Missouri's Environmental Public Health Tracking

Annual Reflection

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State of Missouri
Department of Health & Senior Services
Bureau of Environmental Epidemiology

Missouri's Environmental Public Health Tracking

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The Missouri Environmental Public Health Tracking's (EPHT) primary objective is to provide information to, and receive information from the national EPHT Network by compiling, combining, and translating public health and environmental data into meaningful information that leads to increased knowledge that is used to increase the health of Missourians and their communities.

August 2016

Missouri EPHT Strategic Framework Activities

- Operate, maintain, and enhance the Missouri EPHT Network for the collection, access, analysis, and dissemination of environmental public health data, knowledge, and information.
- Promote the use of Missouri's EPHT Network through marketing and outreach.
- Use the EPHT Network to guide policy and other actions to improve the health, safety, and well-being of Missouri citizens.
- Foster collaboration among Missouri's EPHT partners.

Program objectives for the second year of the project period included:

- **Operate, maintain, and enhance the Missouri EPHT Network for the collection, access, analysis, and dissemination of environmental public health data, knowledge and information**
  - Maintain the current functionality and further develop both the Missouri and national EPHT network.
  - Provide information relevant to environmental and public health issues within a community.
  - Identify, develop, and distribute tools for data utilization and practices that integrate information from a variety of sources.
  - House and maintain data in a way that can be added to the National EPHT network.
  - Provide secure access to data for approved EPHT network users.
  - Continue to provide, maintain, and enhance mechanisms for secure data transport.
  - Continue participation in the Departments of Health and Senior Services (DHSS) data standardization initiative.
- **Promote the use of Missouri's EPHT Network through marketing and outreach**
  - Provide information relevant to environmental and public health issues within a community.
  - Develop and distribute relevant guidance and messaging about environmental public health issues and communicate information to guide policy, practice, and other actions that improve the state's health.
  - Enhance, develop, and cultivate the public health workforce by developing training and guidance for communicating about environmental health.
  - Facilitate the awareness and use of the EPHT network by implementing social media and marketing outreach opportunities.
  - Facilitate the awareness and use of the EPHT network by traditional sources.
  - Facilitate the awareness and use of the EPHT network by accredited schools of Public Health as well as colleges and universities with complementary areas of study.

- **Use the EPHT Network to guide policy and other actions to improve the health, safety and well-being of Missouri citizens**
  - Provide assistance to other state and local programs in developing and implementing environmental health interventions.
  - Strengthen state and local environmental health programs by using Tracking data to drive public health actions.
  - Provide expertise to federal, state, and local health agencies and environmental health partners.
  - Support, plan, and develop environmental health programs within state and local jurisdictions.
  - Identify, facilitate, and communicate emerging issues and the risks from environmental exposures to DHSS, allied agencies, and Local Public Health Agencies (LPHA).
  - Expand and continue to develop the use of EPHT network opportunities to guide policy, practice, and other actions among a Virtual Technical Advisory Group (VTAG).
- **Foster collaboration among Missouri's EPHT partners**
  - Showcase promising practices and narratives from awardees demonstrating EPHT in action that may be utilized by other jurisdictions with similar concerns and advance the science of Tracking.
  - Collaborate with state and national organizations on environmental health issues.
  - Identify and recruit partners for inclusion in EPHT network activities.
  - Collaborate with DHSS, allied agencies, public interest groups, and fellow EPHT grantee program advisory group(s) to identify environmental public health concerns.
  - Identify and improve processes for working with and between partners.

Missouri's EPHT Portal

All links within the Missouri EPHT Portal are checked on a monthly basis to ensure broken links are repaired in a timely fashion to ensure a positive experience for our users and the general public. The "Focus On" topics are updated quarterly to reflect EPHT-related topics based on the season. Updates for all the available static data tables, charts, and graphs within the EPHT Portal are scheduled to be implemented over the course of the next six months.

