

Is a health study the answer for your community?

A guide for making informed decisions

For decades, environmental health scientists at Boston University School of Public Health have worked with community groups to address environmental health problems. We wrote the Health Studies Guide to assist community groups and individuals who think that some form of environmental health investigation or health study may be useful or necessary in their community. Readers of this guide may have concerns about drinking water contamination, or the relationship between emissions from a power plant and asthma in their community. People may suspect that a certain disease in their community, such as lupus, has an environmental cause or trigger. All of these are reasons for wanting a health study. Hopefully this Guide will help readers think this through.

Appendix: Environmental Health Information and Resources

The Guide can be found on our website at
<http://www.bu.edu/sph/health-studies-guide/>

Appendix: Environmental Health Information and Resources

1. Data on Exposures and Health Outcomes in your Community

- **Toxics Release Inventory** – <http://www.epa.gov/tri>

US EPA's **Toxics Release Inventory** reports the quantities of several hundred toxic chemicals released by individual industrial facilities each year; each facility is required to submit detailed information about releases, both intentional and accidental, for a large list of hazards. If you are interested in a particular facility, or in releases of a particular chemical across your region, you are likely to find it here. The 2014 national data is now available as of January 2016.

- **TOXMAP** combines the TRI data with a very flexible mapping program. You may need to refer back to the TRI Explorer at times. In addition, TOXMAP lists sites on the National Priorities List (that is, Superfund sites), with information about contamination and the status of cleanup.
<http://toxmap.nlm.nih.gov/>
- The **TRI Explorer** is a good tool for quick and easy access to the TRI database. The on-line tutorial will guide you through the steps taken to access and interpret the TRI data.
<http://www.epa.gov/triexplorer/>

- **Scorecard** – <http://www.scorecard.org>

Environmental Defense's **Scorecard** service is a very useful site for examining pollution in on your community, and will help you locate and evaluate TRI data, in addition to much more. This may be a good place to start when auditing a local exposure, as you can see how your own community is ranked with regard to various environmental hazards (at least according to the Environmental Defense scorecard method).

- **National Program of Cancer Registries** - <http://www.cdc.gov/cancer/npcr>

CDC's National Program of Cancer Registries compiles data from local cancer registries into one site, with features such as state-level cancer facts and an interactive cancer atlas.

- **EPHT** – <http://ephtracking.cdc.gov>

Environmental Public Health Tracking Program is an integrated and interactive CDC database of systematically updated health, exposure, hazard information and population data from variety of national, state, city sources. The extensive database is searchable by environmental medium, chemical or health outcome, and can be made viewable by map or chart view using the embedded "Query Panel". 26 different state and local tracking networks feed into this national program.

- **Envirofacts** – <http://www3.epa.gov/enviro>

EPA's **Envirofacts** is an online database that allows users to quickly search for exposure source information by location (Zip code, county, etc.), topic (air, waste, radiation, etc.) or more detailed queries such as facility name for permit compliance or toxic release data. Envirofacts is a comprehensive source that compiles data from many different datasets including aforementioned TRI data.

- **CDC Wonder** – <http://wonder.cdc.gov>

This is a single point of access to the vast array of public health data made available by the CDC. Examples of information include statistics on births, mortalities, and cancer incidences by year, location, race, ethnicity, and/or gender.

2. Sources of Information on Specific Chemicals

- **IRIS** – <http://www.epa.gov/iris>

The EPA **Integrated Risk Information System** database provides extremely detailed summaries related to toxic chemicals of special interest to the EPA (chemicals which have been the subject of a risk assessment). The IRIS QuickView is the simplest way to access a **reference dose** for a noncancer hazard, or a cancer slope factor for a carcinogen (see sidebar, *About dose-response assessment*, in Chapter 4). The database will also give background information on the sources of toxicity data and the process by which this information was assessed. This information is the primary source for scientific and regulatory information on toxic chemicals. Unfortunately, of approximately 80,000 chemicals in commerce, less than 400 chemicals have toxicity values (or standards). Additionally, although these values are intended to be based on the best science available, it is difficult for EPA (and all agencies) to keep up with research. Many standards are outdated, while you will find that others are being revised.

- **ATSDR Toxic Substances Portal** – <http://www.atsdr.cdc.gov/substances/index.asp>

The Agency for Toxic Substances and Disease Registry portal contains profiles for toxic chemicals in extensive detail. While these “ToxProfiles” are very detailed and full of scientific jargon, ATSDR makes available:

- **ToxFAQs** are summary factsheets of full ATSDR profiles and public health statements and are available for important chemicals. They provide chemical properties and toxicity data in a more comprehensible form and also answer the most frequently asked questions about exposures and effects of these chemicals. Many of the TRI Chemicals have fact sheets listed here.

