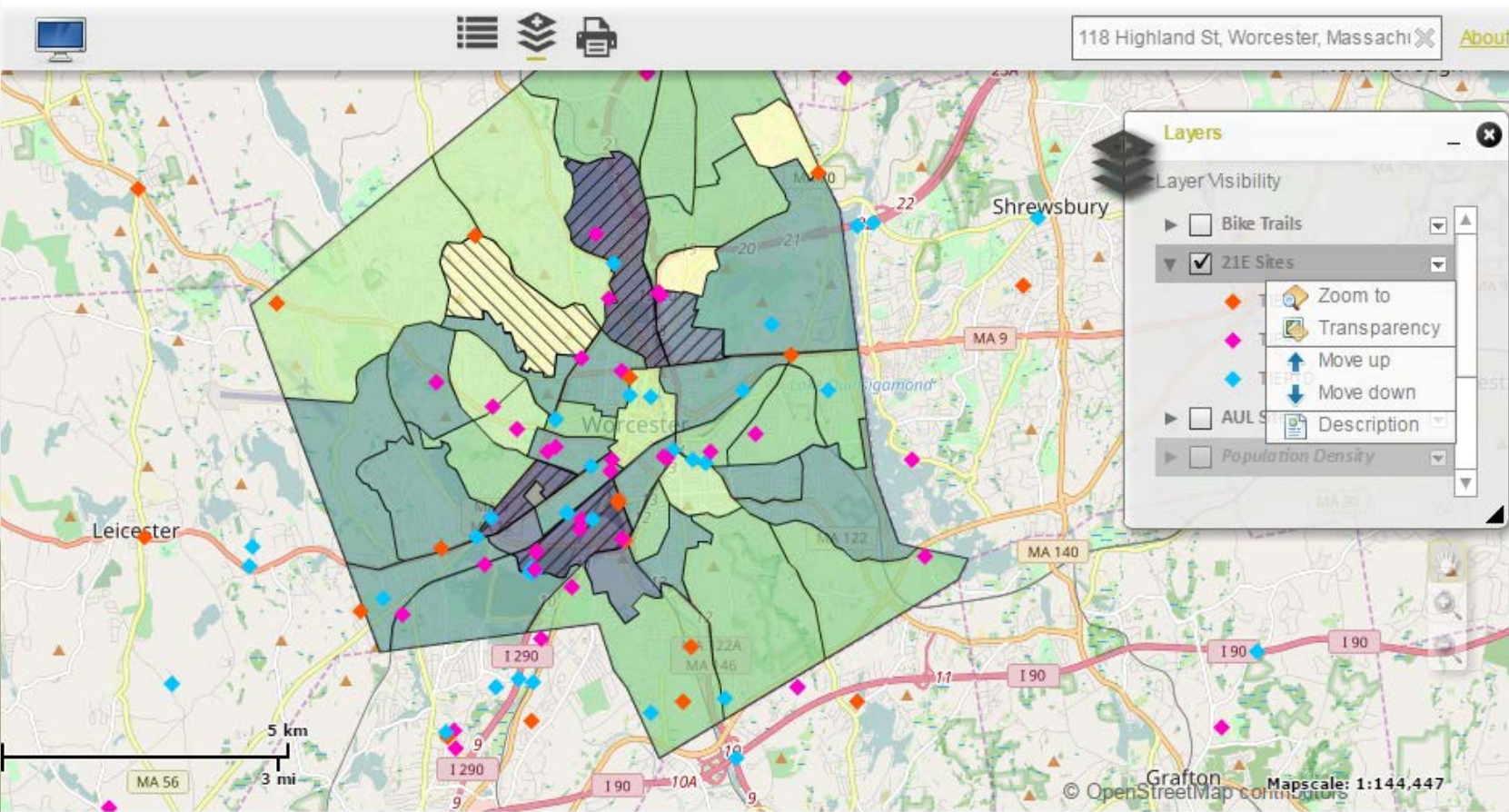
SEARCH LOCATION

Lung and Bronchus Cancers for Males and Females Combined in Worcester for 2004 - 2008



