



THE ENVIRONMENTAL & MATERNAL + CHILD HEALTH TOOLKIT

PROTECT THE HEALTH OF YOU
AND THOSE YOU CALL FAMILY

EH&
MCH
2023

EH & MCH TOOLKIT

The goal of *The EH & MCH Toolkit* is to highlight common environmental threats to maternal and child health. Covering both physical and behavioral EH risks, the toolkit identifies direct sources of exposure, discusses dangerous health consequences for women and infants, and provides tips for prevention and resources. The toolkit aims to raise awareness through evidence-based information and serves as an educational guide to improve MCH well-being and development.



EDUCATE

**CREATE
AWARENESS**



**PROMOTE
HEALTH**



While the topics in this toolkit relate to mothers and children, it may also be useful to parents, caretakers, families, and friends of pregnant people.

OVERVIEW

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INTRODUCTION

ENVIRONMENTAL HEALTH

Environmental health (EH) is the study of **people and the environment**. Environmental health is a branch of public health, and together they help protect people from disease and injury that is linked to the environment. This is achieved through education, correcting environmental hazards, and promoting environmental justice. By working in the community to solve environmental health problems, both private and public organizations can work to limit causes of disease and injury.

MATERNAL & CHILD HEALTH

Maternal & child health (MCH) examines the **health of women and infants before, during, and after pregnancy**. Public health programs target access to OBGYN care, identifying risk factors for mortality and preterm births, and preventing pregnancy complications. Promoting healthy practices and providing a supportive network during this period of physical, mental, and emotional vulnerability facilitates the overall health outcomes and wellbeings of both mother and child.

Information in this toolkit is up to date as of July 2023.

THE INTERSECTION BETWEEN EH & MCH



Our day-to-day environment contains many potential hazards and threats that may harm human health. While these dangers can harm any part of the population, certain groups are more likely to experience higher rates of disease and injury. This is the case with pregnant mothers and children, due to their vulnerable status.

Climate change continues to threaten the world around us, making it vital to address these environmental hazards within the community as early as possible. Knowing the risk behaviors, promoting prevention, and emphasizing good public health practices can promote long-term health of mothers and infants. In turn, we can improve the health of the entire population.

THE VULNERABLE

Vulnerable populations are groups requiring additional protection in the scope of public health. The Centers for Disease Control and Prevention (CDC) uses several indicators (demographic, health status, occupation, income) to help determine which communities are most “vulnerable.” Pregnant women and children are among these groups.

PREGNANT WOMEN

Pregnancy presents a wide range of physical, emotional, personal, and developmental challenges (morning sickness, changing bodies, accounting for another human life, family planning, etc.). Experiencing such tremendous changes, pregnant women are predisposed to several health complications particularly during labor and delivery.



Risks: Pre-eclampsia, cardiac arrest, stroke, postpartum depression



Maternal Mortality: 32.9 deaths/100,000 live births in USA (*CDC, 2021*)
Death by any cause related to pregnancy (excludes accidents/incidents)



Goal: Ensure maternal health through perinatal & postnatal periods

INFANTS & CHILDREN

Infants and children are constantly undergoing rapid and various rates of development, making them one of the world’s most vulnerable populations. Their bodies are physically, neurologically, and behaviorally different from an adult’s. Therefore, even when exposed to the exact same stressors as adults, they require certain adjustments and extra attention.



Risks: Developing immunity, developmental/behavioral delay



Infant Mortality: 543.6 deaths/100,000 live births in USA (*CDC, 2021*)
Death by any cause before the infant's first birthday



Goal: Safe birth and healthy childhood development

TYPES OF EH ISSUES

PHYSICAL ENVIRONMENT

&

SOCIAL ENVIRONMENT

THE DIFFERENCE

The environment that physically surrounds a person and includes tangible elements and structures.

Physical, chemical, biological, or radiological agents.

The social setting made up of a person's behaviors, beliefs, customs, and practices.

Relationship dynamics, personal lifestyle habits, or social status.

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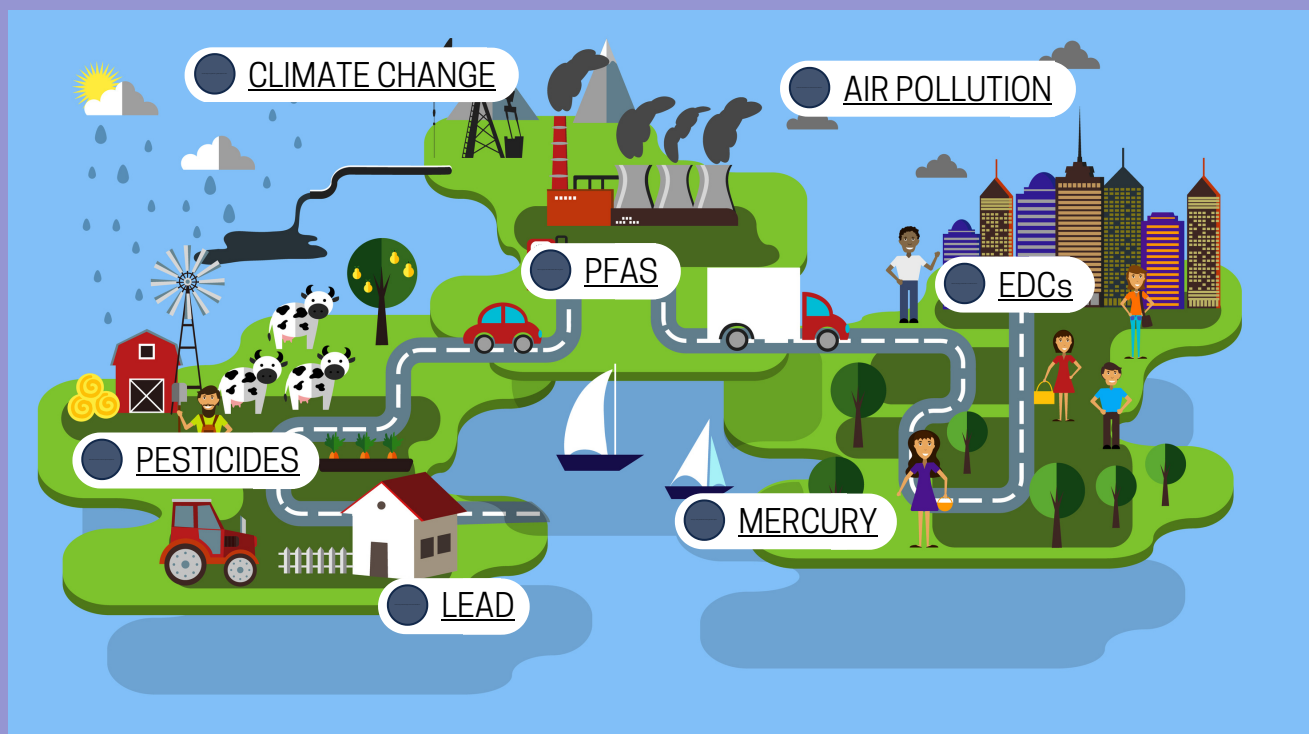
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PHYSICAL ENVIRONMENT

Environmental hazards exist all around us. Some, like smog and air pollution, are easier to detect. However, many are hidden in products and activities we use and do daily.

Interact with the map below to explore where you may find physical health hazards in your community.



How to navigate:

- Hover your mouse over the blue dot to read a summary on each specific hazard
- Click the underlined title to learn more about that hazard, the MCH impacts, and ways to prevent negative health outcomes

CHEMICAL EXPOSURES

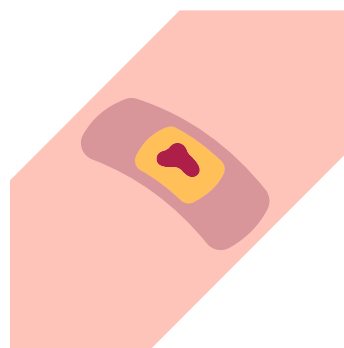
Humans come into contact with chemicals every day.



Brushing your teeth involves chemicals. However, when instructions about how to use toothpaste are properly followed, you should not be harmed.

However, not all chemicals are safe.

If humans come into contact with harmful chemicals, they may experience injury or disease.



This section will cover a variety of chemical exposures, including **air pollution, lead, mercury, PFAS, pesticides, and endocrine disruptors.**

We encourage you to visit the resources section on page 65 to find out more to protect you and the health of your friends and family.

Air Pollution

Clean air is necessary to sustain life on earth. However, both human and natural activities can increase the amount of harmful chemicals within the air. This can lead to air pollution, which can have a profound impact on human health.

Air pollution is found both indoors and outdoors:

INDOOR SOURCES	OUTDOOR SOURCES
<ul style="list-style-type: none">• Combustion sources within homes (includes tobacco, heating and cooking supplies that use wood or coal)• Cleaning supplies, paint, insecticides• Building materials (new or old)• Outdoor sources entering the home through window	<ul style="list-style-type: none">• Transportation, such as burning fuel for cars, trucks, ships, planes, and trains• Industrial emissions, such as factories burning fuel for energy• Methane emissions from cows• Stationary power generation• Chemical manufacturing• Wildfires or volcanic eruptions



Visit the [Climate Change](#) section on Page 27 to learn more about how green house gases can increase global temperatures.

PARTICULATE MATTER

Particulate matter (PM) are tiny pieces of solids or liquids within the **air**, such as dust, dirt, soot, or smoke that can be harmful to human health. Particulate matter varies in size, and can be small or large.



Small particulate matter is known as 'PM2.5' and is considered hazardous as their size makes it easier to enter the lungs and bloodstream. Tobacco smoke is a common type of small particulate matter.



Large particulate matter is known as 'PM10' and can be irritating to the eyes, nose, and throat. Dust is one common type of large particulate matter.

MATERNAL & CHILD HEALTH IMPACTS

Air pollution exposure during pregnancy can have severe health consequences for pregnant people and their children:



Increase risk of pre-term delivery and stillbirth



Higher risk that baby will have low birth weight



More likely to develop heart defects



Greater risk of miscarriage



Increase the occurrence of asthma



Cause bronchitis and lung damage



Harm brain development, cardiovascular and immune systems



Smoke from the occasional wildfire can reach your community and have negative health effects.

AIR QUALITY

Air pollution can worsen on certain days due to multiple environmental factors. Pregnant women and those with children should pay attention to air quality alerts and take appropriate action to limit time exposed to air pollution.

AIR QUALITY ALERTS

The **Air Quality Index (AQI)** is what the EPA uses to report air quality. It is a useful tool for finding out what the air quality looks like in your area. This tool can be **found online, or on the weather app** on your smart phone. The AQI is useful to identify when certain sensitive groups should avoid being outside, due to potential health effects. **Sensitive groups** are people who experience health effects when exposed to the air.



Visit the [Climate Change](#) section on Page 27 to learn more about how wildfires will effect human health.

AIR QUALITY INDEX CHART

Use **this chart** to understand the meaning of air quality alerts:

Daily AQI Color	Levels of Concern	Values of Index	Description of Air Quality
Green	Good	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Yellow	Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Orange	Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Red	Unhealthy	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Purple	Very Unhealthy	201 to 300	Health alert: The risk of health effects is increased for everyone.
Maroon	Hazardous	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

PROTECTIVE ACTIONS



Pay attention to air quality alerts in the weather app



Avoid burning leaves, trash, or other materials



Use environmentally safe paints and cleaning products



Wear an N95 mask when outdoors during poor air quality days

Heavy Metals

Heavy metals include lead, cadmium, cobalt, and mercury. Exposure to heavy metals can be higher in certain jobs, such as construction workers, miners, firing range employees, smelters, welders, and artists.

Exposure to lead and mercury are the focus of this section.

LEAD

Sources of exposure to lead include **lead-based paint, water, food, soil, imported lead-based goods, and certain occupations.**

The most common source of lead is lead-based paint, which is often found in homes built before 1978.

Lead can enter the body through inhalation or ingestion:



Inhalation or **breathing in** lead can occur when products containing lead are melted or burned.



Ingestion of lead can occur **in homes** where lead paint is stripped back, or when children put lead paint chips in their mouth.



Ingestion of lead-contaminated **dust, water, and food** can also occur. Contamination can also occur when water travels through **lead pipes** in a home.



Homes built before 1978 are more likely to contain lead paint.

LEAD POISONING

Lead poisoning occurs through breathing in or swallowing lead.

Children under six years of age are at a high risk of lead poisoning, as they are still growing very rapidly at this stage and their **bodies** can **absorb lead** very **easily**.

Once lead enters the body, it is **stored** in the **bones** and **tissues** and can be **released into the bloodstream** and **pass to the fetus** during pregnancy.

