

Focus on Asthma

Shedding light on health research to make a healthier community.

VCU Asthma Research Study Looks at Richmond Families

Caring for a child with asthma can be stressful for parents. Researchers at VCU want to change that.

Children with asthma may experience emotional and behavioral difficulties due to their asthma symptoms (e.g., shortness of breath, chest tightness) and not feeling well, or because of the limitations placed on them by their asthma (e.g., not being able to keep up with others during recess). In turn, parents may also feel overwhelmed by their child's asthma, especially when their child is experiencing an asthma attack or not feeling well. Parents may be worried about their child and may find it difficult to remember to give their child medications, minimize household triggers, and keep doctor's appointments when they find their child's asthma challenging.

Robin Everhart, Assistant Professor of Health Psychology at VCU, has been working on a new research project in order to study asthma and the correlation between asthma and urban environments. Everhart's research examines family management of childhood asthma and the factors that can play a role in how families manage a child's asthma. Her study considers the caregiver, and how the parent's mental and physical health might affect their child's health.

Everhart and her colleagues recently launched the CARE study, studying childhood asthma in Richmond families. She and her team closely follow select families to find what factors are more likely to increase issues with childhood asthma, such as how often the child goes to the emergency room

and how many days of school they miss as a result. She studies how much sleep the child gets and what kind of symptoms they are developing.

The idea is to hold family interventions to acknowledge the issues and how to avoid them.

Everhart and her colleagues are using an Ecological Monetary Assessment (EMA), collecting data from parents twice a day on smartphones in order to report on what's happening in their home environments as opposed to conducting the study in a clinical setting. This approach allows Everhart to gather day-to-day experience and get a better look at what factors affect a child's asthma.

By aligning with the VCU Bio-informatics Corps, Everhart is able to find families who have a child with asthma. Richmond has a high prevalence of asthma in the community, which Everhart owes to allergens and the nature of cities, such as pollution, mold, dust, and smoking which can increase the severity of asthma.

Everhart says that the idea is to find out how to help support parents with diverse backgrounds living in the Richmond area that have children with asthma. She hopes that her research will be used to develop resources that make it easier for parents to raise children with asthma.

Researchers are finding ways to make it easier for parents to raise children with asthma.



Robin Everhart, Assistant Professor
VCU Health Psychology

Dr. Everhart studies childhood asthma in Richmond. Her work makes it easier for parents raising children with asthma.

Parent Tips for Managing Your Child's Asthma

There are steps you can take today that may reduce asthma attacks and reduce the severity of asthma:

- Keep your child away from secondhand smoke.
- Grasses and mulch can cause asthma attacks even in the school yard and in housing developments.
- Be able to recognize an asthma attack in your child. Look for coughing, tightening of chest and neck muscles, and rapid breathing.
- Clean the air vents and filters in your home and car to help minimize breathing problems.
- Take medications every day as prescribed. Establishing a family routine, such as taking medication during breakfast, or placing the medication in a visible place, such as by your toothbrush, may help you remember to give your child his or her medications daily.
- Minimize child exposure to asthma triggers. For instance, if your child is allergic to the family pet, do not allow the pet to sleep with your child at night.
- Know your child's asthma symptoms and when they can be managed at home. Every child has different asthma symptoms and triggers, so it's important to know them in your child.
- Carry your child's rescue inhaler with you at all times and be sure your child has one at school.
- Always speak with your doctor about your concerns and especially any concerns you may have about your child's medication (e.g., side effects, becoming dependent on medications). Your doctor should also be aware of any other techniques or remedies you are using to treat your child's asthma.



Chimere Miles is a Community Researcher with Engaging Richmond, a VCU/community partnership that explores the social and environmental factors that impact health.

Help for Those with Asthma

NATIONAL RESOURCES

American College of Allergy, Asthma & Immunology :: www.aaaai.org :: (847) 427-1200
National Heart, Lung, and Blood Institute :: www.nhlbi.nih.gov :: (301) 592-8573
Centers for Disease Control and Prevention :: www.cdc.gov :: (800) CDC-INFO

RICHMOND-AREA RESOURCES

Children's Hospital of Richmond at VCU :: www.chrichmond.org :: (804) 828-2467
Healthy Homes Initiative :: www.healthyhomesrchrchd.org :: (804) 205-3726
Fan Free Clinic :: www.fanfreeclinic.org :: (804) 358-8538
Central Virginia Asthma :: www.centralvirginiaasthma.org :: (804) 213-0917

Research Light

Published by VCU Center for Clinical and Translational Research

The newsletter sheds light on research and knowledge that can improve quality of life. It aims to encourage community conversations about research results and their implications and provide information to individuals and families on various health-related topics.

