Exposure to tobacco smoke—even occasional smoking or secondhand smoke—causes immediate damage to your body that can lead to serious illness or death, according to a report released today by U.S. Surgeon General Regina M. Benjamin. The comprehensive scientific report—Benjamin’s first Surgeon General’s report and the 30th tobacco-related Surgeon General’s report issued since 1964—describes specific pathways by which tobacco smoke damages the human body and leads to disease and death.

The report, How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking Attributable Disease, finds that cellular damage and tissue inflammation from tobacco smoke are immediate, and that repeated exposure weakens the body’s ability to heal the damage. “The chemicals in tobacco smoke reach your lungs quickly every time you inhale causing damage immediately,” Benjamin said in releasing the report. “Inhaling even the smallest amount of tobacco smoke can also damage your DNA, which can lead to cancer.”

“Over the last two years we have stepped up efforts to reduce tobacco use, including implementing legislation to regulate tobacco products, investing in local tobacco control efforts and expanding access to insurance coverage for tobacco cessation,” said Secretary of Health and Human Services Kathleen Sebelius. “This will remain a key priority of this Administration.”

The report also explains why it is so difficult to quit smoking. According to the research, cigarettes are designed for addiction. The design and contents of current tobacco products make them more attractive and addictive than ever before. Today’s cigarettes deliver nicotine more quickly and efficiently than cigarettes of many years ago.

Tobacco smoke contains a deadly mixture of more than 7,000 chemicals and compounds, of which hundreds are toxic and at least 70 cause cancer. Every exposure to these cancer-causing chemicals could damage DNA in a way that leads to cancer. Exposure to smoke also decreases the benefits of chemotherapy and other cancer treatments.

Smoking causes more than 85% of lung cancers and can cause cancer almost anywhere in the body. One in three cancer deaths in the U.S. is tobacco related.

The report describes how the delicate lining of the lungs becomes inflamed as soon as it is exposed to the chemical mixture in cigarette smoke. Over time, the smoke can cause chronic obstructive pulmonary disease including emphysema and chronic bronchitis.

Even brief exposure to secondhand smoke can cause cardiovascular disease and increases risks from heart attack, stroke, and aortic aneurysm.

Smoking causes many other harmful effects throughout the body, including making it harder for diabetics to control their blood sugar. Smoking makes it harder for women to get pregnant and can cause a miscarriage, preterm delivery, low birth weight, as well as damage to fetal lungs and brain tissue. Babies who are exposed to secondhand smoke are more likely to die from sudden infant death syndrome, the report finds.

“This report makes it clear—quitting at anytime gives your body a chance to heal the damage cause by smoking,” the Surgeon General said. “It’s never too late to quit, but the sooner you do it the better.”

Fortunately, there are now more effective ways to help people quit than ever before. Nicotine replacement is available over the counter and doctors can prescribe medications that improve the chances of successful quit attempts. Smokers can also call 1 800 QUIT NOW for help.

To help communicate the report findings as widely as possible, the Surgeon General unveiled an easy to read guide with practical information about how tobacco smoke causes disease, A Report of the Surgeon General: How Tobacco Smoke Causes Disease; What It Means to You.

Copies of the full report, executive summary, and the easy to read guide may be downloaded at www.surgeongeneral.gov/library/tobaccosmoke/index.html. To order printed copies of these documents, go to http://www.cdc.gov/tobacco and click the Publications Catalog link under Tools and Resources.
Young Adult Smokers Dissuaded by Big Graphic Warnings, Plain Packaging

November 4, 2010

Research Summary

Smokers ages 18 to 30 could be convinced to give up cigarettes if branding information on cigarette packaging got smaller and graphic health warnings got larger, according to a new study from researchers in New Zealand.

The New Zealand Herald reported Oct. 29 on a survey of 292 young adult smokers who were asked to rate their preferences regarding a series of packaging options shown to them. Responses indicated that while packages emphasizing branding were preferred even when half of the space on the package was devoted to a health warning, smokers were much less likely to prefer packaging when the health warning covered 75 percent of the space.

“Plain cigarette packs featuring large graphic health warnings are significantly more likely to promote smoking cessation than the heavily branded packs that are still the status quo,” said lead researcher Janet Hoek, professor in the Department of Marketing at Otago University.

The research comes at a time when a report from a select committee inquiry on tobacco soon will be presented to New Zealand’s Parliament. In addition, neighboring Australia is exploring possible legislation that would require cigarette companies to use plain packaging with more prominent health warnings by 2012.

Study results were published online Oct. 21 in the journal Tobacco Control.

Electronic Cigarettes are Increasing in Popularity but May Carry Risks

Electronic cigarettes are becoming increasingly popular among people who want to quit smoking, but an opinion piece released in the journal Annals of Internal Medicine highlights the potential hazards of e-cigarettes, suggesting they may not be as benign as they may seem.

