

# NIH News in Health

National Institutes of Health • Department of Health and Human Services • [newsinhealth.nih.gov](https://newsinhealth.nih.gov)

**Inside News:** 3 Drug Allergies 4 COVID-19 Vaccines and Fertility 4 Testing Babies' Hearing 4 PFAS

## Health in Rural America Connecting to Care

About 20% of Americans live in rural parts of the country. Rural areas have more space, fewer people, and scenic landscapes. Residents often have a common sense of community. But living in a rural area can also bring challenges for staying healthy.

Studies have found that rural Americans are more likely to die prematurely from the leading causes of death in the U.S. These include heart disease, cancer, lung disease, and stroke.

They have higher rates of obesity and diabetes. And they're at greater risk of fatal car crashes, suicide, and drug overdoses.

Experts are studying why some health problems are more common in rural areas. They're also looking at ways to help.

**Geography and Healthy Living •** How does where you live affect your health? The answer is complicated. Different places have different resources. Access to housing, education, jobs, health care, and healthy foods varies across America. And all can impact your health.

"Poverty, unemployment, low education, and inadequate transportation are all known to contribute to poorer health," says Dr. Brian Rivers, a cancer care expert at Morehouse School of Medicine. These factors are often found at higher rates in rural communities.

Many rural communities are geographically isolated. Fewer people and more space can mean



fewer local businesses and services. That can make it harder to get the things you need to stay healthy.

Many rural Americans, for example, live far from grocery stores. Convenience stores may be the only nearby option. These stores tend to carry fewer fresh foods, like fruits and vegetables, and more processed, packaged foods. Processed foods are usually high in salt, sugar, and fat. Studies suggest that eating too much of them can lead to health problems such as heart disease, diabetes, and obesity.

Rural residents can also face more barriers to getting physical activity. Roads may not have sidewalks. This makes it more difficult to safely exercise. Rural areas may also lack parks for recreational activity.

"In many rural settings, folks don't have access to fitness centers," adds Dr. Suzanne Judd, who studies heart disease in rural communities at the University of Alabama at Birmingham. Not getting enough physical

activity can put you at higher risk for cancer, obesity, and heart disease.

Rural areas also tend to have more older adults. Older adults experience more chronic health issues than younger people. But rural residents may live far from hospitals and be less likely to have health insurance.

**Care in Rural Areas •** Another major obstacle can be finding a doctor. In many rural communities, there is a shortage of doctors.

"It's more difficult to provide many types of health care services in rural communities simply because there's a lower availability of health care professionals," says Dr. Ty Borders, an expert on rural health at the University of Kentucky.

This can make it hard to get specialty care for things like cancer or drug addiction, Borders explains. Many people have to travel a long way to reach a specialist or hospital. And those providers may not have the latest health technology.

"In rural communities, folks don't necessarily have access to state-of-the-art equipment—the CT scanners, MRIs—that you might need

*continued on page 2*

Subscribe @



[newsinhealth.nih.gov](https://newsinhealth.nih.gov)

*continued from page 1*

to diagnose certain things,” Judd says. “These are particularly important when we’re talking about brain health and stroke.”

And finding a doctor is getting harder in some rural areas. “An increasing number of health systems in rural areas are closing their doors, mostly because of funding,” says Rivers. That means people may be forced to drive hours for health care.

**The Role of Telehealth** • Virtual visits may be one option for rural patients. Telehealth—delivering care on the phone or computer—has been expanding in recent years. Physicians can monitor patients with chronic conditions without the need for them to come into the office.

This is critical for certain health conditions where providers are scarce. Someone with diabetes, for example, can take a blood sugar reading during a virtual visit with their doctor. Patients with depression and other mental health conditions can get online counseling.

“Telehealth may be preferable for many patients and may make treatment easier,” Borders says.

Borders is studying how telehealth

can be used to deliver treatment for opioid use disorder in rural communities. Most rural counties don’t have medical professionals who specialize in treating addiction. The rates of drug overdose deaths are rising in rural areas and are now greater than in urban communities.

But telehealth can’t address every health issue. Some things require an in-person visit. And some rural areas have limited broadband service.

Other approaches have the potential to improve rural health. Mail-order pharmacies make getting medications easier. Mobile health units—where health services are provided on a customized van—can bring care to residents where they live.

“We’re a huge nation with a lot of land. Many people live in very rural settings,” Judd says. “We need to find ways to make sure that the whole country is connected and has access to medicine and health care.”

**Tips for Rural Residents** • If you live in a rural area and are looking to improve your health, Rivers suggests first identifying your health needs. Then figure out your obstacles.

Is it transportation? Distance? Cost? Look for resources available in your community to help. Local faith-based organizations, social service agencies, and libraries are good places to start.

“See if there are community health workers or health navigators in your area,” Rivers says. “Most rural communities have some type of health ambassador who can provide a very high level of support.”

Ask health care providers if they offer telehealth options. If you have limited internet access, you might be able to talk with a doctor over the phone.