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What is asthma?

Asthma is a lung disease that causes inflammation and narrowing of the airways. Asthma can cause wheezing (a whistling sound when you breathe), feelings of tightness in your chest, shortness of breath, and coughing (often at night or in the morning). Asthma symptoms can vary between people from mild symptoms to severe symptoms that could result in death. It is important to get medical help even if you have mild symptoms in order to prevent your asthma from becoming worse in the future.

DIAGNOSIS AND TREATMENT

Asthma can be diagnosed by your medical and family history aided by a physical exam and lab tests. Your doctor will listen to your lungs and may examine how well your lungs function by seeing how much air you can blow in or out. An asthma treatment plan that fits you may involve medication, avoiding triggers, and monitoring how well you can breathe. Maintaining good asthma control can improve your breathing, minimize coughing, shortness of breath, and even improve your sleep at night.

MEDICATIONS

Asthma medications can be in pill form or taken with a device called an inhaler. An inhaler allows the medication to go directly to your lungs to help your symptoms. It is important to know that not all inhalers are the same. Discuss with your health care provider on how to use your inhaler.

Long-term control medications include inhaled corticosteroids. They help prevent inflammation and swelling that occurs in your airways during an asthma attack. Taking long-term control medications can reduce the severity of your symptoms and how often they happen. Other long-term control medicines exist as well and should be discussed with your health care provider.

It is important to remember to take any long-term control medicines every day to control your asthma. If you stop taking your medication, your asthma symptoms will return or become worse.

Quick-relief medications also exist. They help your symptoms when your asthma flares up. They

work to help your airways relax so that air can get to your lungs. Inhaled short-acting beta2-agonists is an example of a quick-relief medication. It is important to carry your quick-relief inhaler with you in case you need it. If your child has asthma, be sure that any caretakers have their medicine and know how to use it in case your child has an asthma attack.

WHEN TO SEEK CARE?

If you have an asthma attack and you are not getting relief from your symptoms with your medication and asthma action plan, call 911 and contact your doctor right away. Immediate medical attention can prevent further life threatening issues.

DO YOU KNOW?

- Richmond, Virginia is among the most challenging places to live for people with asthma in the United States.
- An estimated 25.9 million people, including almost 7.1 million children, have asthma.
- Asthma affects people of all ages, but it most often starts during childhood.
- An average of one out of every 10 school-aged children has asthma.
- Asthma is the most common chronic illness in childhood, accounting for 12.8 million missed school days each year. For adults, asthma accounts for 10.1 million lost work days each year.
- Puerto Ricans are four times more likely and African Americans are three times more likely to die of asthma than Caucasians.
- Asthma results in 497,000 hospitalizations and 1.8 million emergency room visits.
- Asthma causes 4,000 deaths per year.
- Weather conditions such as extremely dry, wet or windy weather can worsen an asthma condition.



Prevent an Asthma Attack: Learn what triggers to avoid

An asthma attack can happen when you are exposed to “asthma triggers.” These triggers can vary from person to person. It is important to learn what triggers your asthma and to take steps to avoid your triggers. Common triggers include:

TOBACCO SMOKE: Smoking and secondhand smoke can trigger asthma attacks.

DUST MITES: These tiny bugs are found in almost every home and can trigger asthma attacks. To prevent dust mites from triggering your asthma, it is important to use mattress and pillowcase covers and to wash your bedding on the hottest water setting.

AIR POLLUTION: Pollution from factories and cars can trigger attacks. It helps to check air quality reports on the radio, newspaper, or television to best plan your outdoor activities in order to prevent an asthma attack from happening.

COCKROACH ALLERGENS: Cockroaches and their droppings can cause an asthma attack. The best way to avoid attacks from cockroaches is to minimize the risk of them entering your home. It is important to remove water and food from being left out. Try to sweep or vacuum at least twice a week.

PETS: Pets can trigger attacks. If you have a pet in your home and it triggers your asthma, it is best to either find the pet a new home, or to keep the pet out of the bedroom. Washing and keeping your pet outside if possible may help your symptoms.

MOLD: Inhaling mold can trigger an attack. Reducing the amount of moisture in your home can prevent mold growth. An air conditioner or dehumidifier can help reduce the chance of mold growing in your home. If a water leak occurs in your home, it is important to fix it sooner than later because mold can grow behind walls and under floors and worsen your asthma.

OTHER TRIGGERS: Sinus infections, allergies, breathing in some chemicals, and acid reflux can cause asthma attacks. Furthermore, exercise, medicines, certain weather conditions and some foods can also trigger attacks in certain individuals.



Your family will live happier and healthier when you avoid asthma triggers.