MATERNAL & CHILD HEALTH IMPACTS

Lead exposure can have severe health consequences for pregnant people and their children:



Miscarriage



Low birth weight



Pre-term birth



Damage to the brain and nervous system



Learning, memory, hearing, and speech problems



Developmental delays



Negatively impact intellectual and motor development



Harm a baby's brain, kidneys and nervous system

PREVENTION

The primary way to reduce exposure to lead is by **removing lead-contaminated products** from the home. If an adult or child has already been exposed to lead, it is important to **visit a doctor to ask about blood-testing** to analyze the extent of the exposure and create a care plan.

Women and children who should discuss lead testing with their care provider include those who:

- Live in **homes built before 1978**
 - These homes may contain lead paint or lead pipes
- Live with **someone who works with lead** for their job
- Recently **immigrated from an area** where **lead contamination is high** (i.e. living in an area where leaded gasoline is still used)
- Live near a **current** or **closed lead source** such as mines, battery recycling plants, or smelters

There is no safe amount of lead for anyone to ingest. If you believe you have been exposed to lead, ask your doctor about blood testing.



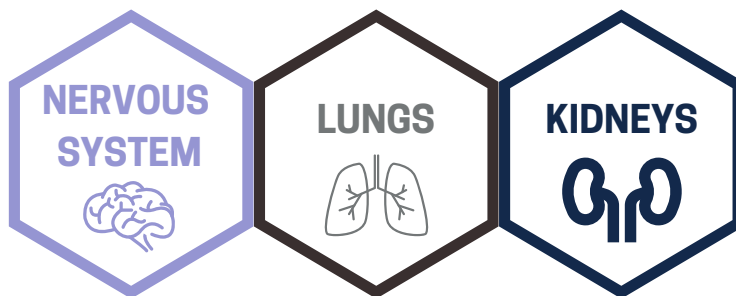
MERCURY

Mercury is the most toxic heavy metal in the environment. **Sources of mercury exposure** include:

- contaminated fish and shellfish
- silver dental fillings, also known as 'crowns'
- broken fever thermometers
- antiques
- some jewelry

MATERNAL & CHILD HEALTH IMPACTS

High exposure to mercury during pregnancy can cause damage to:



Fish is the most common source of mercury.



Fish is still an important source of **vital nutrients** that supports the development of a **baby's brain** and **spinal cord** during and after pregnancy.



Mercury in the mother's body can be **spread** to a **breastfed** infant. There are ways to **safely consume fish** during pregnancy and breastfeeding.

If you are concerned about mercury exposure, **talk to your doctor** about testing.

PROTECTIVE ACTIONS

In most cases fish can be safely consumed during pregnancy and breastfeeding. The [FDA](#) and EPA recommend choosing fish that are lower in mercury. [This chart](#) can be used to make that choice easier, and is summarized below:

Best Choices	Good Choices	Avoid
<ul style="list-style-type: none">• Anchovy• Atlantic mackerel• Catfish• Cod• Flounder• Herring• Lobster• Oyster• Salmon• Sardine• Scallop• Shrimp• Skipjack tuna• Tilapia	<ul style="list-style-type: none">• Tuna (including albacore, yellowtail, white; canned, fresh, or frozen)• Mahi mahi• Snapper• Halibut• Spanish mackerel	<ul style="list-style-type: none">• King mackerel• Bigeye tuna• Shark• Swordfish

Consider switching from a mercury thermometer to an electric thermometer.



NEVER use a vacuum or broom to clean up mercury spills. Contact Poison Control if you are exposed to mercury.



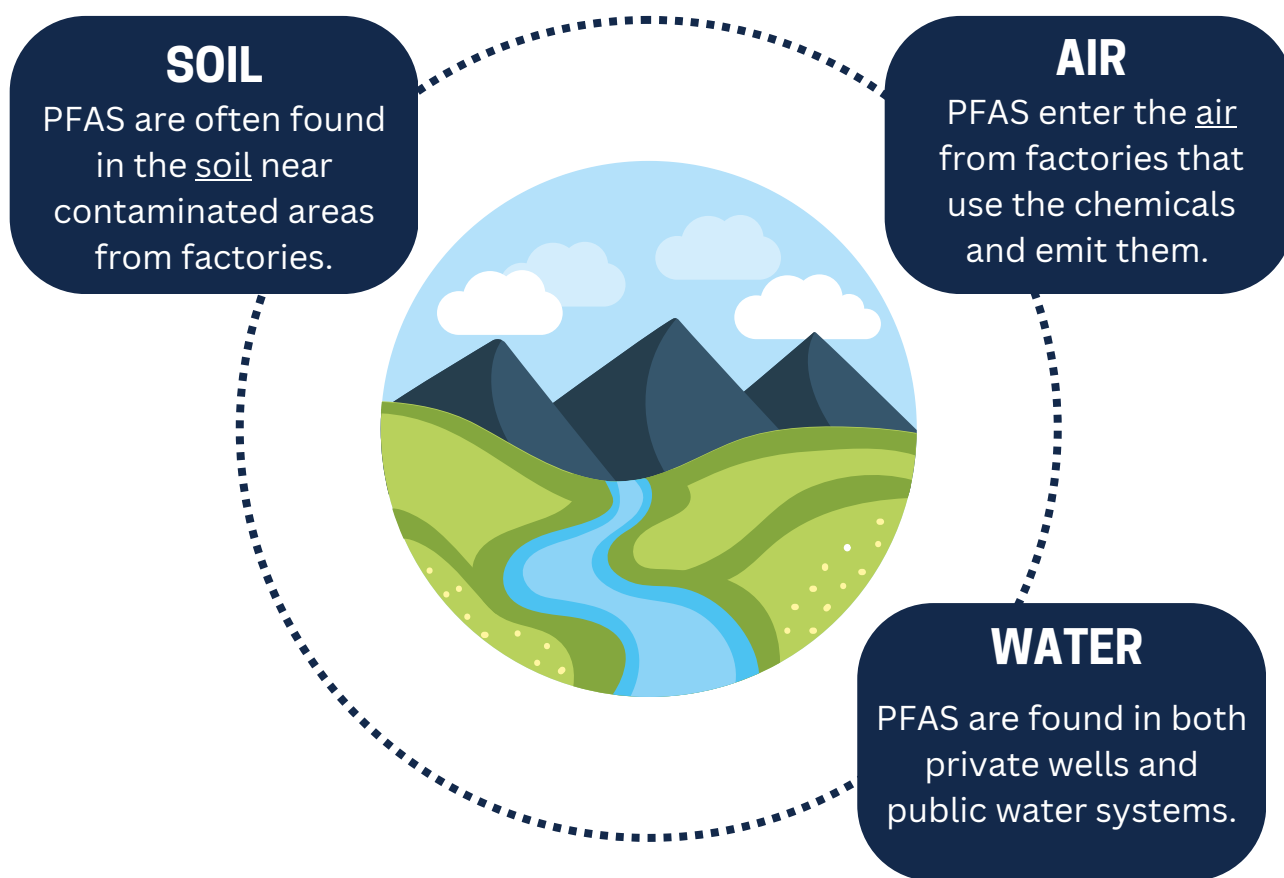
PFAS

PFAS (per- and polyfluoroalkyl substances) are a group of **man-made chemicals** that have been used since the 1940s in many different industrial and consumer products.

PFAS have been of greater concern to the public in recent years. Information on PFAS is being updated every day, and there may be updated information since the creation of this toolkit.

HAZARDOUS EXPOSURES

PFAS are widely used. In the **environment**, these chemicals are found in:



PFAS exposure occurs most commonly by **eating** and **drinking contaminated food and water**, including:

- Drinking contaminated water
- Eating fish from contaminated water
- Eating food grown near areas with high levels of PFAS
- Eating foods prepared in packaging made with PFAS

PFAS can be **found in just about any consumer product**. Some of the most common products include:

- Carpet
- Fabric
- Firefighting foams
- Non-stick coating on cookware and food packaging

MATERNAL & CHILD HEALTH IMPACTS

Exposure to PFAS in pregnant people and their children *may* lead to:



Increased risk of high blood pressure



Higher risk of pre-eclampsia



Decreased vaccine response in children



Low birth weight in infants

PFAS can pass from an exposed mother to their baby through breastfeeding, but the CDC currently maintains that any **harm from PFAS does not outweigh the benefits of breastfeeding**.

PROTECTIVE ACTIONS



Call your water company to find out if PFAS are in your water



Look into private well testing if you are not on public water



Avoid consuming fish caught in water contaminated with PFAS



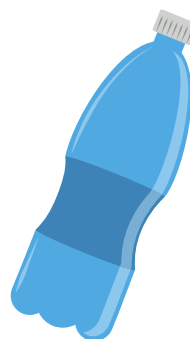
Avoid fast & processed foods, as the packaging often uses PFAS



Be aware of common sources of PFAS & try to buy alternatives

- If you are on a private well, visit the EPA's site to look for a list of approved labs that test for PFAS
 - Please note that lab testing may be expensive
- Stay up to date about PFAS by visiting the EPA's website
- Use Virginia's PFAS Detection tool to learn more about PFAS in your area

Levels of PFAS in bottled water are not monitored by the FDA, so drinking from them is not necessarily a safe alternative.



Technologies such as **activated carbon** or **ion exchange treatment** are used to filter PFAS from the water. These treatments will often be utilized in drinking water treatment facilities.

If you are on private well water, these treatments can be used where water enters the home. It is important to note that the **cost can vary** for private treatments in the home.

Pesticides



Pesticides are chemicals used to **control pests** and **plants**.

Certain pests or plants are limited because they are known to **carry disease**, such as **mosquitoes, ticks, fleas, rats, and mice**. Diseases that can be spread by these pests include:



Mosquitos: dengue, malaria, chikungunya, yellow fever, zika



Ticks: lyme disease



Fleas: plague



Mice & rats: salmonella, plague, monkeypox

Some **examples of pesticides** include:



Insecticides: control insects



Herbicides: control weeds or other unwanted plants



Fungicides: control mold, mildew, and rust

HAZARDOUS EXPOSURE

Pesticides are widely used due to their useful application.
Reference pages 24 & 39 for more information about safely using pesticides.

Exposure to small amounts of pesticides is also common due to their heavy use. However, pesticides can **harm human health** when used **unsafely**, especially **in high amounts**.

MATERNAL AND CHILD HEALTH IMPACTS

Some pesticides can have negative health effects on the population, especially pregnant women and children. **Long term exposure** to pesticides **over time** may lead to:



- ! Cancer
- ! Damage to nervous system
- ! Thyroid hormone imbalance
- ! Difficulty breathing
- ! Organ damage
- ! Learning difficulties
- ! Birth defects

PROTECTIVE ACTIONS

It is important to exercise caution when using pesticides.

- ✓ Proper storage and labelling of pesticides in the home
- ✓ Do not use more than needed
- ✓ Always read the product's label
- ✓ Follow the label's instructions

Endocrine Disrupting Chemicals

Certain pesticides are also classified as **endocrine disruptors**. Endocrine disrupting chemicals (EDCs) are substances that can interfere with the body's endocrine system. The endocrine system plays a large role in how hormones are used throughout the body.

The endocrine system plays a role in:

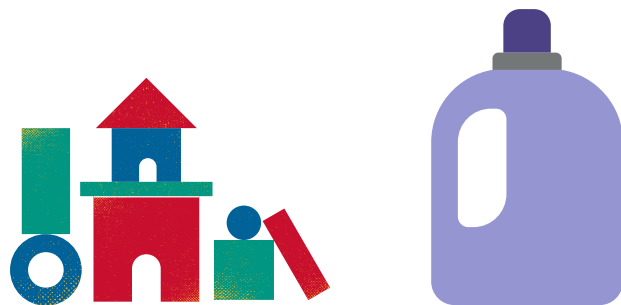
- Sleep
- Metabolism
- Reproduction
- Growth and development

EDCs can interfere with hormones by changing how they are made, broken down, and used in functions in the body.