Many health apps can help you improve your health and work even when not connected to the internet.



## Wise Choices Health in Rural Communities

People in rural areas are at higher risk for certain health issues. To help safeguard your health:

- **Stay physically active.** Adults should get at least 2 and a half hours of moderate-intensity physical activity a week. Learn more at [health.gov/moveyourway](https://health.gov/moveyourway).
- **Follow a healthy diet.** Eat more vegetables, fruits, and whole grains. Include lean meats, poultry, fish, beans, eggs, and nuts. Limit salt, added sugars, and saturated and trans fats.
- **Quit smoking.** Get free help at [smokefree.gov](https://smokefree.gov), call 1-800-QUIT-NOW (1-800-784-8669), or text QUIT to 47848.
- **Get checked** for high blood pressure and certain cancers.
- **Get help for mental health and substance use disorders.** Call SAMHSA’s free national helpline at 1-800-662-HELP. If you’re in crisis, call the National Suicide Prevention Lifeline at 1-800-273-TALK. You can also text “HOME” to the Crisis Text Line at 741741.
- **Wear a seat belt.** Car accident deaths are higher in rural areas.

There may also be ways you can help build a healthier community. Consider getting together with neighbors and working with local officials to create change. You may be able to make safer places for people to get physical activity, like building trails or parks. Or organize farmers markets or community gardens to bring more fresh fruits and vegetables to your area.

Find more resources on the Rural Health Info Hub ([ruralhealthinfo.org](https://ruralhealthinfo.org)) or USDA’s Rural Development website ([rd.usda.gov](https://rd.usda.gov)). ■

## NIH News in Health

ISSN 2375-6993 (Print) ISSN 1556-3898 (Online)

Editor Harrison Wein, Ph.D.

Managing Editor Tianna Hicklin, Ph.D.

Graphics Alan Defibaugh (illustrations),  
Bryan Ewsichek (design)

Contributors Erin Bryant and Brian Doctrow

Use our articles and illustrations in your own publication. Our material is not copyrighted. Please acknowledge *NIH News in Health* as the source and send us a copy.

[newsinhealth.nih.gov](https://newsinhealth.nih.gov)



Office of Communications & Public Liaison  
Building 31, Room 5B52  
Bethesda, MD 20892-2094  
email: [niHnewsinhealth@od.nih.gov](mailto:niHnewsinhealth@od.nih.gov)  
phone: 301-451-8224



Web  
Links

For more about rural health, see “Links” in the online article: [newsinhealth.nih.gov/2022/03/health-rural-america](https://newsinhealth.nih.gov/2022/03/health-rural-america)

# Drug Allergies

## What to Look Out For

Medications are one of our most powerful weapons against germs and diseases. But sometimes when people take medications, they can have an allergic reaction. That's when a drug causes the body's **immune system** to overreact. When that happens, they not be able to use the drug again without risking more serious consequences.

Any drug can cause an allergy. But some are more likely to than others. Antibiotics and certain painkillers are among the more common ones. The antibiotic penicillin is the drug most often reported to cause allergic reactions. About 10% of people in the U.S. have a penicillin allergy listed in their medical records.

But probably less than 1% of people are truly allergic to penicillin, says Dr. David Khan, an NIH-funded allergist at the University of Texas Southwestern Medical Center.

The most typical allergic reactions are skin rashes or hives. In rare cases, you can have a severe reaction

called anaphylaxis. This can lead to lightheadedness, throat or tongue swelling, and difficulty breathing. Anaphylaxis can also lead to death if untreated.

Sometimes people mistake side effects of a drug for an allergy. Nausea, vomiting, diarrhea, and headaches are usually side effects. Everyone has different abilities to tolerate a drug's side effects. It depends on how the drug works in your body. When you can't handle a drug's side effects, it's called a drug sensitivity or intolerance.

Certain reactions may have causes other than the drug itself, too. One common example is getting a rash after taking an antibiotic. Sometimes the rash is actually caused by the infection being treated, not the drug.

Drug allergies may fade over time, Khan says. Nearly half of patients with a confirmed penicillin allergy lose it within five years, he says. After 10 years, about 80% will.

Being labeled with a drug allergy isn't just a minor inconvenience. Alternatives to a drug may not be as good. They can be less effective or have a higher risk of side effects.

"Patients who have a penicillin allergy listed in their chart end up staying in the hospital longer," Khan says. "They require more outpatient visits, more emergency room visits, and there's even a higher rate of death in those patients."

Some alternatives to penicillin can also spur the growth of antibiotic-resistant bacteria. Infections with such bacteria are hard to treat. And they can potentially be fatal.

An allergist can test whether you have a true drug allergy. In certain situations, they can perform skin testing. Your skin is pricked or injected with a needle to allow a tiny



amount of the drug into your skin. If you're allergic, the area quickly swells.

If skin testing is negative, the doctor may confirm it with an oral challenge. They will give you increasing doses of the drug and watch you for an allergic reaction.

