

NIH News in Health

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Don't Fear the Flu Arm Yourself with the Facts

Scary stories about the 2009 H1N1 flu are sure to get your attention. A lot of people are worried and confused as this new virus spreads across the globe. But it's not fundamentally different from the **seasonal flu** we see every year. Learn the facts about H1N1 and how to prevent it from striking your family.

The truth is, flu—or influenza—can always be deadly. Each year, the seasonal flu kills more than 36,000 people nationwide and hospitalizes 200,000. Now we're faced with the first **pandemic flu** in over 40 years.

"Seasonal flus change slightly from year to year," explains Dr. Anthony S. Fauci, director of NIH's National Institute of Allergy and Infectious Diseases. Once your **immune system** encounters a virus, it learns to recognize and block it, so it won't make you sick again. Each year, seasonal influenza viruses change a little bit to evade your immune system. This slow "drifting" from year to year can go on for decades.

Definitions

Immune system

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

Pandemic flu

A new flu strain that spreads quickly to create a world-wide epidemic (a pandemic).

Seasonal flu

The flu outbreaks that occur yearly, usually in late fall and winter.

Pandemic flu comes rarely—only 3 times in the 20th century. Instead of a little drift, it's caused by a sudden major shift. That can happen when a virus jumps from an animal to humans. Most people have no immunity to the new virus, since our immune systems haven't seen anything like it before.

The 2009 H1N1 flu has some components from flu viruses known to affect pigs. That's why its original name in the media was swine flu. But it also has components from human and bird flu viruses. The virus was first diagnosed in Mexico in April 2009. It rapidly spread throughout the world and became pandemic.

Since the world hasn't seen a flu pandemic since 1968, it's easy to see why public health officials are tracking this new virus so closely. According to the Centers for Disease Control and Prevention, at least 14 million Americans have probably been infected with this new virus so far.

The new pandemic influenza virus causes symptoms similar to all flus: fever, cough, sore throat, runny or stuffy nose, body aches, headaches, chills and fatigue. Some people have vomiting and diarrhea. So far, however, the virus seems no more deadly than other flus. "In general, it's a mild to moderate illness," Fauci says. "But unlike the seasonal flu, which pre-



dominantly threatens the elderly, this flu predominantly threatens young people, pregnant women and people who have underlying conditions," Fauci says.

"There's nothing particularly unusual about this virus in terms of transmission," explains Dr. Ira M. Longini Jr. of the Fred Hutchinson Cancer Research Center and University of Washington, Seattle. "It's within the bounds of usual flu, but people under 50 are unusually susceptible."

The reason for that, Fauci explains, is that the immune systems of younger people are less experienced. "The older you are, the greater the chance that in your lifetime you were ex-

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posed to something that had some degree of resemblance to the pandemic strain," he says.

That's why it's so important for young people to get vaccinated. Vaccination is the best protection against flu. Vaccines contain pieces of viruses to "teach" your immune



Wise Choices Warning Signs

Get medical care right away if you notice these symptoms:

In children:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough
- Fever with a rash

In adults:

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting

system to recognize and attack the real viruses as soon as they enter your body.

Each year, scientists look at the influenza viruses emerging at the end of the flu season. Then they begin making a vaccine, hoping to match the viruses that will emerge in full force the following fall and winter. "You can predict with accuracy about 85% of the time at the end of a given flu season what you're going to see the next flu season," Fauci says.

What you can't predict is a pandemic flu strain, like this one, that enters the population without warning. Researchers began working on a new H1N1 vaccine as soon as they realized there was danger of it causing a pandemic. That's why there are 2 different flu vaccines this year—one for the seasonal flu and one for the new pandemic flu.

"Right now with the pandemic flu, we have a perfect match," Fauci says. "We've just got to get the vaccine out."

There may be a lot of misunderstanding out there about the H1N1 vaccine, but Fauci explains, "The vaccine for H1N1 is made by the same companies that make the seasonal flu vaccine—using the same processes, the same materials, the same techniques. And the seasonal flu vaccine has a very, very good track record for safety in tens, if not hundreds, of millions of doses given over several decades."

If you're still sitting on the fence, Fauci says, "We know that even though there's a very small chance that you'll get into trouble with the flu itself, the chances—particularly if



Web Links

For links to further information about flu, see this story online:

<http://newsinhealth.nih.gov/2009/December/feature1.htm>

you're someone at a higher risk—of your getting into trouble with the virus are overwhelmingly greater than the risk of the vaccine."