HAZARDOUS EXPOSURE

Common EDCs include BPA, dioxins, perchlorate, PFAS, phthalates, parabens, phenols, phytoestrogens, certain flame retardants, PCBs, and triclosan. These chemicals are often found in products such as:

- Plastic bottles and containers
- Food can liners
- Detergents
- Toys
- Cosmetics
- Pesticides



MATERNAL AND CHILD HEALTH IMPACTS

Endocrine disrupting chemicals (EDCs) have been **linked** to health problems among pregnant people and children, such as:



! Changes to intellectual function

! Impacts on the central nervous system

Though EDCs are still being studied, there is some evidence to suggest a link between EDCs and the following conditions:

- ADHD
- Decreased immune response to vaccines
- Disruption to metabolism
- Changes in puberty
- Fertility and reproduction issues

PROTECTIVE ACTIONS



Read labels on commonly used consumer goods



Try purchasing BPA-free products



Avoid personal care products with phthalates or parabens



Do not store plastic packaged food or water in a hot car



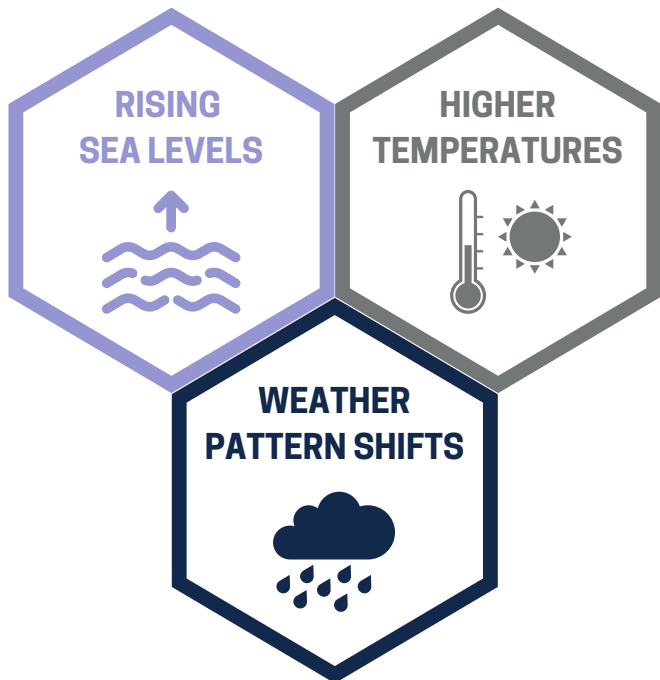
Avoid microwaving plastic containers



Wash fruits and vegetables before eating them

CLIMATE CHANGE

CLIMATE CHANGE refers to a combination of higher temperatures, increasing sea levels, and shifts in weather patterns resulting in flooding, droughts, and more.



These activities can be the result of natural events such as volcanic eruptions or changes in the sun's energy, but

HUMAN ACTIVITY

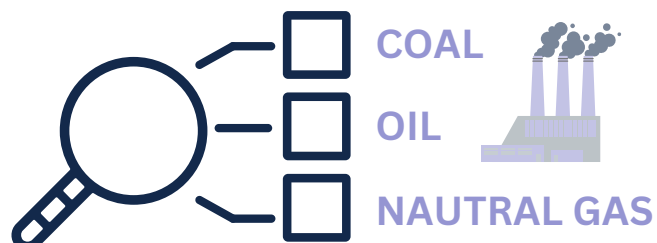
has shown to be one of the main driving forces.

BETWEEN 1901-2020 temperatures across the world increased

by  **1.98 °F**

While this may not seem like a lot, on a global scale this increase is unusual and has severe health-related consequences.

WHY? The release of greenhouse gas emissions (burning of coal, natural gas, and oil) traps heat in the earth's atmosphere causing rises in temperature.



Emissions

HAZARDOUS EXPOSURES

Burning fossil fuels and cutting down forests release harmful amounts of **carbon dioxide and greenhouse gases** in the air. These gases absorb and **trap heat in the atmosphere**. Without proper removal, heat will continue to accumulate and gradually increase global temperatures.



Rising Temperatures



Excessive Heat



Unusual Weather Patterns

If emissions continue at its current rate, the earth's temperature could **increase by 5 to 10 °F** in the next 70 years.

MATERNAL & CHILD HEALTH IMPACTS

Heat exposure presents major health risks for pregnant people, as the body works harder to regulate both their temperature and the baby's.



Dehydration

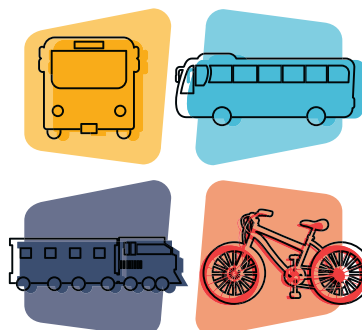


Exhaustion



Heat stroke and/or heat-related death

Harsh, hot weather may also deter or prevent easy access to transportation and medical care.



PROTECTIVE ACTIONS



Drink plenty of fluids to stay hydrated



Limit time outside and maximize time in shady spots



Wear lightweight clothing



Avoid high-impact exercise and sweat-inducing activities

Flooding



HAZARDOUS EXPOSURES

Changes in climate are causing more frequent **precipitation** and rainfall leading to **rising sea levels, hurricanes, surge storms, and floods.**



Increased Precipitation



Rising Sea Levels



Hurricanes

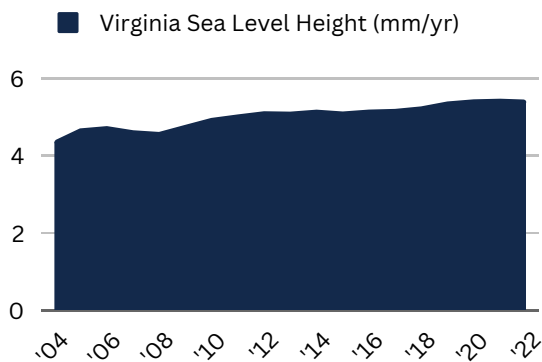


Destructive Flooding



Surge Storms

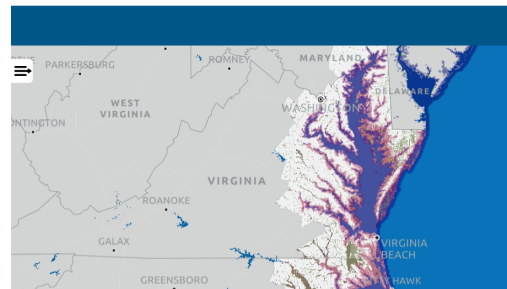
VA SEA LEVEL BY YEAR (2004-22)



Yearly sea level change in Norfolk, VA. Increasing trend shows gradual rise in sea level from 2004-2022.

INTERACTIVE COASTAL MAP

The Changing Coast



Link to interactive, visual map that shows changes in sea level, and storm/flood risk zones.



INJURIES

Cuts, punctures, fractures, broken bones, physical blows



DAMAGES

Buildings, roads, food/water supply, communities, personal property



DEBRIS

Tree branches, broken glass, loose waste, electrical lines



DROWNING

Even strong swimmers can get swept away by strong waters

FLOOD DANGERS

MATERNAL & CHILD HEALTH IMPACTS

The emotional and physical stress of floods and natural disasters have been linked to the following MCH outcomes:



Anemia (low red blood cell count)



Eclampsia (high blood pressure and potential seizures)



Miscarriage



Post-Traumatic Stress Disorder (PTSD)



Pre-term birth

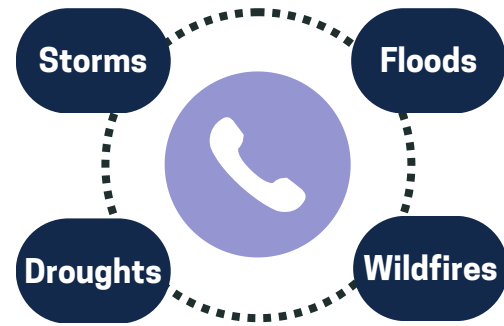


Low birth weight

Physical damages are not the only hazards that come with extreme precipitation. **Bacteria or viruses** in flood water may mix with drinking water and cause **waterborne illnesses**. This can cause acute infections in pregnant mothers and subject fetuses to severe future birth defects.

TOP WATERBORNE DISEASES IN THE US	SYMPTOMS	MCH COMPLICATIONS
Otitis Externa "Swimmer's Ear"	Tenderness, pain, itchiness, swelling in the ear; fluid discharge	No known fetal risk, but ear discomfort in mother
Norovirus	Diarrhea, nausea, stomach pain, vomiting	Electrolytes imbalances may cause pre-term birth or urinary tract infections
Giardia	Diarrhea, dehydration, gas, greasy stools, stomach pain, vomiting	Malabsorption (problem with intestines absorbing nutrients) and diarrhea may affect fetus

If you need crisis or emotional support, call or text 1-800-985-5990
(Disaster Distress Helpline)



The build-up of moisture in flood debris could also lead to **mold** growth. These fungi spread through the **release of spores**, which are small airborne particles, and can cause the outdoor air quality to worsen.



Visit the [Outdoor Air Quality](#) section on page 35 to learn more about how airborne irritants affect respiratory health.

PROTECTIVE ACTIONS

- ✓ Create a flood plan - risk evaluation, evacuation, safe spots
- ✓ Prepare emergency kits - first aid, food/water, batteries
- ✓ WAIT! Do not attempt to go out during an emergency
- ✓ Proceed with caution when walking through debris

Foodborne Infections



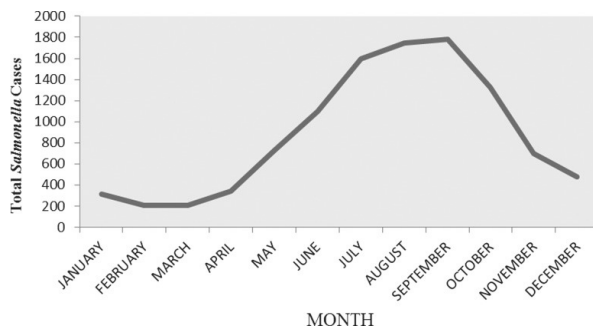
HAZARDOUS EXPOSURES

Perishable foods, and especially raw meats, must be kept at certain temperatures to be safe for consumption. Warm temperatures and humidity create a favorable environment for **pathogen growth** in these foods. **Salmonella** is one of the most common types of bacteria that causes food poisoning. Recent data suggests that **warming trends may be causing an increase** in Salmonella cases.



Bacteria: Salmonella, E. coli
Parasites: Giardia, tapeworms

Viruses: Norovirus, rotavirus



Monthly Salmonella cases in Mississippi (2002-11) show higher incidence rates during the warm summer months.

Salmonella is contracted through undercooked food or contaminated water and causes **gastrointestinal irritation**.

ANIMAL TO HUMAN TRANSMISSION

FECES



Contact with the stool of infected wild or domestic animals

WATER



Aquariums or tanks can contaminate human water

SALIVA



Contact with animal feeders, dry food, or pet toys

MEAT



Undercooked or raw meat, seafood, or unpasteurized dairy

MATERNAL & CHILD HEALTH IMPACTS

Foodborne illness can have severe health consequences for pregnant people their children:



Dehydration



Bacteria in bloodstream



Inflammatory diseases (meningitis or arthritis)



Birth defects



Low birth weight

Fully cooking your food can help prevent Salmonella! The US Food & Drug Administration recommends these temperatures.



FDA TEMPERATURE GUIDE

MEAT & POULTRY: 140-160 °F

EGGS: until yolk and whites are firm

SEAFOOD: at least 145 °F

LEFTOVERS: at least 166 °F

Always remember to wash your hands after handling raw meat and disinfect all surfaces, plates, & utensils!

PROTECTIVE ACTIONS



Thoroughly cook meats based on FDA recommendations



Wear latex or protective gloves when handling raw meat



Wash your hands before and after touching animals



Throw out meats that are past their "Best Before" dates

Outdoor Air Quality



HAZARDOUS EXPOSURES

Changes in climate cause longer, more intense wildfire and allergy seasons. Their byproducts - **smoke**, **carbon dioxide**, and **respiratory irritants** (pollen/airborne allergens) - pollute and reduce the air quality.



Smoke



Hazardous Chemicals



Respiratory Irritants

MATERNAL & CHILD HEALTH IMPACTS

Exposure to poor outdoor air quality can have severe health consequences for pregnant people and their children:



Coughing, wheezing, sinus irritation



Respiratory diseases (bronchitis, asthma, emphysema)



Damage to lungs & heart



Miscarriage or pre-term birth



Intrauterine growth restriction



Congenital abnormalities or defects



Infant mortality



Low birth weight



Changes in brain and lung development

PROTECTIVE ACTIONS



Limit outdoor activities during peak wildfire/allergy season



Wear a surgical-grade face mask



Check the Air Quality Index (AQI) before going outside



Improve indoor air quality with an air purifier or filter

Vector-Borne Infections



HAZARDOUS EXPOSURES

Temperature changes impact seasonal weather patterns causing increased precipitation, longer summer months, and general climate changes. These changes can be favorable for **disease carrying organisms (vectors)** that are typically only active during certain times of the year. **Vectors surviving for longer periods** of time can lead to **increased disease transmission**.



Mosquitos: dengue, malaria, chikungunya, yellow fever, zika



Ticks: Lyme disease



Fleas: plague



Snails: schistosomiasis

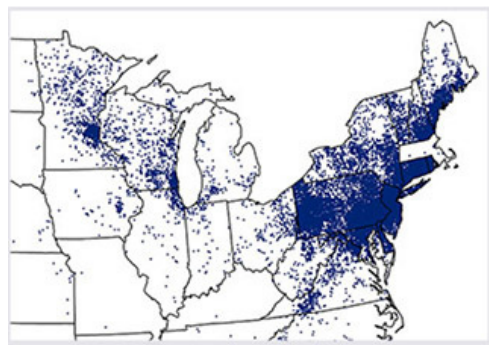
Mosquitos, ticks, fleas, and snails carry infectious pathogens that can be passed to humans through biting or bloodsucking.



Due to Virginia's heavily forested areas, which are breeding grounds for ticks, LYME DISEASE is the most common vector-borne infection.