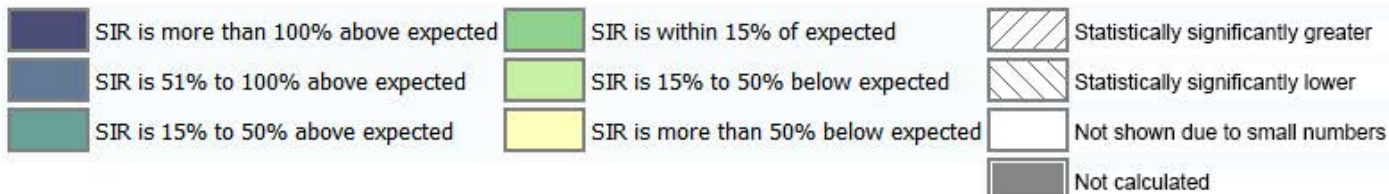
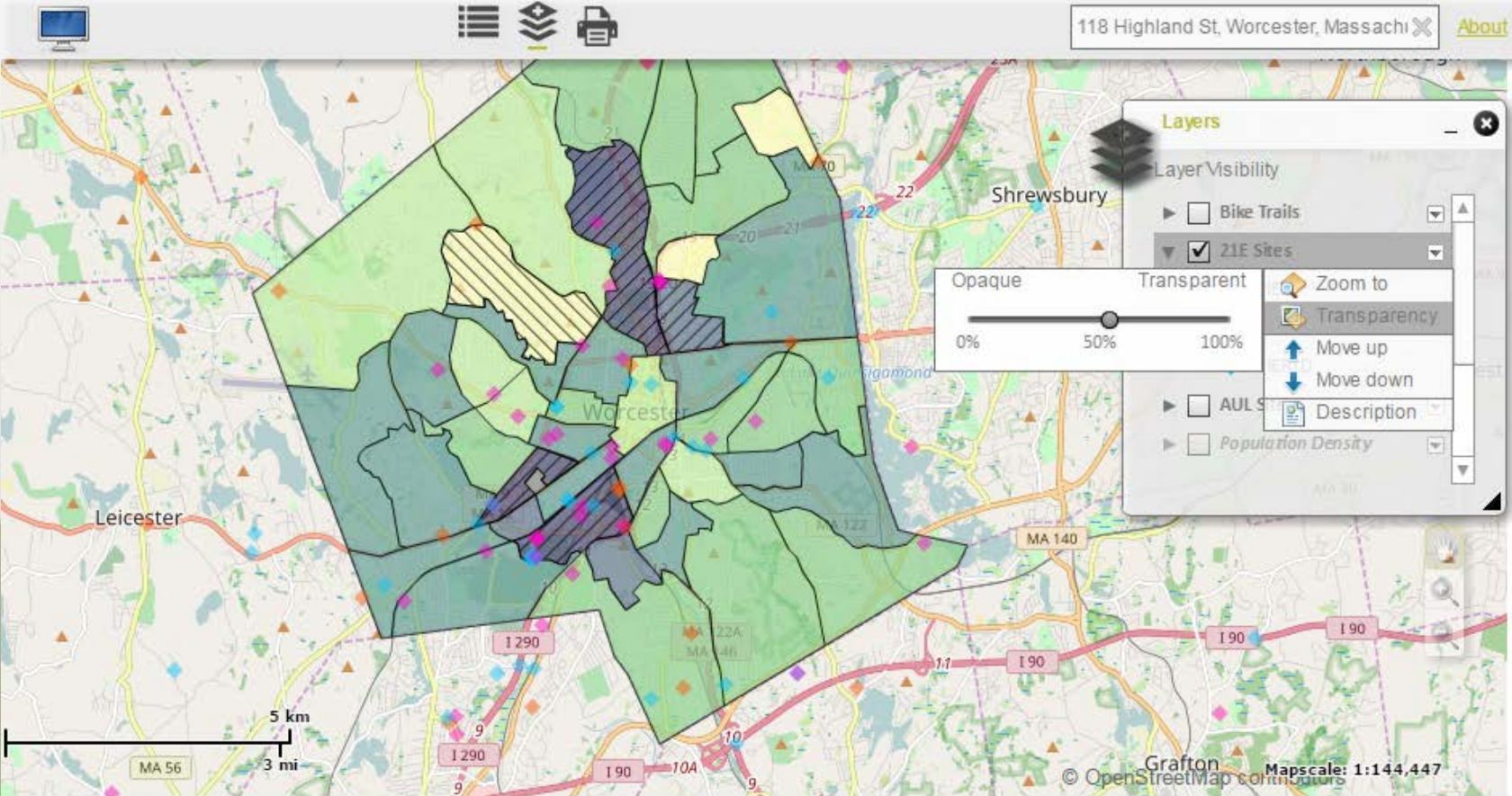
ADD MAP LAYER