Longini says that it's important to get vaccinated, even though the pandemic may be past its peak in some areas of the country. "There'll be continued transmission throughout the flu season, so it's very important to get vaccinated. It's not going away."

Fauci and Longini say the pandemic H1N1 this year will probably be the seasonal virus in the future, changing a little bit from year to year. "We'll be making vaccines to slightly different variants of this for years to come," Longini says.

So get vaccinated. Remember, you need 2 different vaccines this year to be fully protected from both seasonal and pandemic flu. Also, try to avoid close contact with sick people, and avoid touching your eyes, nose or mouth. Wash your hands often with soap and water, or use alcohol-based hand cleaners.

If you do get sick, get plenty of rest and drink clear fluids like water and soup broth. Those 5 years of age and older can take medicines such as acetaminophen (Tylenol) and ibuprofen (Advil, Motrin, Nuprin) to relieve symptoms. Don't give aspirin to children or teenagers who have the flu; this can cause a rare but serious illness called Reye's syndrome.

If you have flu, help keep it from spreading. Cover your nose and mouth with a tissue when you cough or sneeze and throw the tissue away after you use it. And don't go to work or school while you're sick. Stay home until at least 24 hours after you no longer have a fever (100°F or 37.8°C) without the use of a fever-reducing medicine. ■

NIH News in Health (ISSN 1556-3898)

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Healthy Gifts for the Holidays

Low-Cost Ideas to Inspire Healthy Living

When you think winter holidays, do you envision cookies, pies and high-fat treats? Bulging waistlines and scale-tipping weight gain? Maybe it's time to rethink what brings joy and happiness to you, your friends and family. Last December, *NIH News in Health* suggested over a dozen healthy holiday gifts (see <http://newsinhealth.nih.gov/2008/December/feature1.htm>). Here are a few more budget-

friendly possibilities to help keep your loved ones active and healthy.

Good food is one of life's great pleasures, and it doesn't have to be bad for you. Several kitchen gadgets—like juicers, slow cookers, rice cookers or vegetable steamers—can help you prepare nutritious low-fat foods. You can also encourage loved ones to prepare tasty, healthy dishes by giving them a low-cost cookbook from NIH (see the “Wise Choices” box). Popsicle molds in whimsical shapes can encourage healthful snacking for kids. Fill them with pureed fruit or 100% fruit juice.

Being physically active is one of the best things anyone can do to stay healthy. A pass to a local, state or national park system could be a fun way to encourage walking, biking, hiking, jogging or even kayaking. For the cyclists on your list, consider getting a tune-up with a local bike shop, protective eyewear to protect vision or other bicycle accessories.

Older people might enjoy the book *Exercise & Physical Activity: Your Everyday Guide from the National Institute on Aging*. It helps you get motivated and describes exercises that enhance endurance, strength, balance and flexibility. It also suggests ways to modify activities so people with chronic conditions and disabilities can exercise safely. Request a free copy of this 120-page book by calling 1-800-222-2225, or order online at www.nia.nih.gov/Exercise.

On a tight budget? Give a gift of your time. Create coupons that promise to help others with shopping trips or cooking healthy meals. Teens can make coupons for grandparents that offer to help set up their computers, connect to the internet and make



bookmarks for web sites that give reliable health information.

Two calendars from NIH can help you keep track of time and keep healthy habits. The colorful 12-month *Noisy Planet* calendar for 2010 reminds kids to protect their hearing. It's 5.5 x 8.5 inches, removable and restickable. Order 1 free calendar per household at <https://www.noisyplanet.nidcd.nih.gov/noisyplanet/templates/orderitems.aspx>, or call 1-800-241-1044; 1-800-241-1055 (TTY).

The 2010 *Keep the Beat: Healthy Choices* calendar supports a heart-healthy lifestyle (\$3 \$2 with promotional code. See the “Wise Choices” box for details). Order at <http://emall.nhlbihin.net/product2.asp?sku=10-5721>, or call 301-592-8573.

Another gift that promotes heart health is the Red Dress pin, designed to raise awareness that heart disease is the number 1 killer of women (\$2.50 \$2 each for up to 24 pins with promotional code. See the “Wise Choices” box). Order at <http://emall.nhlbihin.net/product2.asp?sku=56-075N>.

