Cancer Care Widens Its Reach
Reducing Cancer Health Disparities

Differences in disease rates across the country are striking. People living in rural areas develop lung cancers more often than those in urban areas. African-American men are twice as likely as white men to die of prostate cancer. Hispanic women have the highest cervical cancer rates. Asian Americans have higher rates of liver cancer than others.

These are examples of health disparities: differences in access to health care, quality of health care, or health outcomes experienced by different populations.

"These can be based on ethnicity, gender, geography, or other things that put certain groups at a disadvantage," says Dr. Olveen Carrasquillo, an expert in minority health at the University of Miami.

Many factors can lead to health disparities. These include socioeconomic factors, stress, physical and cultural environment, biological factors, diet, and behavior.

NIH is funding research looking at ways to reduce health disparities. One area of focus is expanding access to cancer prevention and treatment.

Bringing Screening Home •
People have a better chance of survival when doctors catch and treat cancer early. That's why researchers are trying to bring cancer screening tests to people who might have difficulty accessing them. Screening tests are designed to detect conditions before you have symptoms.

Carrasquillo and his team are studying different ways to get cervical cancer screenings to women who can't afford or access them. This screening is often done with a test called a Pap smear.

But a traditional Pap smear requires a trip to the doctor's office. That can be hard for women who don't have health insurance or who can't get time off work, Carrasquillo says. Now, there are kits that allow you to do this screening at home.

Carrasquillo's team is exploring different ways to increase the use of home-based screening tests. In one study, they had community health workers deliver home-based screening tests to women in underserved communities. More than 80% of women they reached completed the self-sampling kits, which detect the human papilloma virus (HPV). HPV causes most cervical cancers.

Carrasquillo's group is now running a similar home-based study for colorectal cancer screening. A test called a **colonoscopy** can be used to screen for colorectal cancer. But, like a Pap smear, getting a colonoscopy requires a trip to the doctor. The test can also be expensive.

"Many people know that they're supposed to have a colonoscopy, but just can't pay for it," Carrasquillo says. His team hopes the home-based stool test will make colorectal cancer screenings accessible to more people.

Note that home-based screening tests are not right for everyone. Talk with your health care provider about what tests are best for you.

Definitions

Colonoscopy
A test that uses a tool called a colonoscope to see inside your colon.

Overcoming Language Barriers • More than 13% of people living in the U.S. were born in another country. Many new immigrants face cultural barriers to health care, including language barriers. These can lead to health disparities.

For example, people in certain countries outside the U.S. are at higher risk of getting the hepatitis B virus. Hepatitis B is a blood-borne virus that can cause liver cancer. Early detection and close monitoring of the virus can help prevent it from damaging the liver and reduce the risk of liver cancer.

Dr. Grace Ma, a health disparities researcher at Temple University, leads a team working to overcome disparities in hepatitis screening and treatment among recent Asian immigrants.

Language is one important barrier to regular monitoring for some Asian Americans. Ma's team found that using a patient navigator could help recent immigrants get to their monitoring appointments. Patient navigators are people who speak the patient's language and guide them through the health care system.

"It was very effective, but costly," Ma says. Many doctors' offices or hospitals don't have the resources to hire a full-time navigator to help reduce disparities, she explains. Her team now has an NIH-funded project to create a "virtual navigator" using videos and text messages.

Videos can be translated into many different languages. This means they can reach more people. "We want to create something that can be used widely," Ma says.

Accessing New Treatments • Clinical trials test how well new medical approaches work in people. But many clinical trials lack participation from diverse populations. People of different races, genders, ages, or from different regions, such as rural areas, can be underrepresented. For example, African-American adults are less likely than white adults to particpate in clinical trials.

"If we have studies that don't include diverse populations then we can't really speak to the benefit that those therapies would have in the populations that aren't represented," explains Dr. Chanita Hughes-Halbert from the Medical University of South Carolina.

Broad access to cancer clinical trials is important for many reasons, she says. "We want to make sure everyone can access new therapies for cancer treatment and participate as they're being developed and tested for possible benefits."

Hughes-Halbert helps run an NIH-funded program that lets people with cancer participate in clinical trials without having to travel to a large cancer center.

"This ensures that, if someone is going to their local cancer doctor, they're able to have access to the same types of clinical trials and cancer care that are available at our cancer center," Hughes-Halbert says. This can help reduce dispari-

ties caused by the inability to travel for treatment.