1996



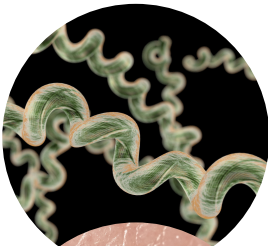
2018

From 1996 to 2018, the prevalence has significantly risen and swept across the Northeastern region of the United States, including Virginia.

LYME DISEASE

HOW IS IT SPREAD?

Lyme disease is spread through small, often **unnoticeable tick bites**. At first, most experience minimal irritation and are unaware the bite, unless the site is on a visible part of their body.



WHAT ARE THE SIGNS?

Lyme disease can cause severe **swelling, heart palpitations, headaches, muscular stiffness, or neurological pain**.

WHAT ARE THE DANGERS?

While the rates of transmission from mother to infant are low, during pregnancy, Lyme disease is dangerous for the mother's individual health and can cause **infections in the placenta**. Longer-lasting symptoms may include **arthritis, fatigue**, or trouble with cognitive functions like **memory**.

Untreated symptoms only get worse! If you think you have Lyme disease, seek medical attention immediately.



KNOW WHAT TO LOOK FOR! Lyme disease rashes have a very distinct, circular shape. It is very common to see multiple rings around the main site, resembling a bullseye pattern. They can look different depending on skin color.

PROTECTIVE ACTIONS



Check yourself and others for ticks after being outside



Avoid grassy, woody areas - stay on clear paths



Wear sleeved-shirts (tucked in), socks, & closed-toed shoes



Use EPA-approved repellents (DEET, picaridin, IR3535, etc.)

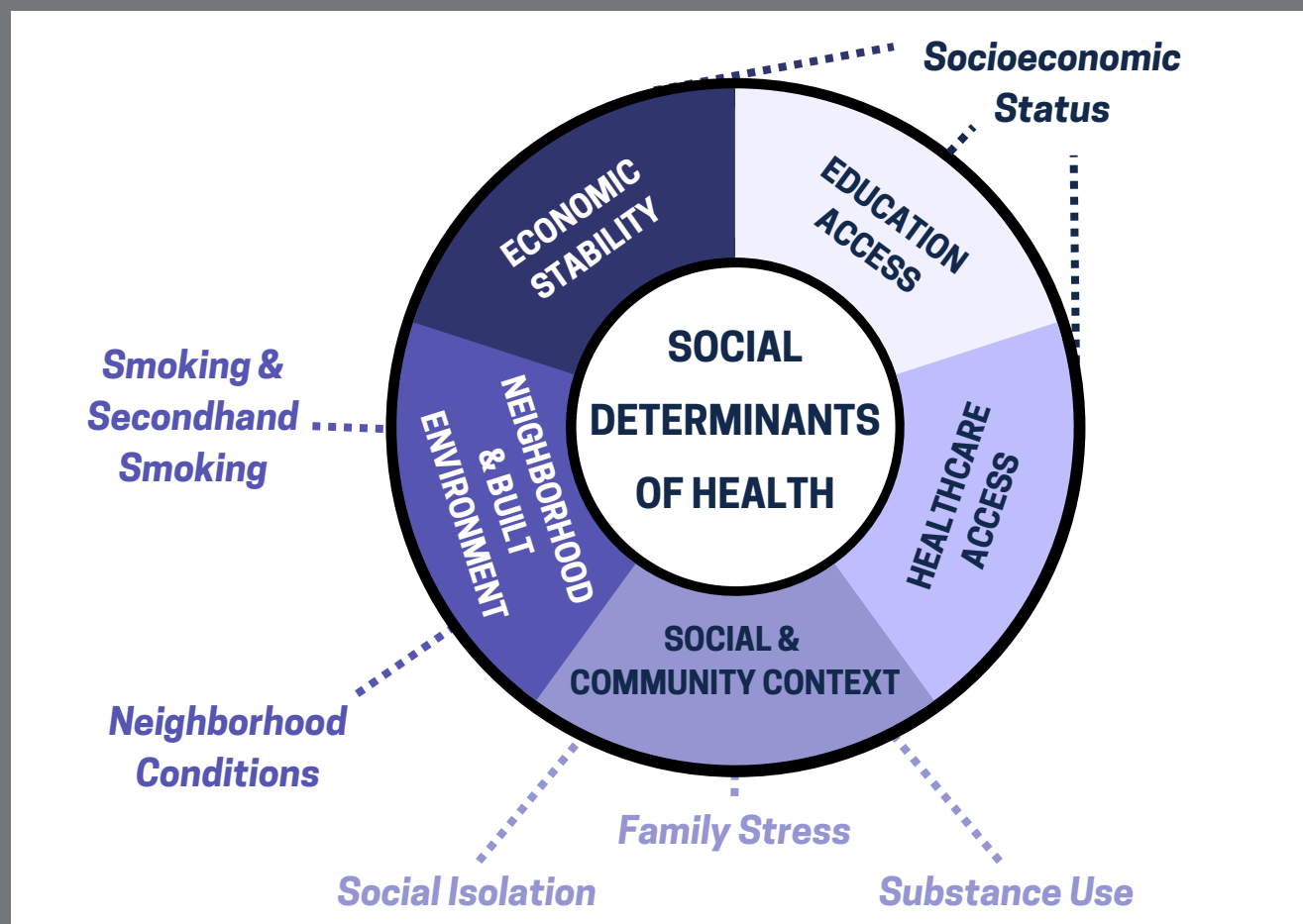
Check if your repellent is Environmental Protection Agency (EPA) registered at <https://www.epa.gov/insect-repellents>



SOCIAL ENVIRONMENT

The **Social Determinants of Health (SDOH)** are economic and social factors which examine health through a non-medical lens. The 5 categories consider how policies, social norms, identities, and systems shape the way people live and impact their quality of life.

The SDOH influences a person's living conditions and environment. These societal exposures may have negative impacts on maternal and child health outcomes. Below are social environment risk factors for MCH and how they relate to the SDOH.



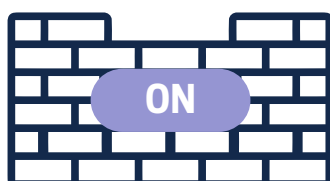
COMMUNITY & RELATIONSHIPS

Community support and mental health play a vital role in maternal and child outcomes. A stressful social environment surrounding a mother and child significantly impact wellness and development.

Stressful social environments are linked to... **DEPRESSION in 93%** **ANXIETY in 75%** **SELF HARM in 75%** of research studies on perinatal mental health

Social support from partners & families can help block the effects of

Mental Health Challenges

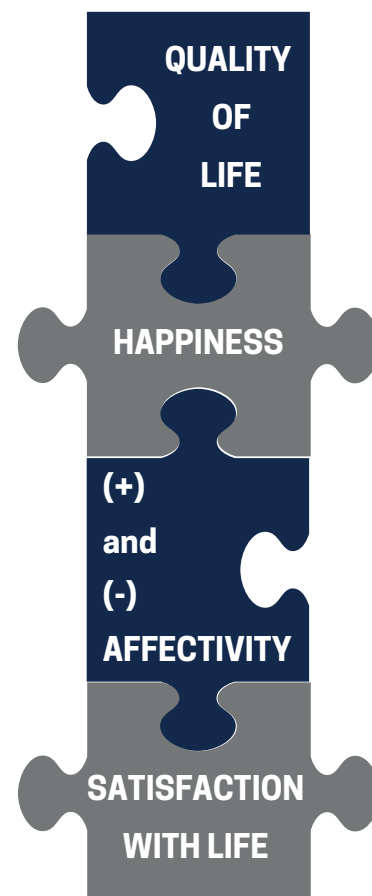


Negative Birth Outcomes

by increasing a mother's subjective well-being (SWB)



MEASURES OF SWB



Mothers with strong social networks show:

- Less poor pregnancy outcomes
- Stronger confidence in parenting abilities
- Deeper bonds with their children

Family Stress

CONTRIBUTING FACTORS

While raising a family is fulfilling, **managing all the responsibilities, obligations, and pressures** can be a challenge. Often stressful family events overlap, build up, and cause tremendous strains. Some common situations that can create a stressful home environment are:

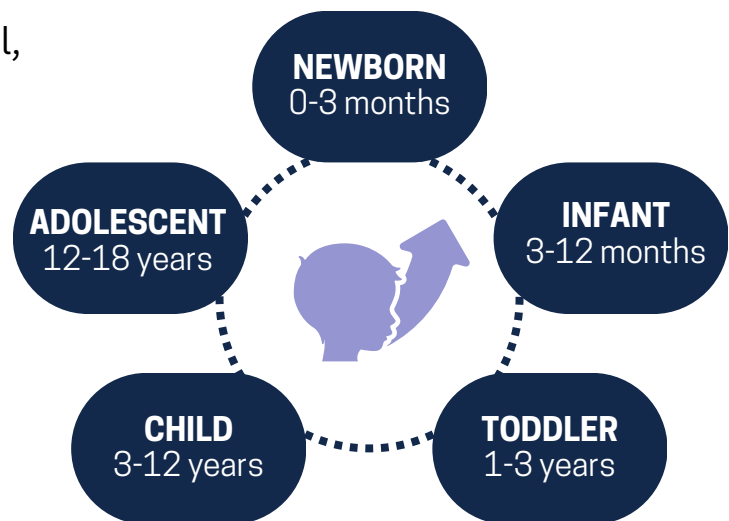


Conflicting Schedules: Overlapping responsibilities (work, school, extracurriculars, sports, etc.), limited time, transportation, or if the children's activities require active parental involvement.



Child Development: As children grow, they experience various physical, emotional, and mental changes (entering school, socialization, puberty, relationships, etc.). Transitioning between stages, from birth through adolescence, requires constant guidance and discipline.

STAGES OF DEVELOPMENT



Financial Planning: Short- and long-term budgeting for the costs of living, family expenses, and other unexpected expenditures.





Illness, Death, & Emergencies: Unexpected family events such as medical emergencies or the death of a family member are not only stressful but can create lasting trauma.



Family Discord: Differences in personality, stage of life, and opinion lead to strains and conflict. Disagreements between any family members (partner to partner, parent to child, sibling to sibling, etc.) affects the entire household



Martial Conflict: Arguments between parents are normal, especially when trying to balance work, life, and home roles. Relationship conflicts create high-tension environments and can make the family dynamic uncomfortable

Conflict is normal, but when does it become too much? Know the warning signs of a potentially abusive situation.

QUICK FACTS

- **1 in 3 WOMEN** and **1 in 4 MEN** are victims of physical domestic violence
- In the US **~20 PEOPLE PER MINUTE** are physically abused by a partner
- **WOMEN AGES 18-24** are the most commonly abused age group



Signs of extreme jealousy



Complete control of finances



Sexual pressure or coercion



Verbal or physical intimidation



Destruction of personal things



Preventing independence

If you believe you are in a potentially unsafe environment, call the 24/7 National Domestic Violence Hotline (1-800-799-7233) or text "START" to 88788.

For additional support, see our domestic violence resources (page 71)

STRESS MANAGEMENT

While many social environment stressors are unavoidable, communicating your needs and limits to your family can help reduce some pressure throughout your pregnancy.



Lean on your family and friends

As stressful as parenting can be, your family and friends are here for you. Spend time doing leisure activities (walks, games, movie nights, etc.) and other enjoyable activities.



Ask for help from your partner/spouse

Communicate your concerns and worries with your partner. The more they know the better they are able to help, create solutions to alleviate stresses, and take some responsibilities off of you.



Explore workplace & community resources

- Research what benefits and resources your job offers
- Explore what your community distribution centers offer (strollers, cribs, baby clothes)
- Ask friends or co-workers for used baby supplies



Reserve consistent "Me" time in your family's schedule

Take breaks for yourself. Block off specific times in the family schedule that are reserved just for you. Meditation, self-care nights, reading, or doing other hobbies are great for relieving stress.

Social Isolation

CONTRIBUTING FACTORS

Pregnancy can feel **lonely** when mothers **disconnect from their regular social network** of friends and colleagues. Pregnancy factors, emotional changes, and other barriers can disrupt normal social activity and cause pregnant women to experience **isolation**:



Physical Limitations: Some pregnant women are encouraged to reduce physical demands like high intensity activities and heavy lifting to avoid potential miscarriage, preterm birth, or injury. Especially during the last trimester when their mobility is restricted, this may discourage women from participating in their usual social activities.



Restricted Travel: While most travel guidelines (for planes, cruises, etc.) allow pregnant women onboard until about 24-28 weeks, many choose to delay unnecessary travel until after giving birth. This may cause them to go months without seeing long-distance friends and family.



Maternity Leave: For working mothers, taking time off from their jobs is a drastic social shift. Going from daily social stimulation at work to a slower pace at home can feel disjuncting.



