



Air Pollution and Health Effects in Early Life

The Science and Action Steps for Community Members

How is air pollution linked to our health early in life?

We are exposed to air pollutants throughout our lives—from in the womb to childhood to adulthood. As we go about our daily lives, we breathe in different air pollutants in different amounts and mixes, including:

- metals (such as lead),
- organic compounds (such as benzene),
- gases (such as ozone and sulfur dioxide), and
- particulate matter that may be dust or soot.

Many of these pollutants can affect development early in life. They can also increase risk of having health issues throughout life.

What are the risks linked to air pollution exposure during pregnancy?

- Pregnancy-related complications such as high blood pressure for the pregnant person
- Harmful or risky pregnancy outcomes such as low birthweight and early birth
- Maternal health challenges later in life, including obesity



What health risks later in life are linked to air pollution exposure before birth?



Respiratory diseases such as asthma and reduced lung function



Childhood obesity and related conditions



Higher chance of problems with cognitive, behavioral, motor, and language development



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What do we know about infant health in Michigan?

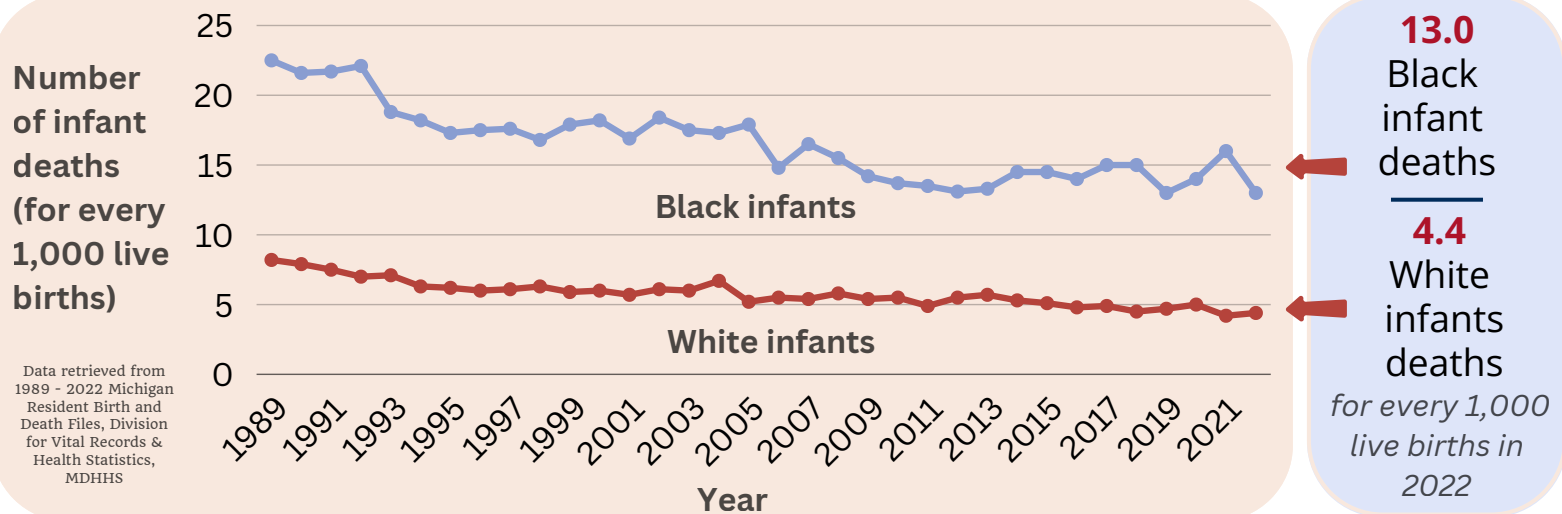
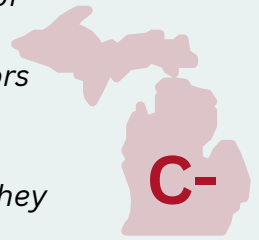
1. Early births and low birthweight

In Michigan, about 10 out of every 100 babies is born early (before 37 weeks), and about 9 out of every 100 babies is born at a low birthweight (less than 5 pounds, 8 ounces).

2. Differences in death by race

In Michigan, Black infants are **2 to 4 times more likely to die** than white infants. As shown in the graph below, in 2022, there were 13 Black infants and 4.4 White infant deaths for every 1000 live births. This inequity has been a problem for many years.

Report Card: March of Dimes gives grades based on many factors that contribute to maternal and infant death and disease. They give Michigan a C-.



State of the Air: The American Lung Association ranks Detroit Metro Area as the **13th** worst area in the nation for annual particle pollution.

Particle pollution can include small particles or droplets, including dust and soot. These particles can get into our lungs and move into our bloodstream. They can harm health in many different ways.

Learn more:

<https://tinyurl.com/yzu9zebs>



How does air pollution contribute to health differences that are unfair and avoidable?

Air pollution is one of many factors that can lead to differences in birth outcomes and early development. There is substantial evidence showing that Black and Hispanic people face more exposure to air pollution compared to non-Hispanic White people.

Some of these factors may help to explain why babies born in Detroit are more likely to die in their first year of life compared to babies in Michigan overall and nationwide.

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How can I protect myself?

Check the air quality index (AQI): airnow.gov.

When the AQI is high (**151 or higher**), take action! If you are pregnant or have health issues, you might take these actions when the AQI is at even lower levels like **51 or higher**.

When indoors:

- Keep doors and windows shut
- Use an air purifier, change air filters as needed
- Depending on the season: turn on your furnace or turn on your air conditioner, if you have one

When outdoors:

- Use an N95 face mask

Learn more ways to protect yourself and your community:



Scan this QR code or go to:
<https://linktr.ee/airpollutionresources>

How can I support my community?

There are many ways we can protect everyone in MI—especially the youngest residents.

- ➔ **Ensure that major pollution sources are not near houses, hospitals, and schools**—with protections for those nearby.
- ➔ **Promote renewable energy sources (such as wind and solar)**. These pollute less than fossil fuels (such as oil, natural gas, and coal). Work with community groups to expand programs like the Detroit Solar Neighborhoods Initiative.
- ➔ **Create and grow green spaces**. Using certain trees, shrubs, and other plants, we can create ‘vegetative buffers’ that act as a barrier between air pollution and local communities.
- ➔ **Support stricter air pollution standards to protect fetuses, infants, and children**. Some states set stricter standards that can better protect against low birth weight and premature birth than U.S. standards.
- ➔ **Improve choices for biking, walking, and public transit and reduce traffic and idling**. Support local efforts including the enforcement of Detroit’s anti-idling ordinance for trucks.



Please see http://mleead.umich.edu/Coec_Fact_Sheets.php for the citations included in this factsheet.

This research was supported by the National Institute of Environmental Health Sciences (NIEHS) (#R01ES022616, #R01ES032389) and the Fred A. and Barbara M. Erb Family Foundation, with additional support provided by the Michigan Center on Lifestage Environmental Exposures and Disease (M-LEEaD) (NIEHS #P30ES017885).