Hughes-Halbert's team also studied using patient navigators to help people enroll in clinical trials. They found that 85% of people with cancer were willing to work with a navigator. Almost all of those who did participated in a clinical trial. The team is now designing a study to see if navigation can also help with preventive care, such as helping people quit smoking.

Navigators and community health workers could help improve many aspects of cancer care where disparities exist, Hughes-Halbert says.

The challenges that contribute to health disparities can seem overwhelming. But there's a lot you can do to reduce your risk of cancer. See the Wise Choices box for ideas and resources. ■

Wise Choices
Cancer Resources

● **Quit smoking.** Quitting smoking can greatly reduce the risk of developing some cancers. Find free resources for quitting at smokefree.gov.

● **Focus on prevention.** Changes in diet and lifestyle can help prevent cancer. Some vaccines can also reduce cancer risk. For more about cancer prevention, see cancer.gov/about-cancer/causes-prevention.

● **Apply for health insurance.** If you don't have health insurance, visit healthcare.gov for information on how to apply.

● **Get screened.** Find out about free or low-cost cancer screening by calling 1-800-4-CANCER.

● **Find clinical trials in your community.** Visit ncorp.cancer.gov/find-a-study to find cancer clinical trials in your area.

Web Links

For more about cancer health disparities, see "Links" in the online article: newsinhealth.nih.gov/2019/04/cancer-care-widens-its-reach
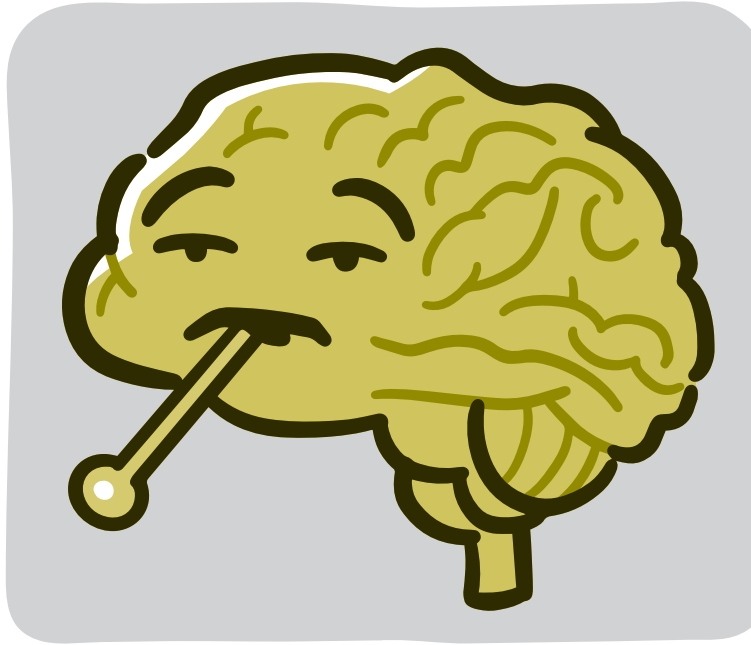
The Inflamed Brain
Recognizing Encephalitis and Meningitis

When you get sick, some germs can attack the brain or the protective lining that surrounds the brain. This can cause swelling and lead to severe illness, or even death. It's important to recognize the symptoms so you can get medical help as quickly as possible.

When the brain swells, it's called encephalitis. When the lining of the brain, or meninges, becomes inflamed, it's called meningitis. The symptoms can be similar for both.

At first, you might get a fever, feel tired, and sometimes have a rash. "Those things can last a day or two, or a little bit longer," explains Dr. Avindra Nath, a neurologist at NIH. "Then, you may have a headache, along with fever, neck stiffness, and you can get sensitivity to light."

Other symptoms include nausea or vomiting, double vision, drowsiness, and confusion. More severe illnesses can cause speech, hearing, or vision problems. If it's left untreated, you could develop cognitive difficulties with progressive loss of consciousness, seizures, or muscle weakness.

You need to get immediate medical help if you have symptoms of encephalitis or meningitis. Early treatment is important for the best recovery. Treatment will depend on the cause. Viruses, bacteria, parasites, and fungi can all cause encephalitis and meningitis. The most common causes can be different depending on where you live.

"Worldwide, the most common cause of meningitis is bacterial meningitis," Nath explains. "Now in the United States, we don't see a lot of bacterial meningitis because we have certain vaccines. So, the most common cause of meningitis is viral meningitis."

Early treatment for bacterial causes may be antibiotics and other medicines to treat swelling and other symptoms of the illness. There aren't any specific anti-viral treatments for most viral causes. But treating the symptoms can affect the course of the illness. More severe illnesses may require hospitalization.