Emotional Withdrawal: The physical and hormonal challenges of pregnancy can lead to varying moods, body dissatisfaction, discouraged mindsets, etc. all of which may lower a mother's motivation to socialize. While often unintentional, that emotional withdrawal can impact in their social network.



Women experiencing social isolation are at a higher risk for death during or after pregnancy

TIPS TO AVOID ISOLATION

You may not be able to participate in all of your normal pre-pregnancy social events, but it's still important to stay connected. Find alternative ways to maintain contact and lean on friends for support.



Plan regular activities with friends

Commit to regular activities with your friends. Whether that be low-impact outings or a girl's night in, remember that your friends are here for you.



Stay virtually connected

For those long-distance friends, stay connected online. Social media and video calls make it easier to maintain those relationships.



Find your local pregnancy support group

Find other mothers in your community through local pregnancy support groups. These can be great for sharing pregnancy tips, getting advice, and surrounding yourself with others going through similar experiences.

Having support after birth is just as important as during pregnancy. Postpartum Support International has multiple chapters that offer peer support and resources.



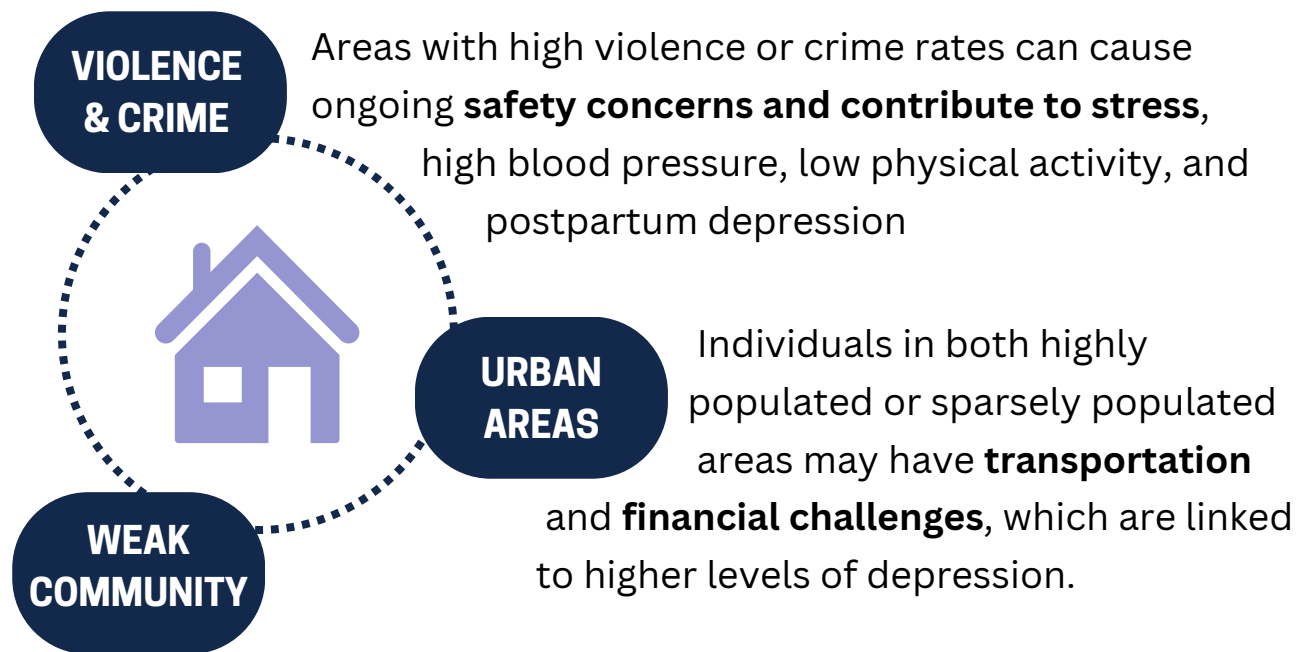
POSTPARTUM SUPPORT
INTERNATIONAL

Postpartum
Support Virginia
Hope and help for new mothers

Neighborhood

CONTRIBUTING FACTORS

It's important to examine a pregnant woman's surrounding **community** and **neighborhood**. Characteristics such as neighborhood **quality**, **safety**, and **density** contribute to emotional and physical distress.



Neighborhoods with a **weak sense of community** can further socially isolate pregnant women. Not having reliable, supportive neighbors to call in cases of emergency can also be dangerous for expecting mothers.

EMERGENCY RESOURCES

Know what emergency resources are available in your area and make sure they are easily accessible in case of an emergency.



Emergency/Disaster Services (by phone or hotline)



Medical Support (OBGYN, your practitioner, local hospital)

SOCIOECONOMIC STATUS

Socioeconomic status (SES) describes how the combination of social and economic factors determine a person's relative place in society.

SES IS DETERMINED BY



they create
inequalities in
POWER
PRIVILEGE
OPPORTUNITY

Socioeconomic status impacts access to health care and can create disparities and barriers to the quality of care.



MATERNAL AND CHILD HEALTH IMPACTS



Inconsistency with and gaps in perinatal care



Lack of pre-natal screening to detect complications



Lack of health care provider or peer support



Lack of lifestyle and nutrition advice



Limited tools to prepare for labor and delivery



Pre-term birth



Intrauterine growth restriction



Infant mortality

Prenatal care provides benefits to babies before and after birth, including positive impacts to neurological development.



POSITIVE DEVELOPMENTAL OUTCOMES

- Higher rates of reading and cognitive abilities
- Decreased behavioral problems
- Decreased risk of attention deficit-hyperactivity disorder (ADHD)

SUPPORT SERVICES



Low-Cost Prenatal Care Services

- Family-planning clinics
- Community health centers
- Medicaid
- Planned Parenthood

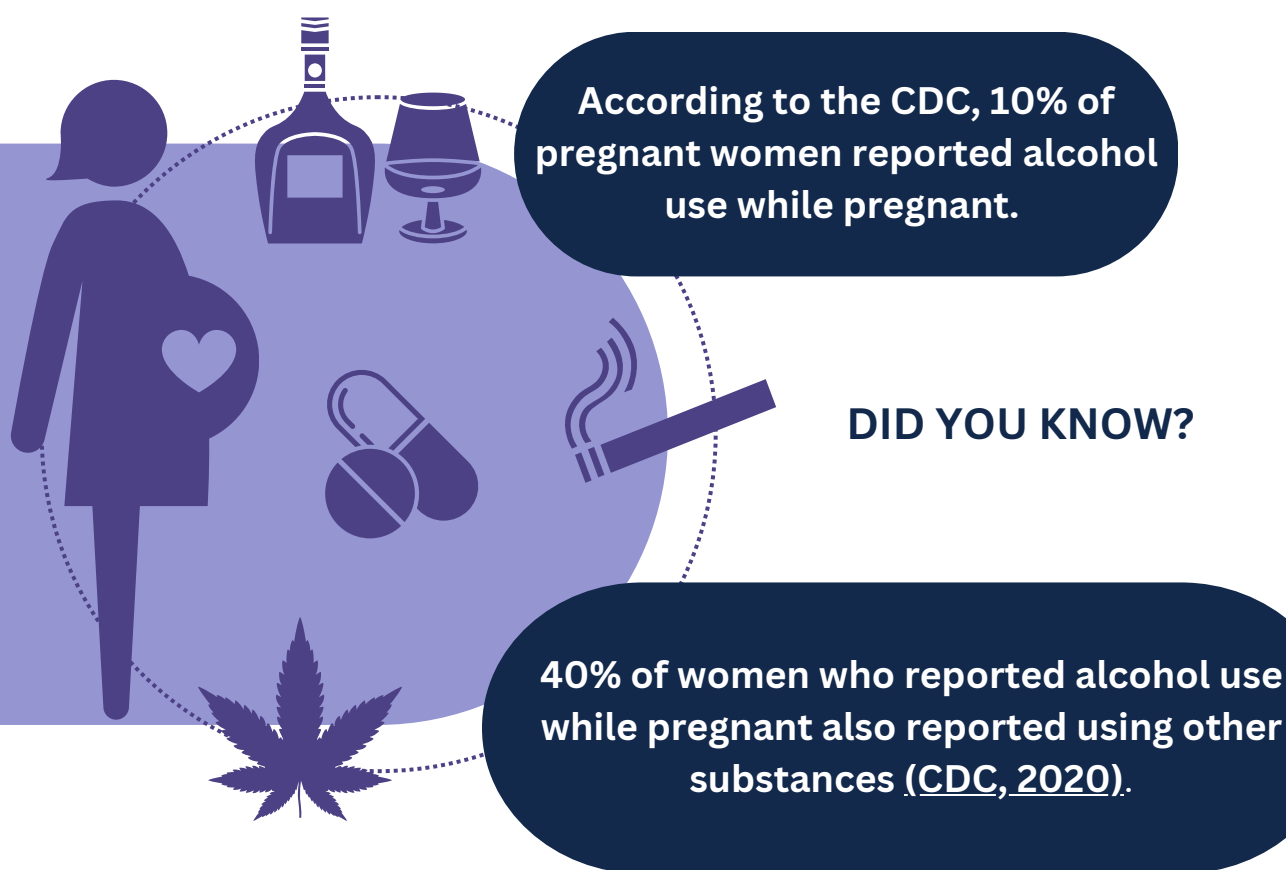


Baby Supplies Distribution Centers/Organizations

- SERVE
- VDH Low Income Safety Seat Program
- National Diaper Bank Network
- Community food banks, shelters, etc.

SUBSTANCE USE

***Substance use** refers to the use of drugs such as alcohol, tobacco, or other drugs that can be consumed, inhaled, injected, or absorbed into the body with possible dependence or other effects.*



This section will cover alcohol, cannabis, smoking, and opioids.

Understanding the risks of substance use can help protect you and those you call family.

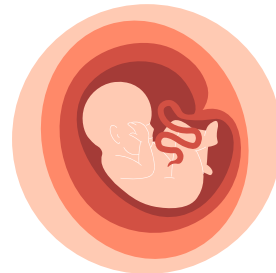
Utilize the resources in this toolkit to find out how you can get support.

Alcohol

Alcohol is an ingredient that is found in beverages, such as beer, wine, and liquor. Drinking any alcoholic drink can lead to **intoxication** and other **serious health effects**.

There is no safe amount of alcohol to consume during pregnancy.

Alcohol passes to the fetus from the mother's blood through the umbilical cord.



MATERNAL AND CHILD HEALTH IMPACTS

Alcohol use while pregnant can have severe health consequences for pregnant people and their children:



Increased risk of miscarriage



Fetal Alcohol Spectrum Disorders (FASDs)

Fetal alcohol spectrum disorders include a range of problems resulting from consumption of alcohol during pregnancy, including:

- abnormal facial features
- small head size
- low body weight
- hyperactive behavior
- learning difficulties and disabilities
- speech and language delays
- intellectual disabilities
- issues with the heart, kidneys and bones

FASDs last a lifetime and has no cure. To prevent FASDs, **do not drink alcohol** during pregnancy.

INTERVENTIONS



Understand the risks of using alcohol while pregnant

VISIT: <https://www.cdc.gov/alcohol/faqs.htm>



Get help if you can't stop drinking

VISIT: <https://drughelpline.org/>



Know that it is never too late to stop drinking if pregnant

VISIT: <https://www.cdc.gov/ncbddd/fasd/alcohol-use.html>



Visit [page 77](#) to learn about more resources that can help

Cannabis

Cannabis, also known as **marijuana**, is one of the **most widely** used drugs during pregnancy. Cannabis contains tetrahydrocannabinol (**THC**), which can cause **mind-altering** effects.

Cannabis can be **smoked** and/or **consumed**.

MATERNAL AND CHILD HEALTH IMPACTS

THC is also known to **cross the placenta** during pregnancy, which means it **can** cause **harm** to a **developing baby**. Additionally, the act of smoking cannabis has other negative health effects. ***See page 57 to learn more about the dangers of smoking.***

Cannabis can pose a danger to health, whether it is smoked or consumed by eating gummies or food with THC. Cannabis is **never safe to use during pregnancy**, and may lead to:



Increases risk of preterm birth



Higher chance of stillbirth



Issues with brain development



Learning, memory, and decision making issues



Alters coordination and reaction time

If you or a loved one struggles with substance use, contact SAMHSA's Helpline at 1-800-622-HELP (4357)





Cannabis can also pass to breastfed babies through breastmilk, which can cause further complications for a baby's developing brain.

CANNABIS AND BREAST MILK

Chemicals from cannabis products **can pass** to the **infant** through **breastmilk**.



It is **not advised** to use cannabis products while breastfeeding due to the potential **health impacts** on infants.