Lung and Bronchus Cancers for Males and Females Combined in Worcester for 2004 - 2008



ADJUST SYMBOLOGY

Lung and Bronchus Cancers for Males and Females Combined in Worcester for 2004 - 2008



Empowering with Information

- ▶ EPHT data can provide a baseline health status of the community, neighborhood or school (asthma data).
- ▶ EPHT data can support decision making related to health & environmental issues.
- ▶ EPHT data can help evaluate potential health & environmental impacts of existing projects.
- ▶ EPHT can support budgetary decisions & policies

Coming Soon...

1. Mobile friendly website
2. New Data Modules
 - ▶ Social Determinants of Health (SDoH)
 - ▶ Population Health Information Tool (PHIT)
3. New content
 - ▶ Exposures
 - ▶ Environmental Justice Populations/Identification of Vulnerable EJ Populations
4. New datasets
 - ▶ Indoor Air Quality inspections
 - ▶ Lead Inspections
 - ▶ Community/Census Tract Level Ambient Air Exposure Data

Other Data Tools Being Developed

- ▶ Population Health Information Tool (PHIT) – Expected to be available by the end of the year
- ▶ Social Determinants of Health (SDoH) Tool – Expected to be available by the end of the year.

Population Health Information Tool (PHIT)

- ▶ Importantly, PHIT is built upon the EPHT infrastructure and will have the same functionality, though with greatly expanded health outcome data.
- ▶ Originally, PHIT was envisioned to help tax-exempt hospitals conduct Community Health Needs Assessments (CHA) ... a requirement of the Affordable Care Act.
 - ▶ Hospitals are required to consult and document consultations with state and local health departments in developing CHAs and intervention strategies.
- ▶ Now, the tool is additionally being developed to help serve the new MDPH Determination of Need process , as well as others prioritizing and conducting community health programs.