In January 2016, the state Information Technology Services Division (ITSD) replaced and enhanced Missouri's SAS® server. Although this change was necessary to maintain continuity of operations within the Division of Community and Public Health (DCPH), it made the EPHT Network - Indicator-Based Information System (IBIS) data query portal inoperable. Due to extended development on the new Missouri Public Health Information Management System (MOPHIMS) data query portal, Missouri is currently without a dynamic EPHT data query system. Links were established to temporarily redirect state data query inquires to the National Tracking Portal. Front-end development on the MOPHIMS has been completed and testing is currently underway with a projected rollout of September 2016.

Missouri successfully launched a SharePoint site specifically for the Missouri EPHT Virtual Technical Advisory Group (VTAG) in January 2016. The primary purpose of Missouri's VTAG is to facilitate the growth of EPHT. In addition, the VTAG members assist and support the development of new data content areas, indicators, and analyses. Each month a topic is posted regarding new content, discussion items, and/or future project/idea forums. VTAG members then have the month to discuss and debate the pros and cons of each topic for inclusion in Missouri's program or portal.

Missouri EPHT is continuing the Memorandum of Understanding (MOU) with the US Department of Labor, Occupational Safety and Health Administration (OSHA) on reducing work-related illnesses from lead exposure and ensuring safer and healthier workplaces. Since the inception of the MOU with OSHA, 23 workers from 11 companies have been identified with highly elevated blood lead levels and 7 companies have been referred to OSHA, with 1 company prosecuted for criminal contempt for hindering a lead-level investigation.

The Missouri EPHT program successfully implemented a "Request a Speaker, Event, or Display" web form on the Missouri EPHT Portal that is easily accessible and provides other state and local partners, public health professionals, community groups, and the public a more innovative and time-saving way for organizations to partner with the Missouri EPHT program on scheduling community events, such as back-to-school health fairs and county fairs.

The Missouri EPHT team partnered with the Missouri Department of Public Safety's (DPS) Division of Fire Safety to produce a brief three-minute main video on the dangers of carbon monoxide poisoning and seven shorter quick-tip videos highlighting potential sources of carbon monoxide. The videos were then wrapped into a video playlist and published on the Missouri EPHT Portal as part of the Missouri Environmental Public Health Series video library.

The Missouri EPHT team also partnered with the Missouri Department of Conservation (MDC) to produce a brief four-minute main video highlighting the Missouri Fish Advisory and three shorter quick-tip videos highlighting locations where certain kinds of fish should have consumption limited or not eaten at all due to high levels of contaminants. The videos were then wrapped into a video playlist and published on the Missouri EPHT Portal as part of the Missouri Environmental Public Health Series video library.

Different types of data are used to learn how the environment affects people's health. Missouri's Portal includes the following types of data: *Health Data*, *Environmental Data*, and *Community Data*. The health and environmental data areas contain core and other related conditions.

Core Conditions

Core conditions were chosen to allow data from multiple jurisdictions to be analyzed, presented, and interpreted using agreed-upon standards so the results would be comparable. The Center for Disease Control (CDC) provides grantees permission to include conditions of interest specific to their area, Missouri includes Agriculture as it is the fourth largest agriculture-producing state in the nation.

Other Environmental Health Conditions

The other conditions/data help us learn about relationships between exposures and health effects. For example, information about age, sex, race, and behavior or lifestyle choices that may help us understand why a person has a particular health problem.

Health Data

Core Conditions

- Asthma
- Birth Defects
- Blood Lead Levels
- Cancer
- Carbon Monoxide
- Myocardial Infarction
- Reproductive Outcomes

Other Environmental Health Conditions

- Hyperthermia
- Hypothermia
- Syndromic Surveillance

Health Data Updates

Over the course of the past year, the following enhancements and revisions have been made to the Health Data pages of our portal:

- Descriptions for the *Health Data* main page and the seven health core conditions were updated.
- Factoids for the seven health core conditions were updated to reflect more recent data facts and graphics.
- A link to the following additional resource was added:
  - ✓ *Podcasts: Environmental Health Chat Link* is a podcast series that explores how environmental exposures affect our health. Each episode highlights ways researchers work in partnership with community groups to understand and address environmental health issues.