Anyone can get these conditions. Protecting yourself and your family from germs and staying up-to-date on vaccines is the best way to guard against both encephalitis and meningitis. Vaccines are available to prevent some bacterial causes of meningitis, including *Haemophilus influenzae*, pneumococcal pneumonia, and meningococcal disease.

NIH-funded researchers are looking for other ways to prevent or treat encephalitis and meningitis. Some are studying how to stop germs from infecting the brain or its lining.

Nath's team is testing compounds that may block Zika virus from getting into brain cells grown in the lab. His team hopes that these may block other viruses that are transmitted by insects and parasites, too.

Many scientists are trying to develop broad antivirals, Nath says. "Broad" means the antiviral would stop many viruses rather than just one. This would be helpful, since doctors wouldn't have to know which virus is causing the problem before starting treatment.

Until we have better treatments, prevention is still the best medicine. Children, older adults, and those with weakened immune systems are most at risk for infections. See the Wise Choices box for tips on protecting yourself and your family. ■

Wise Choices
Guard Against Meningitis and Encephalitis

- Wash your hands with soap and water often.
- Avoid people who are coughing or showing other signs of sickness.
- Stay up-to-date on your vaccines.
- Protect yourself from mosquito and tick bites. Use insect repellents and wear full-sleeve shirts and pants when you're outside. Keep insects out of your home. Use screens on windows and doors or use air conditioning instead. Empty all standing water from your yard.

Web Links

For more about meningitis and encephalitis, see "Links" in the online article: newsinhealth.nih.gov/2019/04/inflamed-brain

Health Capsules

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

Why Tonsillitis Keeps Coming Back

Some kids get tonsillitis, or infected tonsils, again and again. A new study found that strep, a germ that causes tonsillitis, can trick the body's **immune system**. Because of the trick, the body's immune cells kill each other, rather than the germ. But this only happens in certain people who are vulnerable.

Your tonsils are the bumps of tissue at the back of your throat. They help prevent infections in the body by trapping germs that come in through your nose and mouth. When tonsils get infected, they can swell and become painful. Children who get tonsillitis over and over may need to have their tonsils removed.

Researchers compared tonsils removed from children who had repeated bouts of tonsillitis with those from children who had them removed for other reasons, such as a sleep disorder.

Kids with repeated tonsillitis had more of certain immune cells (a type of TFH cell). These cells help another immune cell, called B cells, make antibodies to fight the germ. But the kids with repeated tonsillitis had fewer B cells and antibodies that guard against strep.

The team found that strep makes a certain toxin that, in kids with repeated tonsillitis, causes certain TFH cells to destroy B cells instead of helping them. These kids had genetic differences that made them more vulnerable to this effect.

The results suggest there may be a way to make a vaccine that trains the immune system to prevent recurring bouts of tonsillitis, says Dr. Shane Crotty, who led the study at the La Jolla Institute for Immunology. ■

Definitions

Immune System
The system that protects your body from microscopic threats.

How Much Alcohol Is Too Much?

Do you drink too much at one time, drink too often, or both? Not sure? Many people don't realize that their drinking habits could be a problem. Find out how risky your drinking is with NIH's "Rethinking Drinking" interactive website.

Perhaps you now spend time drinking instead of doing something else you used to enjoy. Or, maybe being sick from drinking has caused you trouble at work. By recognizing symptoms early, you can take steps to reduce your risk of developing alcohol use disorder.

Visit the "How Much Is Too Much?" section to take a quiz to see if your habits are a cause for concern. If you want to make a change, another module can help you set goals and chart strategies for your success.

Learn more at www.rethinking-drinking.niaaa.nih.gov. ■

Featured Website
Mental Health Information
www.nimh.nih.gov/health

Research is changing our understanding of mental health conditions. Learn about different mental health topics, such as eating disorders, suicide prevention, and traumatic events.

Find out how often mental health conditions occur, what the treatment options are, and how to get help for yourself or someone you know.
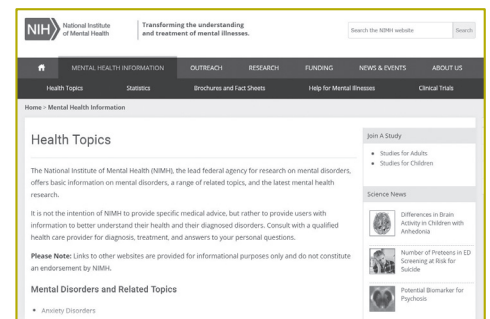
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