Preliminary PHIT Variables

Access to care

Age

Alcohol use

Asthma

Cancer

Cardiovascular

Citizenship

Crime

Diabetes

Disability

Education

Environmental
exposures

Employment

Family status

Food access

Fruit/veg

consumption

Hospitalizations

Housing

Substance abuse

Income/poverty

Language

Overweight/obese

Physical activity
screening

Immunization

Infectious disease

Injury

Insurance coverage

Mental health

screening/
treatment

Mortality

Population

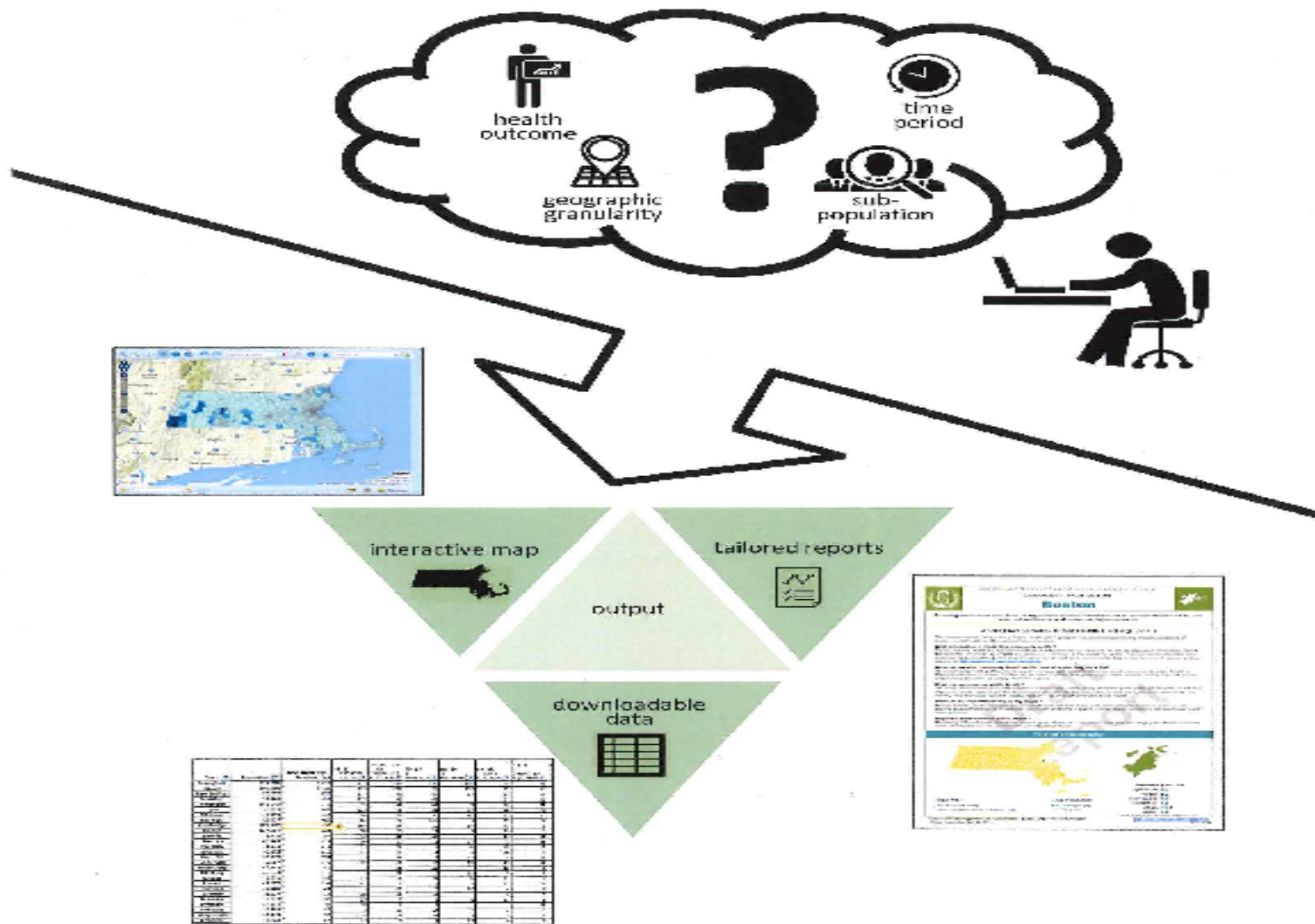
smoking/tobacco
usage

Race/ethnicity

Std/sti indexes

Suicide

External DPH Vision



PHIT Initial Query Box to Select Hospital and Geography of Interest



The Official Website of the Executive Office of Health and Human Services (EOHHS)

Health and Human Services

[Departments & Divisions](#)

[A-Z Topic Index](#)

Healthcare & Insurance

[Consumer](#)

[Licensing](#)

[Provider](#)

[Researcher](#)

Government Agencies

Community Health Needs Assessment Data

Select Report Type

- Manually select individual communities
- Pre-defined Hospital Service Area
- 20 Communities with highest utilization
- Communities that make up 75% of utilization

Select Geography

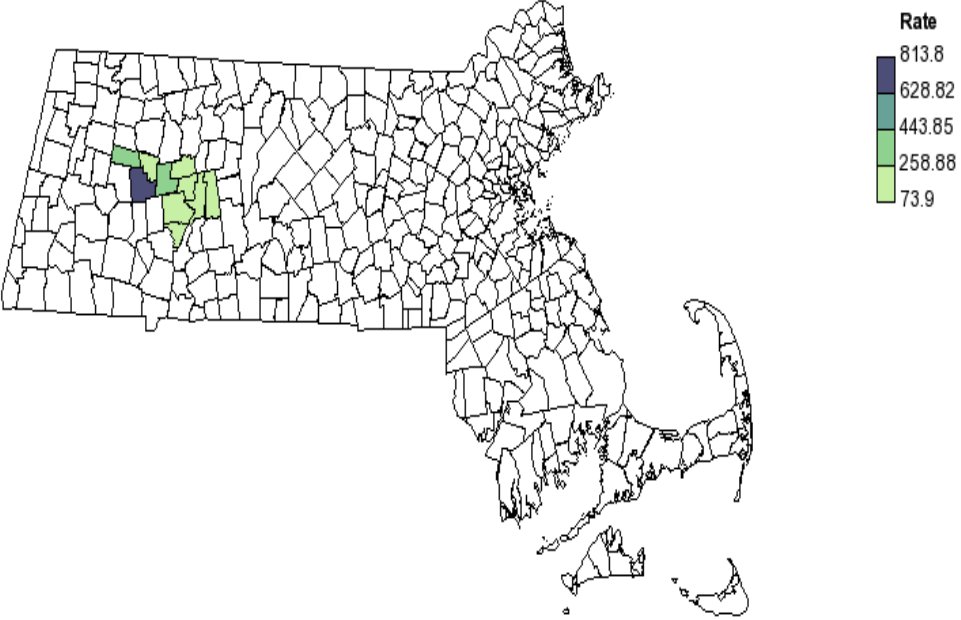
- Abington
- Acton
- Acushnet
- Adams
- Agawam
- Alford
- Amesbury
- Amherst