- **Lead Poison Prevention**
  - A link to the *Missouri Lead Mining District* map was added.
- **Carbon Monoxide**
  - Links to the *Missouri State Fire Marshal* and the *YouTube CO Playlist* were also added.

Environmental Data

Core Conditions

- Agriculture
- Air Quality
- Water Quality

Other Environmental Health Conditions

- Chemical Exposures
- Hazardous Substances & Sites
- Indoor Air Quality
- Mercury
- Missouri Fish Advisories
- Motor Vehicle Emissions
- Onsite Sewage Systems
- Pesticides
- Private Drinking Water
- Radiation Control
- Radon
- Tobacco Smoke

Environmental Data Updates

Over the course of the last year, the following enhancements and revisions have been made to the Environmental Data pages of our portal:

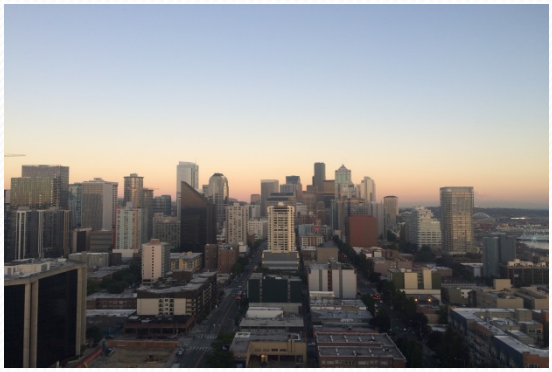
- Descriptions for the *Environmental Data* main page and the three environmental core conditions were updated.
- Factoids for the three environmental core conditions were updated to reflect more recent data facts and graphics.
- A link to an additional resource was added:
  - ✓ *Podcasts: Environmental Health Chat Link* is a podcast series that explores how environmental exposures affect our health. Each episode highlights ways researchers work in partnership with community groups to understand and address environmental health issues.

- **Agriculture**
  - Links to four new additional resources have been added to the public portal:
    - ✓ *EPA Agriculture*
    - ✓ *EPA's EnviroFACTS*
    - ✓ *Measure your Environmental Impact*
    - ✓ *Search your Environment by Zip Code*
- **Air Quality**
  - 2015 data files for the following data sets have been obtained and published on our public portal: Particulate Matter 2.5, Lead, Carbon Monoxide, Sulfur Dioxide, Nitrogen Dioxide, Ozone, and Particulate Matter 10.
  - Links to the *Missouri's 4-day Allergy Forecast* and the *Missouri Department of Transportation - Traffic Volume Maps* were added.

- **Water Quality**
  - Links to one new map and five new additional resources were added:
    - ✓ *Daily Streamflow Conditions*
    - ✓ *EPA's Region & Impaired Waters*
    - ✓ *EPA Water Quality Criteria*
    - ✓ USGS Water Data for Missouri
    - ✓ USGS Water Use in the United States
    - ✓ USGS Water Quality Criteria

Community Data

- Department of Health and Senior Services (DHSS) Hazardous Substances & Sites: Reports, Fact Sheets and Consultations
- Community & Infrastructure
- Health, Environment, & Community Profiles
- Occupational Health
- Department of Natural Resources (DNR) Hazardous Substances Sites in Missouri Interactive Mapping Application
- U.S. Census Data
- Missouri Census Data
- Additional Resources



Missouri's *Community Data* is presented to assist in displaying the health and environmental data into an appropriate context and includes links to demographics, income, poverty, housing, and other socio-economical data. Missouri's Portal includes a link to National Data to allow for comparisons with the other EPHT participating states.

The *Community & Infrastructure* and *Occupational Health* pages include pre-determined indicators for content such as: employment (including on the job injuries and illnesses), food deserts (lack of fresh food), crime, recreation, and transportation, to name a few.