A 12-page booklet from NIH might encourage scientific curiosity in kids. *The Rocket Boys of NIH* tells the true story of a 9-year-old boy's plans to build a small rocket ship with his friend in the late 1950s. Published in both English and Spanish, the free booklet can be ordered from <http://www.csr.nih.gov/rocket>. ■



Wise Choices Healthy Cookbooks from NIH

NIH's National Heart, Lung and Blood Institute offers 3 low-cost cookbooks. Go to <http://emall.nhlbihin.net/> and click on “Healthy Eating” in the left column, or call 301-592-8573. *NIH News in Health* readers get a special reduced rate through February 28, 2010. Use the promotional code **NIHE1109**.

- **Keep the Beat Recipes: Deliciously Healthy Dinners.** Features 75 recipes influenced by Asian, Latino, Mediterranean and American cuisine. \$5 \$3 with promotional code.
- **Delicious Heart Healthy Latino Recipes.** Recipes for 26 taste-tested dishes. \$4 \$2.80 with promotional code.
- **Heart Healthy Home Cooking African American Style.** Recipes for 26 favorite African American dishes. \$4 \$2.80 with code.

NIH's National Diabetes Education Program will send you 1 free copy of *Tasty Recipes for People with Diabetes and Their Families*. This bilingual cookbook, in English and Spanish, has recipes with Latin American flair. Call toll-free at 1-888-693-6337, or visit <http://ndep.nih.gov/publications/PublicationDetail.aspx?PubId=131>. You can purchase up to 2 additional copies at \$1 each.



Health Capsules

For links to more information, see these stories online:
<http://newsinhealth.nih.gov/2009/December/capsules.htm>

Comparing Medications that Help Smokers Quit

Smoking is the leading cause of preventable death nationwide. Several prescription and over-the-counter medications can help smokers quit. But which ones are best? Few studies have compared their effectiveness.

To compare medications, NIH-funded researchers at the University of Wisconsin-Madison studied over 1,500 smokers who wanted to quit. The smokers were randomly assigned to receive different medications or no medication for up to 3 months.

The researchers found that people taking the nicotine patch plus the nicotine lozenge had the best

success. About 40% of them were still smoke-free 6 months after their quit date.

About 33% of patients remained smoke-free when they'd taken other medications, like the nicotine patch or nicotine lozenge alone, the prescription drug bupropion (Zyban), or a combination of the nicotine lozenge plus bupropion. Only 22% of those taking no medications were still smoke-free at 6 months.

The researchers didn't look at other common quit-smoking aids, including nasal sprays, inhalers and nicotine gum. They also didn't evaluate the medication varenicline

(Chantix) because it hadn't yet been approved by the U.S. Food and Drug Administration when the study began. More research will be needed to see what medications work best to help smokers quit.

Many effective strategies—with or without medications—can help you quit smoking. They include setting a quit date and getting support from others. To learn more about quitting for good, visit www.smokefree.gov, or call 1-800-QUITNOW. ■

Improving Student Fitness

Researchers studying adolescents in low-income communities have tied several factors to better physical fitness. Physical education classes at school had the greatest positive impact on both fitness and weight.

Earlier studies have found that the environment we live in can affect our weight. For instance, some research has shown people are more likely to be obese if their neighborhoods don't have sidewalks, or if they live far from a walking or biking trail.

Children who live in disadvantaged areas may have a higher risk for physical inactivity and obesity, which can contribute to various health problems. To see how the environment affects these kids, scientists studied over 9,000 7th

and 9th graders from low-income communities in California.

The researchers found that nearly half the students were overweight or obese. Over half didn't meet recommended physical fitness standards. But students who reported doing at least 20 minutes of exercise during physical education (PE) classes were leaner and fitter. Those who reported enjoying PE were more fit as well.

Although kids who walked to and from school were more fit, they were actually slightly heavier than their classmates. A closer look showed that these students were more likely to stop along the way for snacks.

These results point to potential policy opportunities to help improve students' health. ■

Featured Web Site Keep the Beat Deliciously Healthy Eating

<http://hin.nhlbi.nih.gov/healthyeating>

Get healthy shopping and cooking tips, watch videos on food preparation and download free healthy recipes at this new interactive site. Register for a free account to join the online community, where you can save your favorite recipes in a personalized virtual recipe box.

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