[Select all](#) [Deselect all](#)

Cancel

Finish

PHIT Output for Lead Poisoning by Community and Hospital Service Area



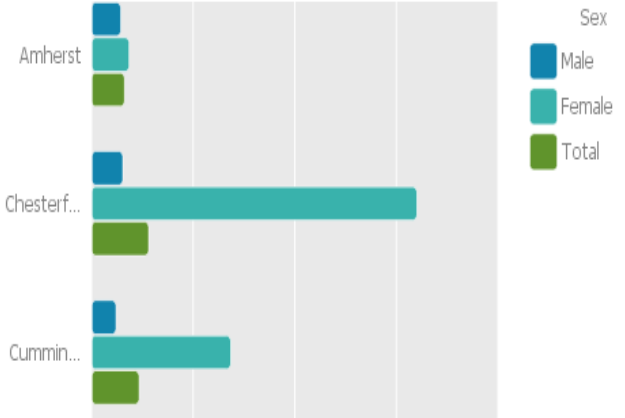
Click the map icon to view the interactive map

Community Data

Clinical Care
 Childhood Lead Poisoning

Percent Screened for Lead

Year	Community	Sex	Age Group	Case Count	Percent Screened - Rate per 100
2014	Amherst	Male	9 to 47 Months	167	57.20
2014	Amherst	Female	9 to 47 Months	161	74.00
2014	Amherst	Total	9 to 47 Months	328	64.40



Social Determinants of Health (SDoH) Tool

- ▶ Online publicly available tool that can be used to visualize the relationships between social determinants of health (SDoH), environmental exposures, existing health conditions and health care services.
- ▶ The tool is also being built upon the EPHT infrastructure to provide dynamic access to SDoH data for customized geographies, selected health conditions, and health care service categories utilizing mapping and statistical software currently available to DPH.
- ▶ The proposed tool will help ascertain vulnerability patterns and locally concentrated areas or “hot spots” of at-risk and disproportionately impacted populations.
- ▶ The tool will incorporate science-based SDoH instructional content, including explanation for how these non-medical factors play an important role in determining overall health with emphasis on why increased investment in improving social determinants of health will provide substantial health benefits and reduce health care costs.
- ▶ Its development has a Community Engagement component.

Initial SDoH Outcomes

Health Outcomes

- Asthma (pediatric and adult)
- Pediatric Diabetes
- Heat Stress
- Myocardial Infarction
- CO Poisoning
- Childhood Blood Lead levels
- Reproductive Outcomes (low birth weight, infant mortality, prematurity)
- Birth Defects (selected types)
- Cancer Incidence (selected types)
- COPD

And

Environmental Exposures:

- Public Drinking Water Contaminants (Heavy Metals, Organics)
- Ambient air pollutants (e.g., Ozone, PM2.5)
- Extreme Heat
- Flooding
- Noise
- Radon

Example Query Prompt

Select your Project Type:

- Health Impact Assessment
- Community Needs Assessment
- Climate Change Adaptation
- Not Specified
-

View by:

- Health Outcomes
- Exposures

Select an Exposure:

- Flooding
- Heat
- Extreme Weather
- Wildfires

Select Your Social Determinants:

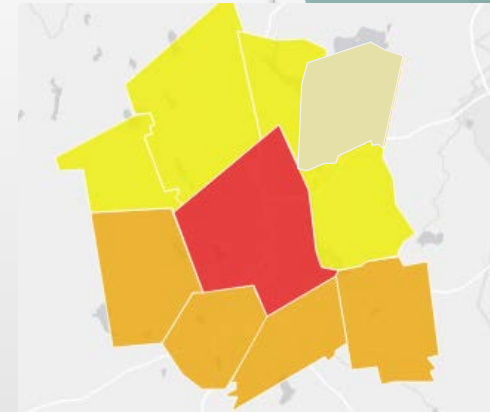
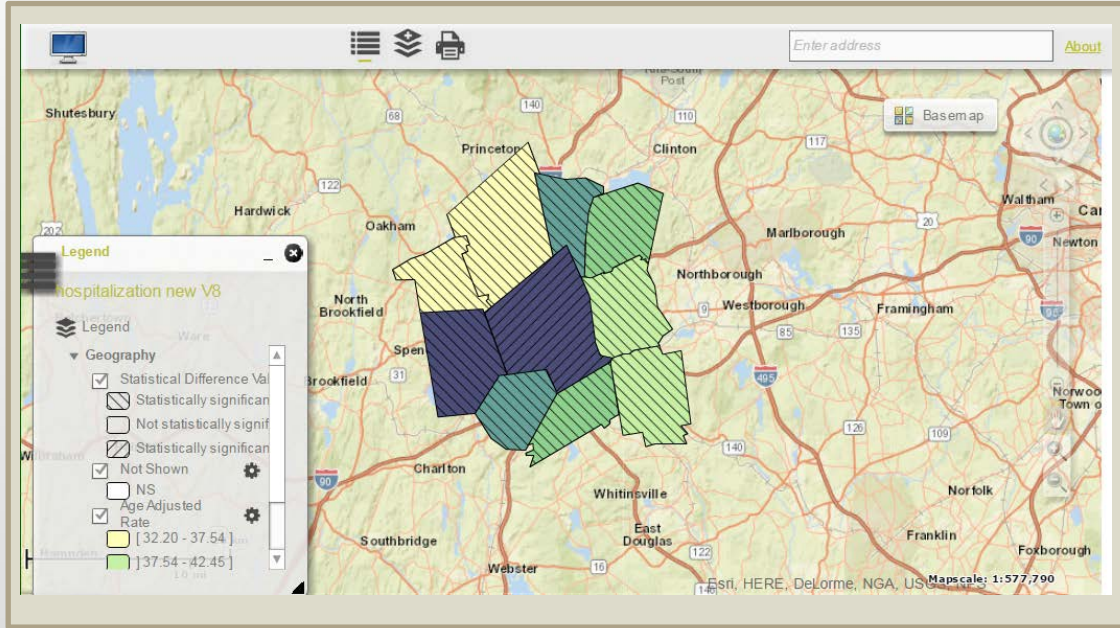
- Manually Select Indicators
- Heat Vulnerability Index

Select Your Geography:

- County
- Community
- Census Tract

Mock Exposure View: Chart Below

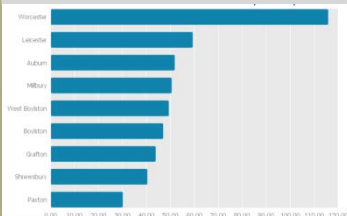
MAIN MAP: HEAT VULNERABILITY INDEX Reset Main Map



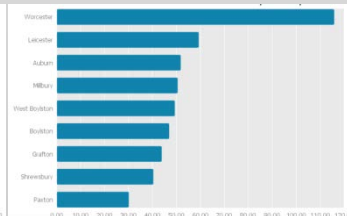
- High Heat Stress + High Vulnerability
- High Heat Stress + Low Vulnerability
- Low Heat Stress + High Vulnerability
- Low Heat Stress + Low Vulnerability