The *Health, Environment, & Community Profiles* are static reports that include key health and environmental indicators that have been calculated at the county and state levels. Similar reports are also available for the 15 most populated cities in Missouri. You may choose either county or city, but not both at the same time. These reports slightly vary between county and city due to the availability of data for each geographic area. These reports are available for download and compatible with e-reading devices and applications.

Community Data Updates

Over the course of the past year, the following enhancements and revisions have been made to the Community Data pages of our portal:

- The description for the *Community Data* main page was updated.
- Links to the *DHSS Hazardous Substances & Sites: Reports, Fact Sheets and Consultations* and to the *DNR Hazardous Substance Sites in Missouri Interactive Mapping Application* were added.
- A link to the following additional resource was added:
  - ✓ *Poverty in America: Living Wage Calculator* is an alternative measure of basic needs. It is a market-based approach that draws upon geographically specific expenditure data related to a family's likely minimum food, child care, health insurance, housing, transportation, and other basic necessities (e.g. clothing, personal care items, etc.) costs.
- Descriptions and factoids for the following community data pages were also updated:
  - ✓ Community & Infrastructure
  - ✓ Health, Environment, & Community Profiles
  - ✓ Occupational Health

- **Occupational Health**
  - A link to the *Ten Leading Causes of Death and Injury* was added.

Other Resources

Over the course of the last year, the following enhancements and revisions have been made to the Environmental Data pages of our portal:

- **Reference Materials**
  - *CDC's Wonder* online databases utilize a rich ad hoc query system for the analysis of public health data. Reports and other query systems are also available.
  - *Exposure & Symptom* Database is a listing of peer-reviewed papers which present symptoms of allergic rhinitis or asthma in relation to pollen and/or fungal spore exposure. Also included are papers relating symptoms to outdoor air pollutants or meteorological conditions.
  - *Missouri EPHT Success Stories* have been added highlighting program successes.
  - *Missouri Evaluation Plan*
- **Training**
  - *Agriculture: Ag101* provides a brief overview of American agriculture. It covers the primary commodities produced today and the methods of doing so. Created by the Environmental Protection Agency and Purdue University, copyright Purdue Research Foundation.
  - *Environmental Health Training in Emergency Response (EHTER) Awareness Course* addresses key environmental health issues and challenges for emergency response and recovery, including disaster management, responder safety and health, safe water, food safety, wastewater management and disposal, building assessment, vectors and pests, solid waste and debris, shelter assessment and sanitation, and radiation.
  - *Environmental Health Training in Emergency Response (EHTER) Operations Course* which is available through a partnership with FEMA and involves hands-on operation practice and response to simulated events.

Outreach Activities

The Missouri EPHT program staff continues their efforts to influence and improve public health outcomes through outreach and education activities. Program staff actively participates in as many public health related events as possible including, but not limited to: home shows, health fairs, exhibits, presentations, podcasts, newsletter submissions, and social media postings.

- **Social Media Posts**
  - Missouri EPHT has significantly expanded its use of social media for messaging and marketing purposes. Monitoring the efficiency and effectiveness of the social media messages via Google Analytics and social media metrics allows the program to focus its resources on proven message strategies.
- **Friday Facts**
  - In lieu of creating another newsletter, the Missouri EPHT program continues to actively promote various aspects of the program and its activities in the Friday Facts to ensure all 115 local health departments and other subscribers are aware of what the EPHT program has to offer. The content of the message is evaluated to determine if the message shared should be included for single or multiple weeks.
- **Video Podcasts/Quick Tips (Public Service Announcements)**
  - The Missouri EPHT team developed the Missouri Environmental Public Health Series video library to showcase public health service messages and highlighting important health information for EPHT-related conditions. Videos on the dangers of carbon monoxide poisoning and Missouri fish advisories have been completed.

