Basic Components of the Health Assessment Process

**Triggers**
- Petition
- National Priorities Listing
- Other Agency Request

**Input**
- Environmental Data
- Exposure Data
- Health Effects Data
- Community Concerns

**Scientific Evaluation**
- Exposure Evaluation
- Health Effects Evaluation

**Products**
- Public Health Assessment
- Public Health Consultation
- Health Advisory

**Outcomes**
- Follow-up Health Actions
- Technical Assistance to Other Agencies
• ATSDR is an advisory (non regulatory) federal public health agency created under CERCLA (Superfund).
  • ATSDR is within the CDC under HHS
  • ATSDR regional offices are embedded inside EPA

• ATSDR has funded PADOH as a cooperative agreement partner for environmental public health evaluations in Pa since 1989.
How ATSDR/PADOH Gets Involved

- A site is on or proposed for the U.S. Environmental Protection Agency’s Superfund National Priorities list (EPA’s NPL)
  - Required public health evaluation

- Agency (federal, state or local) requests help

- Someone petitions ATSDR to conduct an assessment of a site
Evaluation Tools

• First we start with environmental data.
  - Are people being exposed? When? Where? How often and for how long? Are the levels high enough to cause illness?
  - Do we have enough environmental data to answer these questions?

• We prefer environmental data over health outcome data, because most illnesses/symptoms are not specific to a chemical exposure.
Evaluation Tools

• However, we may evaluate health outcome data for a community, e.g:
  - Cancer cases and deaths reported to the state cancer registry
  - Childhood blood lead data
PADOH: cancer statistics & lead surveillance data


• https://www.health.pa.gov/topics/disease/Lead%20Poisoning/Pages/Lead-Surveillance.aspx
All Cancer Sites: INCIDENCE (Invasive)

Significant Differences Between Pennsylvania County and State Age-adjusted Incidence Rates
Pennsylvania Male Residents, 2011-2015


MAP 1-G

Significantly higher  Significantly lower  Not significantly different  Significance not determined—less than 20 observed cases
Significant Differences Between Pennsylvania County and State Age-adjusted Incidence Rates
Pennsylvania Female Residents, 2011-2015

U.S. Rate—(2011-2015) 409.9
Pa. Rate—(2011-2015) 450.8

The symbol • represents the number of invasive cancers. A larger circle indicates a larger amount of cases.

SOURCES: Pennsylvania Cancer Registry, SEER 8 areas

NOTE: Age-adjusted rates are per 100,000 and computed by the direct method using the 2000 U.S. standard population. Rates based on less than 20 events are considered statistically unreliable.

Pennsylvania Department of Health — Pennsylvania Cancer Incidence and Mortality 2015 — Page 25
PADOH Cancer Incidence Data Review 1985-2017
Higher:
• Lung
• Melanoma

Lower:
• Ovarian
• Thyroid
Cancer of the Lung and Bronchus: INCIDENCE (Invasive)

Significant Differences Between Pennsylvania County and State Age-adjusted Incidence Rates
Pennsylvania Male Residents, 2011-2015


Significantly higher
Significantly lower
Not significantly different
Significance not determined—less than 20 observed cases

Significant Differences Between Pennsylvania County and State Age-adjusted Incidence Rates
Pennsylvania Female Residents, 2011-2015

Cancer of the Ovary: INCIDENCE (Invasive) and MORTALITY

Significant Differences Between Pennsylvania County and State Age-adjusted Incidence Rates
Pennsylvania Female Residents, 2011-2015


Significantly higher  Significantly lower  Not significantly different  Significance not determined—less than 20 observed cases
PADOH and ATSDR contacts

• PADOH
  Dr. Farhad Ahmed MBBS, MPH
  Env.health.concern@pa.gov
  717-787-3350

• ATSDR
  Dr. Karl Markiewicz, PhD
  kvm4@cdc.gov
  215-814-3149
An exposure pathway is defined as the process by which people are exposed to or come into contact with chemical substances. An exposure pathway has five parts:

- A source of contamination;
- An environmental medium and transport mechanism;
- A point of exposure;
- A route of exposure; and
- A receptor population.