INTERVENTIONS



Understand the risks of using marijuana while pregnant

VISIT: <https://www.samhsa.gov/marijuana/marijuana-pregnancy>



Know the risks of using marijuana if breastfeeding

VISIT: <https://www.cdc.gov/breastfeeding/breastfeeding-special-circumstances/vaccinations-medications-drugs/marijuana.html>



Know that cannabis smoke can be as harmful as tobacco smoke

VISIT:

<https://www.lung.org/quit-smoking/smoking-facts/health-effects/marijuana-and-lung-health#:~:text=Marijuana%20Smoke&text=Smoke%20from%20marijuana%20combustion%20has,and%20carcinogens%20as%20tobacco%20smoke.&text=Beyond%20just%20what's%20in%20the,typically%20smoked%20differently%20than%20tobacco>



Visit [page 77](#) to learn about resources that can help

Smoking

Nicotine is an addictive substance that is found in a variety of **e-cigarettes, hookahs, pipes** and tobacco products, such as **cigarettes** and **cigars**.

MATERNAL AND CHILD HEALTH IMPACTS

Smoking tobacco causes a variety of negative health outcomes for pregnant people and their children:



More likely to develop heart disease



Higher risk of stroke



Higher risk of lung cancer



Higher risk of abnormal bleeding



Low birth weight



Premature birth



Damage to lungs and brain



Higher chance of developing birth defects



Increase risk of Sudden Infant Death Syndrome (SIDS)

Sudden Infant Death Syndrome (SIDS) is used to describe **unexplained deaths among infants** less than one year old. Lifestyle habits, such as quitting smoking can help reduce the odds of SIDS occurring.

SECONDHAND SMOKE

Even people who do not smoke can suffer from the health consequences caused by smoke. There is no amount of secondhand smoke that is safe to be exposed to.



Secondhand smoke is when nonsmokers breathe in smoke from people smoking tobacco or marijuana products nearby.

MATERNAL AND CHILD HEALTH IMPACTS

Secondhand smoke can have severe health consequences for pregnant people and their children during and after birth:



Lung cancer



More likely to have a newborn with low birth weight



Changes in the way the brain regulates breathing



Severe asthma that can be life-threatening



Neonatal abstinence syndrome (NAS) - *see page 62*



Increase risk of Sudden Infant Death Syndrome (SIDS)

INTERVENTIONS

Lifestyle changes to **quit smoking** can:

- Reduce the risk of developing smoking-related illnesses
- Improve oxygen flow and growth of the baby
- Decrease the risk of preterm birth



DID YOU KNOW?

Prenatal cigarette exposure is the **leading cause of infant morbidity and mortality** in the United States.



Understand the risks of smoking while pregnant

VISIT:

[https://www.cdc.gov/reproductivehealth/maternalinfanthealth/substance-abuse/substance-abuse-during-pregnancy.htm#:~:text=Top%20of%20Page-,Tobacco,infant%20death%20syndrome%20\(SIDS\).](https://www.cdc.gov/reproductivehealth/maternalinfanthealth/substance-abuse/substance-abuse-during-pregnancy.htm#:~:text=Top%20of%20Page-,Tobacco,infant%20death%20syndrome%20(SIDS).)



Understand the risks of secondhand smoke

VISIT: <https://www.cdc.gov/tobacco/secondhand-smoke/health.html#:~:text=Secondhand%20smoke%20cause%20heart%20disease%20and%20stroke&text=Among%20adults%20who%20do%20not,each%20year%20in%20the%20U.S.&text=Adults%20who%20do%20not%20smoke%20and%20are%20exposed%20to%20secondhand,disease%20by%2025%E2%80%9330%25>.



Eliminate secondhand smoke from the home

VISIT: <https://www.cdc.gov/vitalsigns/tobacco/index.html>



Talk to your doctor or find a resource to help quit

VISIT: <https://quitnowvirginia.org/>



Know that it is never too late to stop smoking if pregnant

VISIT:

<https://www.cdc.gov/tobacco/campaign/tips/diseases/pregnancy.html>



Visit [page 77](#) to learn about resources that can help

Thinking about quitting?
[Quit Now Virginia](#) is a FREE service for
Virginians 13 years & older looking to quit.



Opioids

Opioids are a class of drugs including:

- **prescription opioids** (oxycodone, hydrocodone, morphine)
- **heroin**
- **fentanyl**

Prescription opioids may be given to patients by doctors to treat moderate to severe pain.

Opioids have a **high potential for abuse** and have dangerous side effects, such as overdose.

An overdose is when a drug overwhelms the body, often making it more difficult to breathe, and can result in death.

MATERNAL AND CHILD HEALTH IMPACTS

The use of opioids during a pregnancy can have severe health consequences for pregnant people and their children:



! Opioid use disorder

! Higher chances of experiencing overdose or death



! Pre-term birth

! Stillbirth

! Neonatal abstinence syndrome (NAS)

NEONATAL ABSTINENCE SYNDROME

Neonatal abstinence syndrome (NAS) occurs when babies are exposed to **substances in the womb**. Upon birth, these babies show symptoms of **withdrawal** that can last between **4 and 6 months**.

Symptoms of NAS includes:



Seizures



Birth defects



High-pitched crying



Overactive reflexes



Sweating, vomiting, diarrhea



Sleep issues

QUICK FACTS

- 75% of drug overdoses that occurred in 2020 were caused by opioids.
- Among pregnant women, opioid use disorder **QUADRUPLED** between 1999 and 2014.

If you or a loved one struggles with substance use, contact SAMHSA's Helpline:



1-800-622-HELP (4357)

OPIOID OVERDOSE



SIGNS OF AN OVERDOSE

- Color of the **skin is lighter** than usual
- Skin is very **damp or moist**
- **Fingernails** or **lips** appear **blue** or **purple**
- **Vomiting** or making **gurgling noises**
- **No response** to **sound** or **noise**
- **Breathing** is **slow** or has **stopped**
- **Pin point** sized **pupils**

If these signs are present, IMMEDIATELY CALL 9-1-1.

- If the person is not breathing, **begin CPR**
- **Treat** the person with **Narcan/Naloxone** if it is available

1



IF YOU SUSPECT SOMEONE HAS OVERDOSED,

2



IMMEDIATELY CALL 9-1-1,

3



GIVE THEM NARCAN NASAL SPRAY & PERFORM CPR IF NEEDED

INTERVENTIONS



Understand the risks of opioid abuse

- Be aware that opioids have high potential of misuse and can lead to addiction.
- Use opioids as prescribed.
- Do not share your prescription with others. Keep opioids in a safe place away from children.



Talk to your doctor

- If you are prescribed opioids and find out you are pregnant, be sure to discuss this with your doctor.
- Creating a plan to prevent opioid use disorder before getting pregnant is recommended by the CDC to promote a healthy pregnancy.



Learn about Narcan

- Narcan, also known as Naloxone can help reverse opioid overdose.
- If possible, get trained in how to administer Narcan.



Visit page 79 to learn about resources that can help

- Get trained to administer Narcan
- Find out how to get free Narcan
- Get support

DID YOU KNOW?

Virginia has a Safe Harbour Law that protects those who get help for anyone who overdoses.

RESOURCES

EMERGENCIES

If you or anyone with you is in immediate danger, call 911.

If you or anyone with you is experiencing a crisis, call or text the
988 Suicide & Crisis Lifeline

24/7 free, confidential support & resources for people in distress.

CALL OR TEXT: 988

WEBSITE: <https://988lifeline.org/>

NAVIGATING THIS SECTION

Please use this legend to find resources near you

Name* resource services Prince William County

Name^{NV} resource services the Northern Virginia Region

Name^{VA} resource services Virginia - see website for more details

Name^{US} resource services the nation

Resources are organized by the type of environmental hazard. If you are looking for services specific to information you read in the EH & MCH Toolkit, they will be under the same topic name.

Resources compiled July 2023.

Chemical Exposures

GENERAL

- **Local Health Department** ^{VA}

Contact your local health department for concerns related to environmental health.

WEBSITE: <https://www.vdh.virginia.gov/environmental-health/>

- **Region 3 Pediatric Environmental Health Specialty Unit** ^{VA}

Answering questions about potential child exposure to environmental hazards. Services Virginia, District of Columbia, Maryland, West Virginia, Delaware and Pennsylvania.

CALL: (610) 519-3478

WEBSITE: <https://www.epa.gov/children/region-3-childrens-environmental-health-mid-atlantic-states>

- **Virginia Department of Health Tox Line** ^{VA}

The toxicology department can help you identify potential health impacts of chemical or biological agents.

CALL: (804) 864-8182

WEBSITE: <https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/>

AIR POLLUTION

- **Air Quality Index** ^{US}

Get air quality data where you live.

WEBSITE: <https://www.airnow.gov/>

HEAVY METALS

- **En Español - Información sobre el plomo CDC**

In Spanish - Information about lead CDC

SITIO WEB / WEBSITE:

<https://www.cdc.gov/nceh/lead/resources/spanish-communication-resources.html>

- **Five things you can do to lower your child's lead level**

Information sheet from the CDC

WEBSITE: <https://www.cdc.gov/nceh/lead/docs/5things-508.pdf>

- **Lead Safe Virginia VDH^{VA}**

Providing education about preventing lead poisoning in Virginia.

WEBSITE: <https://www.vdh.virginia.gov/leadsafe/>

- **Virginia Household Water Quality Program VA^{VA}**

Provides water clinics to test for a variety of substances (including lead) in private wells throughout Virginia.

WEBSITE: <https://www.wellwater.bse.vt.edu/index.php>

PFAS

- **Approved Laboratories for PFAS Testing EPA^{US}**

Please note private water testing for PFAS can be expensive. For all other water testing needs in Virginia, we recommend using the Virginia Household Water Quality Program (see lead section).

WEBSITE: <https://www.epa.gov/system/files/documents/2022-01/ucmr5-approved-lab-list.pdf>

- **ODW PFAS Tracking Tool** ^{VA}

Find out what PFAS levels look like near you.

WEBSITE:

<https://experience.arcgis.com/experience/5dcd4d69ab184442814cbc0a111d7c96/page/Landing-Page/>

- **Virginia Office of Drinking Water (ODW)** ^{VA}

FAQs, resources, and information about PFAS in Virginia drinking water.

WEBSITE: <https://www.vdh.virginia.gov/drinking-water/pfas/>

PESTICIDES

- **Pesticides and their Impact on Children EPA**

EPA factsheet about pesticides.

WEBSITE: <https://www.epa.gov/sites/default/files/2015-12/documents/pest-impact-hsstaff.pdf>

- **Poison Control** ^{US}

If you suspect poisoning, contact right away. Call 911 in emergencies.

CALL: 1-800-222-1222 **OR** get help online

WEBSITE: <https://www.poison.org/>

ENDOCRINE DISRUPTORS

- **Endocrine Disruptors NIH**

General information regarding endocrine disrupting chemicals from the National Institute of Environmental Health Sciences.

WEBSITE: <https://www.niehs.nih.gov/>

Climate Change

GENERAL

- **Sierra Club^{US}**

Environmental organization protecting wildlife, air, water, energy, and reducing the impacts of climate change.

WEBSITE: <https://www.sierraclub.org/>

EMISSIONS

Refer to **Air Pollution** resources on Page 66.

FLOOD/DISASTER PREPAREDNESS

- **Disaster Distress Helpline^{US}**

24/7 national hotline for disaster crisis counseling, coping strategies, and referrals. Disasters include tornados, hurricanes, floods, wildfires, earthquakes, mass violence, disease outbreaks, etc.

CALL OR TEXT: 1-800-985-5990

- **Virginia Department of Environmental Quality***

Disaster preparedness plans and resources for debris, hurricanes, animal emergencies, and droughts.

WEBSITE: <https://www.deq.virginia.gov/our-programs/disaster-preparedness>

FOODBORNE INFECTIONS

- **Food Safety FDA**

Food safety and handling guide by the Food and Drug Administration. Recommendations for cooking temperatures.

WEBSITE: <https://www.fda.gov/food/people-risk-foodborne-illness/lifelong-food-safety-food-safety-moms-be>

- **Meat and Poultry Hotline USDA^{US}**

Report a problem with store-bought meat, poultry, or eggs to the United States Department of Agriculture.

CALL: 1-888-674-6854

WEBSITE: <https://foodcomplaint.fsis.usda.gov/eCCF/>

- **My Meal Detective*^{VA}**

Foodborne illness complaint form that sends report the Virginia Department of Health for evaluation. Local health district will contact for follow-up if necessary.

WEBSITE: <https://redcap.vdh.virginia.gov/redcap/surveys/?s=PJACE4A4EY>

OUTDOOR AIR QUALITY

Refer to [Air Pollution](#) resources on Page 64.

VECTOR-BORNE INFECTIONS

- **Insect Repellent Regulations EPA**

Environmental Protection Agency insect repellent guide. Identify which repellants are EPA registered, methods for application, and tips for preventing bites.

WEBSITE: <https://www.epa.gov/insect-repellents>

- **Lyme Disease Fact Sheet CDC**

Quick fact sheet for ticks and Lyme disease during pregnancy provided by the Centers for Disease Control.

WEBSITE: <https://www.cdc.gov/lyme/resources/toolkit/factsheets/Pregnancy-and-Lyme-Disease-508.pdf>

Community & Relationships

FAMILY STRESS

- **ACTS Domestic Violence Support***

Free anger management, conflict resolution, and healthy relationship development for children and youth affected by domestic violence.