<http://www.atsdr.cdc.gov/toxfaq.html>

- **TOXNET** – <http://toxnet.nlm.nih.gov>

TOXNET is a good starting place for chemical information; it searches and summarizes a number of different databases. From here, knowing the name(s) of your chemical or its Chemical Abstract Service number (CAS, available from the Form R) you can search a number of databases. (The CAS number is a unique identification given to each

chemical in commercial production.) The support pages for TOXNET are particularly useful and will guide you through the various data bases linked here as you select each one.

Among the most useful sites via TOXNET are:

- **Hazardous Substances Data Bank:** The HSDB compiles information from the scientific literature to describe a particular chemical's physical property, environmental and biological fate, human and animal toxicity data, and more. However, this information is provided in brief snippets with little context, and can be difficult to interpret.
 - **International Toxicity Estimates for Risk (ITER):** The international database on health studies, presented in table format for easy comparison.
 - **Toxline:** for finding references to a particular chemical in the toxicology and risk assessment literature.
 - **Household Products Data Base:** Because hazardous chemicals are not found only at industrial facilities!
- **Right to Know Hazardous Substances List** – <http://web.doh.state.nj.us/rtkhsfs/rtkhsl.aspx>

New Jersey's Right to Know information provides convenient summaries of health impacts of many important toxic chemicals.

3. Surveillance, Mapping, and Organizing Tools

- **Mapping exposures or health outcomes:**
 - **Health Landscape** – <http://www.healthlandscape.org>
A free tool developed by American Academy of Family Physicians that allows users to quickly import their own data to visualize trends from the zip code to regional level. Alternatively, it also contains a collection of commonly requested health and demographic data for implementation. It is a less expensive and more accessible alternative to complicated mapping software like ArcGIS.
 - **MyEnvironment** – <http://www3.epa.gov/enviro/myenviro>
Plug in your address and this tool will compile EPA data such as air emissions sources and levels, toxic water releases, and nearby Superfund or Hazardous waste sites in chart or map form.
 - **EJScreen** – <http://www.epa.gov/ejscreen>
An environmental justice mapping and screening tool by EPA that combines national data on environmental and demographic indicators for a user-specified location.
- **Surveys**
 - **Creating Surveys Toolkit** - <http://www.datacenter.org/research/creatingsurveys>
A useful guide for determining the usefulness of a survey, the appropriate type of survey to conduct, and other information on executing a community wide survey.

- **Survey Monkey** – <http://www.surveymonkey.com>
Simple and popular online survey platform.
 - **Community organizing**
 - **Community Toolbox:** <http://ctb.ku.edu/en>
A tool box developed by University of Kansas for community organizing, planning, evaluation, networking, and sharing resources
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4. Accessing the Scientific Literature

- **PubMed:** <http://www.ncbi.nlm.nih.gov/pubmed/> or <http://www.pubmed.gov>

PubMed, a service of the National Library of Medicine, is the single most useful tool for searching the extensive literature on health and environment (and all medical and bioscience topics). Keyword searches for specific exposures or diseases are easy to perform in PubMed. For most papers, PubMed will provide you with a brief **abstract** describing the study and its results; often, this abstract will provide enough detail to get you started.

Many PubMed searches will return tens of thousands of papers. When starting research on a new topic, you may want to filter your results (on the right side of the screen) to find only the “**Review**” papers, which attempt to sum up the literature to give a detailed overview of a particular topic. Unfortunately, many scientific papers are accessible only by subscription, so you will often find papers in PubMed which you cannot read. It is possible to filter your search results for “Free Full Text” papers, which you’re guaranteed access to. If you find key papers which you can’t access, consider teaming up with a researcher at a college or university, or asking the university library to provide you with a copy.

- **Google Scholar:** <http://scholar.google.com>

Google Scholar harnesses Google’s search capabilities to find scientific papers in all fields. Keyword searches are possible, but return very many results. If you are looking for a specific paper, and have the title, it will be most useful to enter the title in double quotes.

Google Scholar can often find scientific papers in locations throughout the web, not just on the webpages of scientific journals, and is therefore an excellent resource for finding articles you can’t access through PubMed.

- **Important journals in the field of Environmental Health:**

- [Environmental Health Perspectives](#)
- [Environmental Health](#)
- [Environmental Science & Technology](#)
- [American Journal of Public Health](#)