Right now, the easiest antibiotic allergy to test for is penicillin allergy. Khan's team is working on an allergy test for another widely used class of antibiotics, called cephalosporins.

If you think you may have a drug allergy, talk with your health care provider. They may recommend testing by a board-certified allergist. It's important to get tested before you need the medication again. That can help avoid unnecessary delays in treatment. ■



### Wise Choices

#### Managing a Drug Allergy

- Watch for symptoms of an allergic reaction. These include rashes, hives, itching, swelling, wheezing, lightheadedness, or difficulty breathing.
- Seek immediate medical help if you have a severe allergic reaction after taking any medication.
- Talk with your health care provider about any possible drug allergies. Ask if they recommend allergy testing, especially for penicillin allergy.
- Consider retesting for confirmed drug allergies. Some allergies fade over time.
- Inform all future health care providers about any drug allergies.



### Definitions

#### Immune System

The system that protects your body from invading viruses, bacteria, and other microscopic threats.



### Web Links

For more about drug allergies, see "Links" in the online article: [newsinhealth.nih.gov/2022/03/drug-allergies](https://newsinhealth.nih.gov/2022/03/drug-allergies)



## Health Capsules

For links to more information, please visit our website and see these stories online.

### COVID-19 Vaccines Not Linked With Fertility Issues

Vaccines are the best way to protect yourself from COVID-19. But some people have concerns about rumored side effects. This includes whether the vaccines affect fertility. Getting COVID-19 can temporarily affect fertility. But there's no evidence that vaccines against the disease do.

In a large study, researchers probed the links between COVID-19 vaccines, infection, and fertility. They followed more than 2,000 women. All were trying to conceive without fertility treatments.

Researchers asked whether the

women or their partners had gotten a COVID-19 vaccine. They also asked whether either partner had ever tested positive for COVID-19 and when. Researchers followed up every eight weeks for a year or until the women became pregnant.

Getting vaccinated did not lower the odds of conceiving. This was true for both male and female partners. Past COVID-19 infection also did not affect the overall odds of conceiving during the study. But the team did find that pregnancy was less likely if the male partner had

tested positive for COVID-19 within 60 days.

"Our study shows for the first time that COVID-19 vaccination in either partner is unrelated to fertility among couples trying to conceive through intercourse," says Dr. Amelia Wesselink of Boston University, who led the study.

Studies have found that getting COVID-19 while pregnant can pose dangers to both mother and child. Experts recommend that anyone who is pregnant or trying to become pregnant get a COVID-19 vaccine. ■

### Testing Baby's Hearing

Most infants are screened for hearing loss before they leave the hospital. This helps doctors detect any hearing problems early and start treatment. Children with hearing loss who get help early develop better language skills than those who don't.

If your baby's hearing isn't tested at the hospital, you should get it checked by the time they're one month old. Two tests can be used to check your baby's hearing.

The otoacoustic emissions (OAEs) test measures whether parts of the

ear respond to sound. A soft earphone is placed in your baby's ear canal. It plays sounds and measures an "echo" response that occurs in ears with normal hearing.

The auditory brain stem response (ABR) measures the hearing nerve's response to sound. During this test, your baby wears earphones and has electrodes placed on his or her head. The electrodes are painless and are put on and removed like stickers.

If the screening shows that your baby may have hearing loss, you'll

be referred for follow-up testing. If possible, see a pediatric audiologist. They specialize in testing and treating children with hearing loss. Make an appointment as soon as possible—ideally by the time your baby is 2 to 3 months old. Depending on the testing results, you may also be referred to an ear, nose, and throat specialist.

If your child has hearing loss, various tools can help. These include hearing aids, cochlear implants, and communication approaches. To learn more, visit [go.usa.gov/xtGn4](https://go.usa.gov/xtGn4). ■



### Featured Website

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

[go.usa.gov/xtGnd](https://go.usa.gov/xtGnd)

PFAS are synthetic chemicals in products you might use every day. They're used in non-stick cookware, food wrappers, carpets,

and many other products. They're also now found in most people's blood. Learn more about PFAS and how they affect health.

**Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)**

> Table of Contents

**Introduction**

**What Are PFAS?**

PFAS are a large, complex, and ever-expanding group of manufactured chemicals that are widely used to make various types of everyday products. For example, they keep food from sticking to cookware, make clothes and carpets resistant to stains, and create firefighting foam that is more effective. PFAS are used in industries such as aerospace, automotive, construction, electronics, and military.



PFAS molecules are made up of a chain of linked carbon and fluorine atoms. Because the carbon-fluorine bond is one of the strongest, these chemicals do not degrade in the environment. In fact, scientists are unable to estimate an environmental half-life for PFAS, which is the amount of time it takes 50% of the chemical to disappear.

## How to get NIH News in Health

Subscribe online.  
Visit [newsinhealth.nih.gov](https://newsinhealth.nih.gov)

Subscribe

Get it in print.

Contact us (see page two) to get print copies free of charge by mail for display in offices, libraries, or clinics within the U.S.