WEBSITE: <https://www.actspwc.org/services/domestic-violence#cp>

- **National Domestic Violence Hotline^{US}**

24/7 hotline for relationship conflict and domestic violence. Advocates provide confidential support services either by phone call or chat.

CALL: 1-800-799-7233

TEXT "START" to: 88788

- **Virginia Sexual and Domestic Violence Action Alliance^{VA}**

Non-profit advocacy organization providing a network of resources, support, and communities for survivors of sexual and intimate partner violence.

WEBSITE: <https://vsdvalliance.org/>

- **Youth Initiatives* NV**

Intervention, Prevention, & Education (IPE), family reunification, and Violence Prevention and Intervention Program (VPIP).

WEBSITE: <https://www.nvfs.org/our-services/early-childhood-development/healthy-families/>

SOCIAL ISOLATION

- **Doula Registry VA**

Search for doulas licensed with the Virginia Certification Board.

WEBSITE: <https://www.vacertboard.org/doula-registry>

- **MIS Share Fairfax VA**

Support groups for women experiencing the loss of child through miscarriage, stillbirth, or infant death.

WEBSITE: <http://misshare.org/>

- **Pregnancy & Postpartum Psychosis Community Mosaic US**

Online community blog for mothers to submit personal essays, creative writing, poetry, artwork, and videos sharing their pregnancy or postpartum psychosis.

WEBSITE: <https://pppawarenessday.org/community-mosaic-submission/>

- **Pregnancy or Postpartum Psychosis (PPP) Facebook Groups US**

- PPP Activism & Advocacy:

<https://www.facebook.com/groups/869281459947181/>

- PPP Forum:

<https://www.facebook.com/groups/357619024101/>

- PPP Survivors:

<https://www.facebook.com/groups/413383649158314/>

- **Postpartum Support Virginia** ^{VA US}

Peer support, resources, and referrals for postpartum mothers. Multiple chapters by region and across the U.S. under Postpartum Support International.

WEBSITE: <https://postpartumva.org/>

NEIGHBORHOOD

- **Prince William County Coordinated Entry System***

Homeless, facing eviction, living in a car/street/unsuitable housing. Rapid Re-housing program available.

WEBSITE: <https://www.pwcva.gov/departments/social-services/homeless-and-winter-shelters>

- **Prince William County Transitional Housing***

Families with children. Fee 30% of household income.

WEBSITE: <https://www.pwcva.gov/departments/housing-community-development/transitional-housing>

- **SERVE***

Shelter, housing, and utilities. Prescriptions and dental help.

WEBSITE: <https://www.nvfs.org/our-services/>

Socioeconomic Status

INFANT & BABY SUPPLIES

- **Fairfax Diaper Bank Network^{NV}**

Works with distribution organizations to provide families in Northern Virginia free diapers. See website for list of partners.

WEBSITE: <https://www.fairfaxdiapers.com/partners>

- **Low Income Safety Seat Program VDH^{VA}**

Free car safety and booster seats for income-eligible families provided by the Virginia Department of Health.

WEBSITE: <https://www.vdh.virginia.gov/child-passenger-safety/low-income-safety-seat-program/#:~:text=Low%20Income%20Safety%20Seat%20Program%20Free%20child%20safety,of%20children%20who%20reside%20in%20Virginia%20may%20apply.>

FOOD & CLOTHING

- **ACTS Food Assistance***

Monthly food pick-up on walk-in basis. New client enrollment Wednesdays 10am-1pm.

WEBSITE: <https://www.actspwc.org/services/food-assistance>

- **ACTS Thrift Store***

Vouchers to Second ACTS thrift store if loss of possessions dues to floods, fires, bed bugs.

WEBSITE: <https://www.actspwc.org/thrift-store>

- **Capital Area Food Bank*^{NV}**

Direct food distribution to those in need.

WEBSITE: <https://www.capitalareafoodbank.org/find-food-assistance/>

- **Creating Foundations for Hope***

Food distributed at East End Mobile Home Park.

WEBSITE: <https://cfhva.org>

- **Haymarket Regional Food Pantry***

Weekly food pick-up (3-4 meals) for registered clients.

WEBSITE: <https://haymarketfoodpantry.org/>

- **House of Mercy Thrift Store***

Clothes once a month for each registered family member. Once a year special occasion for teens.

WEBSITE: <https://houseofmercyva.org/programs/food-pantry-client-services/>

- **Northern Virginia Family Service*^{NV}**

Emergency food assistance, nutrition information, & budgeting.

WEBSITE: <https://www.nvfs.org/our-services/health-well-being/food-assistance/>

- **SERVE Food Assistance*^{NV}**

Tuesday and Thursday intakes, appointment and ID needed.

WEBSITE: <https://www.nvfs.org/our-services/homelessness-housing/serve-campus/>

- **St. Francis Bill Mehr Drop-In Shelter***

Food, showers, clothing, tents, blankets.

WEBSITE: <https://stfrncis.org/meals-for-the-homeless/>

- **St. Vincent de Paul***

Food, finances, utilities, prescriptions, gas cards, coats.

WEBSITE: <https://www.olasvdp.org/>

- **Women, Infants, and Children (WIC)*^{NV}**

Provides supplemental food and health care referrals to eligible women in Virginia.

WEBSITE: <https://www.vdh.virginia.gov/prince-william/wic-2/>

Substance Use

GENERAL

- **Community Healthcare Coalition of Greater Prince William ***

Aims to prevent substance abuse and promote mental health and healthy behaviors. Provides free resources and more to the residents of Prince William County, Manassas, and Manassas Park.

WEBSITE: <https://preventioncoalitionofgpw.org/>

- **Controlled Substance Public Disposal Locations ^{US}**

Find out where you can safely dispose of unused or expired medicines to prevent improper use or disposal. We recommend expanding the search radius to find a site near you.

WEBSITE:

<https://apps.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e1s1>

- **Community Services Board***

Coordinated care for developmental delays, disabilities, mental illness, substance use.

WEBSITE: <https://www.pwcva.gov/department/community-services>

- **Crisis Intervention Services***

Scheduled and walk-ins. Mental health, substance abuse and/or intellectual disabilities.

WEBSITE: <https://www.pwcva.gov/department/community-services/crisis-intervention>

- **Family Insight**^{NV VA}

Behavioral therapy, in-home and outpatient services, substance use disorder services.

WEBSITE: <https://familyinsight.net/>

- **MommyMeds for Moms**^{US}

App for pregnant and breastfeeding mothers to ensure safe breastfeeding while using prescription and over the counter medicines. Download on the app store.

WEBSITE: <https://infantrisk.com/infantrisk-center-resources>

- **New Horizons Clinic Based Services***

Providing services for youth and their families regarding mental health, substance use, and more:

WEBSITE: <https://www.pwcva.gov/department/community-services/nh-clinic-based>

- **Partnership to End Addiction**^{US}

Online support meetings for parents & caregivers

WEBSITE: <https://drugfree.org/>

- **SAMHSA National Helpline**^{US}

Providing referrals and support for mental and/or substance use disorders.

CALL: 1-800-622-HELP (4357) **OR TEXT** your zip-code to 435748 (HELP4U)

WEBSITE: <https://www.samhsa.gov/find-help/national-helpline>

- **Shatterproof** ^{US}

Providing education, resources, and commitment to ending the stigma about addiction:

WEBSITE: <https://www.shatterproof.org/learn/addiction-resources/family-and-friends>

- **Substance Abuse and Addiction Hotline** ^{US}

Get free information about substance use or misuse 24/7.

CALL: 1-844-289-0879

WEBSITE: <https://drughelpline.org/>

ALCOHOL

- **Alcoholics Anonymous** ^{US}

Find a local AA chapter near you:

WEBSITE: <https://www.aa.org/find-aa>

CANNABIS

Refer to the general substance use resources on [page 77](#).

SMOKING

- **Quit Now Virginia** ^{VA}

FREE service for all Virginians 13 and older looking to quit tobacco. Available for all tobacco/nicotine usage including cigarettes, cigars, e-cigarettes, vaping, and smokeless tobacco (snuff, snus, dip, etc.)

WEBSITE: <https://quitnowvirginia.org/>

- **Quit Smoking CDC** ^{US}

Tips from former smokers:

CALL 1-800-QUIT-NOW (1-800-784-8669) **OR TEXT** QUITNOW to 333888

LLAMAR 1-855-DÉJELO-YA (1-855-335-3569) or **TEXTO** DÉJELO YA al 333888

WEBSITE / SITIO WEB:

<https://www.cdc.gov/tobacco/campaign/tips/quit-smoking/index.html>

OPIOIDS

- **Chris Atwood Foundation*** ^{NV}

Harm reduction program servicing the Northern Virginia region. Offering NARCAN training, and free services including sterile syringes, fentanyl testing strips, and more:

CALL: (703) 662-6076

WEBSITE: <https://www.thecaf.org/>

- **NEXT Distro** ^{VA}

Online and mail-based harm reduction service providing Naloxone. Virginia residents may receive a one-time Naloxone package via mail.

WEBSITE: <https://nextdistro.org/virginia>

- **Opioid Response & Naloxone Education in Prince William County***

Attend opioid overdose response and Naloxone education in Prince William County.

WEBSITE: <https://www.pwcva.gov/department/community-services/naloxone-education>

- **REVIVE!** ^{VA}

Learn how to save a life from an opioid overdose, get NARCAN, and more:

WEBSITE: <https://dbhds.virginia.gov/behavioral-health/substance-abuse-services/revive/>

GLOSSARY

- **Allergens:** particles that cause allergic reactions
- **Acute:** presentation of immediate symptoms, short-term
- **Airborne:** existing in the air
- **Anxiety:** bodily response to stressful environments; feelings of uneasiness, distress, dread
- **Arthritis:** inflammation of the joints
- **Asthma:** respiratory disease that causes lungs and airways to close up; difficulty breathing, coughing, wheezing
- **Attention Deficit-Hyperactivity Disorder:** brain disorder that causes difficulty focusing and sitting still
- **Bacteria:** small, single-cell organisms
- **Cardiac Arrest:** sudden cessation of the heart beating, interruption of blood circulation to body systems that can cause loss of physiological functions
- **Cardiovascular:** relating to the heart and blood vessels
- **Chronic:** illness that exists for a long period of time
- **Cognitive Stimulation:** exercises that target improving brain function
- **Combustion Sources:** products that burn substances, for example a gas stove or wood-burning fireplace
- **Dehydration:** condition where the body has a deficiency in water content; can impact normal functions
- **Depression:** mood disorder involving feelings of sadness, loss of interest, or prolonged emotional distress
- **Disparity:** (health) inequalities or gaps in access to adequate healthcare

- **Endocrine disruptors:** natural or man-made chemicals that affect the body's hormones or endocrine system
- **Endocrine system:** group of organs (glands) responsible for secreting hormones and regulating functions throughout the body
- **Fetus:** an unborn baby at (8-10+ weeks) gestation; undergoes major growth and development to prepare for birth
- **Gastrointestinal:** relating to the stomach, large intestines, and small intestines
- **Hazardous:** risky or dangerous to human health
- **Heart Palpitations:** irregular, rapid heart activity
- **Immunocompromised:** having a weakened immune system that increases risk for contracting diseases or infections
- **Intersectionality:** how inequalities across gender, race, social class, ethnicity, and other identifying characteristics interact and impact a person's relationships, opportunities, and advantages in society
- **Intestinal:** relating to the intestines
- **Intrauterine:** situated within the uterus
- **Irritant:** particles or a substance that causes inflammation to the body
- **Low Birth Weight:** a weight at birth of less than 5.5 pounds. Infants with low birth weight are 20X more likely to die compared to infants with a higher weight
- **Malaria:** a parasitic disease carried by mosquitos; causes fevers, chills, and excessive sweating
- **Maternal Mortality Rate:** death of a woman during pregnancy or within 42 days after pregnancy, regardless of cause of death
- **Meningitis:** an infection that causes swelling and inflammation of the protective layers (meninges) surrounding the brain and spinal cord

- **Miscarriage:** the sudden loss of fetus before week 20 of gestation
- **Mortality:** death, relating to death
- **Morbidity:** the state of being diseased, abnormality to healthy status
- **Nervous system:** includes the brain, spinal cord, and nerves responsible for sending signals throughout the body
- **Neurological:** relating to the nervous system
- **Obstructive Pulmonary Disease:** a chronic condition that blocks airflow to the lungs making it difficult to breathe and oxygenate the body
- **Ozone (O₃):** a very reactive gas (can be either naturally occurring in environment or produced by humans); "good" ozone creates a protective layer in the atmosphere and shields the earth from ultraviolet sunrays; "bad" ozone occurring near ground level can be toxic to humans and contribute to air pollution
- **Pathogen:** a microorganism (bacteria or virus) that can cause infection or disease
- **Perinatal:** general period of time that includes before, during, and after pregnancy
- **Placenta:** an organ within the uterus; develops during pregnancy; delivers oxygen and other nutrients to fetus
- **Postnatal:** period of time after childbirth
- **Poverty:** lacking materials and resources (food, shelter, clothes, money, etc.) and other basic needs
- **Pre-eclampsia:** pregnancy complication that can be characterized by high blood pressure, high levels of protein in urine, or organ damage; early child delivery is often recommended
- **Pre-term Birth:** childbirth occurring before 37 weeks of pregnancy (full term is considered 40 weeks)

- **Public Health:** the science of promoting the health of people and their communities
- **Replication:** the biological duplication or reproduction of cells, pathogens, organisms, etc.
- **Respiratory:** relating to the organ system required for breathing; includes airways, lungs, and blood vessels
- **Schistosomiasis:** a disease carried by parasitic worms living in snails; causes inflammation to the intestines or urinary tract
- **Spores:** a single cell that can reproduce independently
- **Stillbirth:** the birth of a baby who has died in the uterus
- **Toxic:** a substance that is poisonous and harmful to the human body
- **Transmission:** the passing of pathogens from organism to organism
- **Vector:** an organism that spreads a pathogen (typically by biting or bloodsucking)
- **Waterborne:** existing in water sources

REFERENCES

A variety of resources provided by government agencies, scientific journals, and accredited organizations were used to inform this EH & MCH Toolkit. If you are interested in exploring these materials, view the full list of references below.

