



## Massachusetts Department of Public Health

# Biomonitoring

Measuring environmental chemicals in the body

**Biomonitoring** is the measurement of chemicals in a person's body, usually by taking a small sample of blood or urine. This helps us learn about our exposures to chemicals in the environment.

## What are environmental chemicals?

Environmental chemicals are naturally occurring or manufactured chemicals that can be found in the:

- Air we breathe
- Food we eat
- Water we drink
- Products we buy
- Soil around us

Examples of environmental chemicals are:

- Metals such as lead and mercury
- Polychlorinated biphenyls (PCBs)

We come into contact with environmental chemicals every day. We cannot avoid them completely.



## What do biomonitoring results tell us as individuals?

They can tell us if we have:

- Been exposed to environmental chemicals
- Levels in our bodies that are higher than typical

The Massachusetts Department of Public Health (DPH) can share easy ways to try to reduce exposures.

## What do biomonitoring results tell us as a community or state?

Biomonitoring results can reveal patterns in exposure to environmental chemicals in communities across Massachusetts. This can help DPH take action to protect people's health.



## Do most people have environmental chemicals in their blood or urine?

Yes, most of us have environmental chemicals in our bodies. They may or may not impact our health. This depends on:

- Our sensitivity to the chemical
- Our body's ability to remove the chemical
- How much chemical is in our body
- How long we were exposed

## Who is most at risk for possible health effects?

Some people may be more likely to have health effects. These include:

- People with pre-existing medical conditions
- Children at all stages of development
- Developing fetuses in pregnant people
- People 65 or older

## Who is usually tested?

In Massachusetts, young children receive blood testing for lead exposure during routine medical visits. Sometimes public health agencies conduct special biomonitoring studies. Depending on the study, community members can receive free testing for environmental chemicals.

## Who tests biomonitoring study samples?

In Massachusetts, the DPH State Public Health Laboratory tests the samples. DPH interprets and shares results.



### For more information about biomonitoring in Massachusetts, please contact:

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