- **Missouri EPHT Public Health Actions - Successes**
  - The Missouri EPHT Program has developed and submitted the following public health actions to the National Tracking Branch for review over the course of the past year.
    - ✓ *Reducing Occupational Lead Exposure*
    - ✓ *Missouri Tracking Program 2015 Home Show Participation*
    - ✓ *Missouri EPHT Links Carbon Monoxide Poisonings to Community and Infrastructure Indicators*
    - ✓ *Missouri EPHT Fills Information Gap on Workers' Health*
    - ✓ *Identifying Areas at Risk for Radon in Missouri*
    - ✓ *Missouri EPHT Tackles Social Determinants of Health*
    - ✓ *Missouri EPHT Builds Emergency Planning Capacity and Gains Information about Vulnerable Populations*
    - ✓ *Lead in Free Range Chicken Eggs Investigation*
    - ✓ *West Fork Mine*

- **Outreach Event Participation**
  - The Missouri EPHT program staff continues to schedule and actively participate in outreach and education activities (exhibits, presentations, podcasts, social media, and LPHA newsletter posts) as it allows the program to strengthen its relationship with the public, network with current partners, explore new partnerships, promote the program, and provide staff with opportunities to collaborate with colleagues on other public health activities. The program has successfully participated in a total of 50 home shows, health fairs, and exhibits over the course of this grant year. Program staff has also delivered four presentations to date throughout the state to professional audiences. Presentations were provided at the American Public Health Association on the Health, Environment, and Community profiles; the Saint Louis University on watersheds; the Missouri Natural Resource Conference on blue-green algae; and a DHSS Lunch-n-Learn on the fish advisory.

Looking Forward

- **Promotional Items**

  During this reporting period a draw-cord backpack was procured to promote EPHT at public health conferences, workshops, exhibits, home shows, health fairs, and other public events. Other promotional ideas are being considered at this time pending departmental approval.

- **Health, Environment, & Community Profiles**

  Updates for all 115 Missouri counties and Missouri's top 15 most populous cities are scheduled to be completed this fall.

- **Two Additional Content Areas**

  The Missouri team is committed to including indicators on both radon and climate change to the Missouri Portal within the next grant year.

  - Radon – A new web page has been added to the Missouri EPHT Portal highlighting the health effects of radon. The new page will also include static maps (residential), interactive maps (residential and public schools), charts (residential), and tables (residential and public schools). The public will be provided information about radon hot spots and testing for residential areas as well as public and charter schools where their children attend.
  - Weather & Climate – A new web page is being developed for the Missouri EPHT Portal. The new page will include charts, tables, and graphs (1990-2015) on daily winds, daily temperatures, relative humidity and dew points, and barometric pressure. Links to the severe weather pages will also be included.

- **New Data Partner**

  The Missouri EPHT Program is entering into a new partnership with Missouri Primary Care Association to explore the possible health connections between diabetes and air quality.

- **New Data Query System**

  Missouri EPHT is currently playing an integral role in the development of a new DHSS public health data project. The overall goal of the public health data project is to develop a common means to receive, validate, and process public health data and give access to these data sets for the purpose of determining the health status and needs of Missourians. To accomplish this, the development and implementation of a department-wide platform on which all department systems can operate for data dissemination will be created. This moves the department toward achieving standardization of reporting, both to and from the department, implementation of standards consistent with national standards, and standardization of data presentation across all areas of the department.

  MOPHIMS is a continuation of the DHSS larger public health data project. The Missouri EPHT program is actively testing the MOPHIMS query application and preparing for implementation by the end of September 2016. Once implemented, MOPHIMS will provide EPHT with an improved and enhanced data query application. The MOPHIMS application will include enhanced query functions, mobile friendly products and technologies, more granular demographics, and a richer user interface with the ability to display multiple graphs, charts, tables, and maps in side-by-side presentation.

  In addition to MOPHIMS, the Missouri team continues to monitor existing and emerging technologies in an ongoing effort to increase functionalities, abilities, and use of the Tracking Network to deliver metadata, data sets, query tools, analyses, and other products and services to the end user.

The CDC's National Environmental Public Health Tracking Program

Missouri Environmental Public Health Tracking (EPHT) is a program within the Missouri Department of Health and Senior Services and is funded by the Centers for Disease Control and Prevention (CDC). EPHT is part of a larger initiative to establish Environmental Public Health Tracking systems at the national and state levels.

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