INDEX COMPONENTS: Map Table Chart

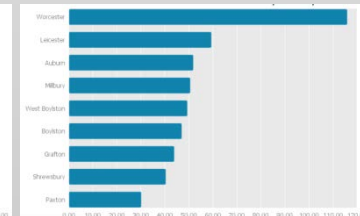
% >65 Living Alone



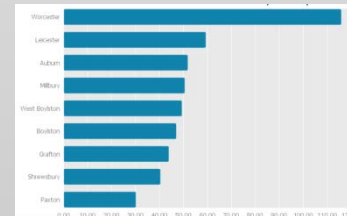
% In Poverty



% Minority



% Households with AC



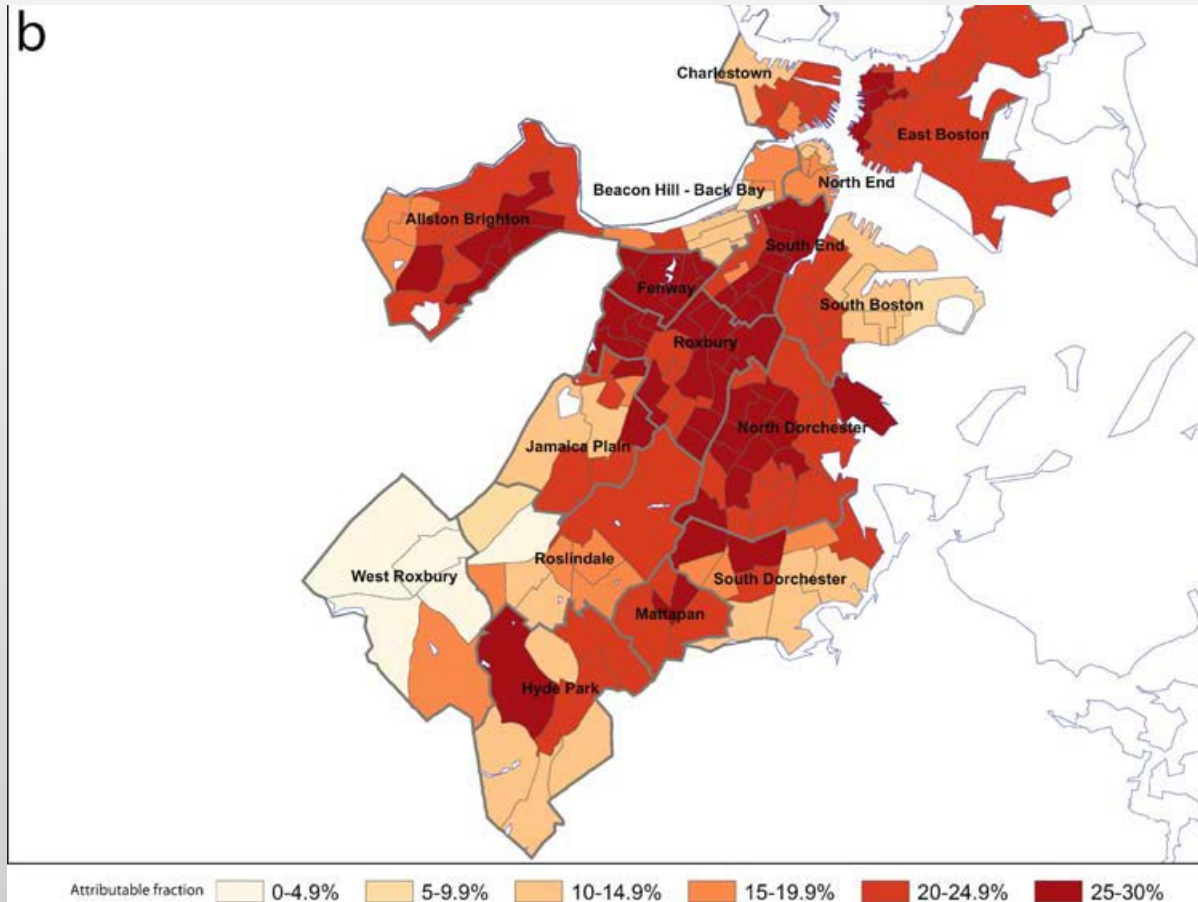
View in Main Map
 View Beside Main Map

View in Main Map
 View Beside Main Map

View in Main Map
 View Beside Main Map

View in Main Map
 View Beside Main Map

Attributable Fraction Map



Targeted Community Engagement Projects

- ▶ **Climate change readiness**
- ▶ **Emergency Preparedness**
- ▶ **Prevention of exposure to Lead in Paint and Drinking Water**
- ▶ **Minimizing exposure to Radon and Electromagnetic Fields**
- ▶ **Cancer prevention and addressing disparities**
- ▶ **Asthma intervention and Healthy Homes**
- ▶ **Health Impact Assessments (e.g., Transportation/Built Environment projects)**

Engaging and Empowering Communities: Health Equity in Action

Tuesday, March 21, 2017, 01:00pm -
04:00pm

Presented by the Community Health Training
Institute

<http://hriainstitute.org/calendar/icalrepeat.detail/2017/03/21/407/-/engaging-and-empowering-communities-health-equity-in-action>

Questions?



Email: DPH-MA-EPHT@state.ma.us

Phone: 617-624-5757

Toll Free telephone: 1-800-319-3042