In the paper, the authors wrote that the devices pose several health concerns: "First, e-cigarettes may pose a risk as starter products for nonusers of tobacco. Although candy-flavored tobacco products and e-cigarettes were recently banned by the FDA in efforts to hinder marketing toward children, the posturing of e-cigarettes as 'green' and 'healthy' could deceptively lure adolescents. E-cigarettes also may represent a way for adolescents and adults to skirt smoke-free indoor air laws."

Survival Benefit of Smoking Cessation High After MI

Smoking cessation after myocardial infarction (MI) resulting in left ventricular (LV) dysfunction lowers all-cause mortality risk more than many pharmacologic interventions, according to a study in the American Journal of Cardiology.

Amil M. Shah, M.D., of Brigham and Women's Hospital in Boston, and colleagues conducted a randomized trial of 2,231 subjects with LV dysfunction three to 16 days after MI. Smoking status was assessed at trial entry and at regular intervals over a median 42-month follow-up. The purpose of the study was to assess the benefit of smoking cessation versus continued smoking in this population at high risk for death and recurrent MI.

The researchers found that, in subjects who smoked at baseline and survived to six months without interval cardiac events, smoking cessation at six-month follow-up was associated with a significantly lower all-cause mortality risk (hazard ratio [HR], 0.57).

Study Risks: Smokers Found More Prone to Dementia

Middle-aged smokers are far more likely than nonsmokers to develop dementia later in life, and heavy smokers - those who go through more than two packs a day - are at more than double the risk, a new study reports.

Researchers analyzed the data of 23,123 health plan members who participated in a voluntary exam and health behavior survey from 1978 to 1985, when they were 50 to 60 years old.

After adjusting for other factors, the researchers concluded that pack-a-day smokers were 37 percent more likely than nonsmokers to develop dementia, and the risks went up sharply with increased smoking; 44 percent for one to two packs a day; and twice the risk for more than two packs.
After many years of persistent and effective advocacy by Northern Kentucky ACTION, Campbell County Fiscal Court enacted a comprehensive smoke-free workplace ordinance December 2010. A proposed exemption for ‘drinking establishments’ was considered but the comprehensive law prevailed. Implementation is scheduled for April 2011.

Campbell County joins 27 other Kentucky communities with smoke free regulations and will be the 18th Kentucky community with a comprehensive smoke-free workplace ordinance or regulation.

WHO: Secondhand Smoke Kills 600,000 a Year

December 1, 2010
Research Summary

In the first such global study of its kind, the World Health Organization (WHO) has determined that one out of a hundred deaths each year worldwide is caused by secondhand smoke exposure, amounting to about 600,000 deaths a year, Reuters reported Nov. 26.

Overall, 47% of deaths from second-hand smoke occurred in women, 28% in children, and 26% in men.

Researchers led by Dr. Annette Prüss-Üstün of the WHO's Public Health and the Environment Department based their findings on comparative risk assessments from 192 countries, during 2004 -- when data were sufficient to assess exposure to secondhand smoke.

Children were most likely to be exposed to secondhand smoke, usually at home. Approximately 165,000 children died per year as a result. Hardest hit were children in poor and middle-income countries, particularly those in Africa and Asia, where infectious disease and tobacco exposure combined to have the deadliest impact on child mortality.

Conversely, deaths from passive smoking among adults were spread evenly across countries, regardless of living standards.

Prüss-Üstün hoped the findings would serve as a catalyst for countries to enforce the WHO's Framework Convention on Tobacco Control, a global initiative aimed at reducing the burden of tobacco-related disease by increasing taxes on tobacco products, banning tobacco advertising, eliminating smoking in public places, and making packs less commercially attractive.

"Policy-makers should bear in mind that enforcing complete smoke-free laws will probably substantially reduce the number of deaths attributable to exposure to second-hand smoke within the first year of its implementation, with accompanying reduction in costs of illness in social and health systems," she said.

The study was published online in the Lancet Nov. 26.
Nicotine Increases SIDS Risk

November 17, 2010
Research Summary

A multi-study review found nicotine might be behind the increased risk of sudden infant death syndrome (SIDS) in babies whose mothers smoke.

Investigators at Cincinnati Children's Hospital Medical Center led by Hemant Sawnani, MD, sifted through volumes of research examining the relationship between maternal smoking, infant sleep apnea, and SIDS. Several of the studies found nicotine negatively affected development of the part of the brain responsible for respiratory control.

In fact, the risk of SIDS increased two-fold for infants whose mothers smoked moderately while pregnant and five-fold for infants whose mothers smoked heavily.

Interestingly, paternal smoking around pregnant mothers also increased the risk of sleep apnea in infants -- an association that did not persist after the babies were born.

"This finding suggests the effect of maternal smoking on infant apnea is more likely to be from prenatal than postnatal exposure," said the authors.

"In utero cigarette smoke exposure has been identified as one of the major risk factors for SIDS in many epidemiological studies," they continued.

"The importance of education of women of child-bearing age … should be considered paramount in reducing the most modifiable risk factor for SIDS."

The study was published in the Nov. 1 issue of Pediatric Allergy, Immunology and Pulmonology.