GENERAL

- [Socially vulnerable populations overview - ATSDR](#)
- [Vulnerable populations - CDC](#)
- [Measures of social vulnerability - ATSDR](#)
- [Maternal and infant mortality rates - CDC](#)
- [Children as vulnerable populations - CDC](#)
- [Physical environment and hazards - CDC](#)
- [Social determinants of health - HHS/OASH](#)
- [Social Ecological Model for public health - Clark County Public Health Center](#)
- [Impacts of environmental and social exposures co-occurrence - Current Environmental Health Reports Journal](#)

SHUTTERSTOCK IMAGES

Interactive image

- <https://www.shutterstock.com/image-vector/infographic-nature-care-785892688>

Air Pollution

- <https://www.shutterstock.com/image-vector/air-pollution-atmospheric-aerosol-particles-particulate-1818077966>

Climate Change

- [Smoke Stacks Emmitting Carbon Pollution Into Stock Photo 1654659178 | Shutterstock](#)
- [Electronic Mobile Sign That Says Excessive Stock Photo 1478799623 | Shutterstock](#)

- [Destruction Pakistan By Flood Stock Photo 2199759877 | Shutterstock](#)
- [Warning Sign Beware Ticks Infested Area Stock Photo 1100981120 | Shutterstock](#)
- [Lyme Disease Deer Tick Crawling On Stock Illustration 2185752425 | Shutterstock](#)
- [Lyme Disease Borreliosis Borrelia Typical Lyme Stock Photo 475469638 | Shutterstock](#)
- [Beefmaster Cattle Standing Green Field Stock Photo 1125122366 | Shutterstock](#)
- [Border Collie Puppy Blue Eyes Front Stock Photo 1840496137 | Shutterstock](#)
- [Variety Raw Black Angus Prime Meat Stock Photo 1031664748 | Shutterstock](#)
- [Saltwater Coral Reef Aquarium Home Most Stock Photo 1135600916 | Shutterstock](#)
- [Lyme Disease Borreliosis Disease Borrelia 3d Stock Illustration 451652944 | Shutterstock](#)
- [Sucking Tick Macro Photo On Human Stock Photo 1404869837 | Shutterstock](#)
- [Young Pregnant Woman Negative Thoughts Worried Stock Vector \(Royalty Free\) 2154145433 | Shutterstock](#)
- [Repellent Bug Spray Color Icon Vector Stock Vector \(Royalty Free\) 2163136223 | Shutterstock](#)

CHEMICAL EXPOSURES

Air Pollution

- [Health effects of chemical exposures](#)
- [Indoor air quality - EPA](#)
- [Sources of air pollutants – NIH](#)
- [Sources of greenhouse gas emissions - EPA](#)
- [Particle pollution - CDC](#)
- [Impact of maternal air pollution exposure on children's lung health](#)
- [Childhood asthma and exposure to traffic and nitrogen dioxide](#)

- [Air pollution and your health - NIEHS](#)
- [Prenatal exposure of particulate matter](#)
- [Air quality index - AirNow](#)
- [Patient exposure and air quality index - EPA](#)
- [Actions you can take to reduce air pollution - EPA](#)
- [Emergencies and indoor air quality - EPA](#)
- [Air quality index for ozone and particle pollution - AirNow](#)

Heavy Metals (Lead & Mercury)

- [Lead and other heavy metals – reproductive health – CDC & NIOSH](#)
- [Lead and breastfeeding - CDC](#)
- [Lead poisoning - WHO](#)
- [Childhood lead poisoning prevention – populations at higher risk – CDC](#)
- [Childhood lead poisoning prevention – pregnant women – CDC](#)
- [Health effects of lead exposure - CDC](#)
- [Lead poisoning prevention - CDC](#)
- [Who is at risk of lead exposure - ATSDR](#)
- [5 things you can do to help lower your child's lead level](#)
- [Lead safe – information for parents](#)
- [Toxicity, mechanism, and health effects of some heavy metals](#)
- [Mercury and pregnancy – March of Dimes](#)
- [How people are exposed to mercury - EPA](#)
- [Breastfeeding - CDC](#)
- [Advice about eating fish for pregnant people and young children - FDA](#)
- [Advice about eating fish factsheet - FDA](#)

PFAS

- [PFAS - EPA](#)
- [PFAS concentration in soil](#)
- [Stimulate PFAS fate and transport in air - EPA](#)
- [PFAS and your health - ATSDR](#)
- [ToxFAQs for Perfluoralkyls - ATSDR](#)
- [PFAS in drinking water VDH](#)
- [PFAS in private well water VDH](#)

- [Laboratories approved by EPA to support UCMR 5](#)
- [PFAS Tracking Tool ODW/DEQ](#)
- [PFAS Exposure Reduction](#)
- [Reducing PFAS in drinking water with treatment technologies - EPA](#)

Pesticides

- [Basic information about pesticide ingredients - EPA](#)
- [Pesticides and their impact on children - EPA](#)
- [Tips to limit various types of pesticide exposure - CDC](#)
- [Effect of endocrine disruptor pesticides: a review - NIH](#)
- [Pesticides – NIEHS/NIH](#)
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- [Intervention to reduce exposure to phthalate metabolites, bisphenol A, triclosan, and parabens – International Journal of Hygiene and Environmental Health](#)
- [Interventions on reducing exposure to EDCs – Risk Management and Healthcare Policy](#)

CLIMATE CHANGE

- [Climate change statistical projections - NOAA](#)
- [Climate change overview - IPCC](#)
- [Impacts of small global temperature increase - NOAA](#)

Emissions

- [Overview of greenhouse gases - EPA](#)
- [Recommendations for reducing prenatal exposure to environmental agents - ACOG](#)
- [Global temperatures historical data - NOAA](#)

- [Extreme weather human health impacts - NIEHS/NIH](#)

Flooding

- [U.S. sea level report cards - VIMS](#)
- [Rising sea levels interactive map - SouthernEnvironment.org](#)

Foodborne Infections

- [Climate change and Salmonella - NIH](#)
- [Salmonella overview - Mayo Clinic](#)
- [Treating Salmonella during pregnancy - AmericanPregnancy.org](#)
- [Food and Drug Administration \(FDA\) cooking temperature guide for reducing Salmonella - FDA](#)
- [Giardiasis overview - NIH](#)

Outdoor Air Quality

- [Importance of outdoor air quality - EPA](#)
- [Air pollution and adverse birth outcomes - NIH](#)

Vector-borne Infections

- [Viral infections during pregnancy - NIH](#)
- [Vector-borne diseases overview - NIH](#)
- [Lyme disease overview - VDH](#)
- [Ticks and Lyme disease fact sheet - CDC](#)
- [Lyme disease and pregnancy - AmericanPregnancy.org](#)
- [U.S. top water-borne diseases - CDC](#)
- [Approved insect repellents - EPA](#)

COMMUNITY & RELATIONSHIPS

Family Stress

- [Household and family expenses](#)
- [Family support and pregnancy - NIH](#)
- [Relationship stress](#)
- [Family stress - APA](#)
- [Domestic violence national statistical data - NCADV](#)

Social Isolation

- [Social support and mental health problems during pregnancy - Reproductive Health Journal](#)
- [Social support and pregnancy experiences - NIH](#)

- [Social support and pregnancy subjective well-being - NIH](#)
- [Complex social factors and pregnancy - NIH](#)
- [Social support and pregnancy subjective well-being - NIH](#)
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Neighborhoods

- [Neighborhood safety and MCH outcomes - NIH](#)
- [Neighborhood relations and environment on preterm birth - NIH](#)
- [Mother and infant self-reports on neighborhood quality - Journal of Child and Family Studies](#)
- [Comparison of urban and rural communities on adverse pregnancy outcomes - Gynecology and Obstetrics Clinical Medicine Journal](#)
- [Impacts of neighborhood stress - Syracuse University/NIMH](#)
- [Neighborhood violence and stress during pregnancy - NIH](#)

SOCIOECONOMIC STATUS

- [Socioeconomic status overview - Maricopa Community Colleges](#)
- [Socioeconomic status basic definition - APA](#)
- [Poverty and adverse pregnancy outcomes - Drexel University College of Medicine](#)
- [Poverty during pregnancy - NIH](#)
- [Poverty and maternal mental health - The Lancet Global Health Journal](#)

SUBSTANCE USE

- [Substance use - CDC](#)
- [Polysubstance use during pregnancy - CDC](#)
- [Substance use during pregnancy - CDC](#)

Alcohol

- [Alcohol and public health - CDC](#)
- [Fetal alcohol spectrum disorders - CDC](#)
- [Fetal alcohol spectrum disorders - NIH](#)
- [Alcohol use in pregnancy and miscarriage - NIH](#)

Cannabis

- [Prenatal, perinatal, and Neonatal Exposure to Cannabis – National Academies Press/NIH](#)
- [Marijuana and Public Health - CDC](#)
- [Breastfeeding and special circumstances – marijuana - CDC](#)
- [Marijuana and pregnancy – SAMHSA](#)
- [Marijuana and cannabis use disorder - CDC](#)
- [Secondhand marijuana smoke - CDC](#)
- [Marijuana and pregnancy – March of Dimes](#)
- [Health effects of marijuana - CDC](#)
- [Know the risks of marijuana - SAMHSA](#)

Smoking

- [The Health Consequences of Smoking – US Surgeon General, US Dept. of Health and Human Services](#)
- [Sudden Unexpected Infant death and Sudden Infant Death Syndrome - CDC](#)
- [SIDS – The American Academy of Pediatrics](#)
- [Substance use during pregnancy - CDC](#)
- [Infant Morbidity and Mortality Attributable to Prenatal Smoking – American Journal of Preventive Medicine](#)
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- [Association of Maternal Cigarette Smoking and Smoking Cessation with Preterm Birth – JAMA Network Open](#)
- [Smoking, Pregnancy, and Babies - CDC](#)

Secondhand Smoke (see smoking)

- [Secondhand Smoke - CDC](#)
- [Health Problems Caused by Secondhand Smoke - CDC](#)

Opioids

- [Opioid Basics - CDC](#)
- [Understanding the Opioid Overdose Epidemic - CDC](#)
- [Opioid Overdose Basics – National Harm Reduction Coalition](#)
- [Opioid Use Disorder Documented at Delivery Hospitalization - CDC](#)

- [Understanding Drug Overdoses and Deaths - CDC](#)
- [Neonatal Abstinence Syndrome – Stanford Medicine](#)
- [Opioid and Opioid Misuse Disorder – MedlinePlus/NIH](#)
- [Arrest and prosecution when experiencing or reporting overdoses – Code of Virginia](#)
- [About Opioid Use During Pregnancy - CDC](#)
- [Naloxone - SAMSHA](#)

COMMON ACRONYMS

ACOG: American Congress of Obstetricians and Gynecologists

APA: American Psychological Association

ATSDR: Agency for Toxic Substance and Disease Registry

CDC: Centers for the Disease Control and Prevention

EPA: Environmental Protection Agency

FDA: U.S. Food and Drug Administration

IPCC: Intergovernmental Panel on Climate Change

HHS: Department of Health and Human Services

NIEHS: National Institute of Environmental Health Sciences

NIH: National Institutes of Health

NIMH: National Institute of Mental Health

NIOSH: National Institute for Occupational Safety and Health

NOAA: National Oceanic and Atmospheric Administration

OASH: Office of the Assistant Secretary of Health

VDH: Virginia Department of Health

VIMS: Virginia Institute of Marine Science

WHO: World Health Organization

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