

Used fumes pollute non-smokers, too

Second-hand cigarette smoke—the legacy of nicotine addicts—leads to disease and untimely death among non-smokers, with children especially vulnerable, Surgeon General C. Everett Koop said last week. He called for a “smoke-free society by the year 2000.”

“I’ve just told you what happens to children: That’s very solid,” Koop said of second-hand, or “passive” cigarette smoke inhalation. More solid research on the evils of passive smoking will be released shortly, he predicted.

Smokers’ children are more prone than non-smokers’ offspring to bronchitis, pneumonia, hospitalizations and missed school days, plus, their parents’ bad example sets them on the “garden path” to lung disease, Koop said at a press conference on the 1984 report, “The Health Consequences of Smoking.” (See related story p. 348.) “It seems to me that a parent interested in the best welfare of his child would stop [smoking],” Koop says.

The 1984 report focuses on chronic obstructive lung diseases (COLD) such as bronchitis and emphysema, ailments that afflict 10 million people. In 1982, smoking killed 50,000 COLD sufferers, the report says. Smoking also claimed 130,000 lives from cancer and 170,000 from heart disease that year, Koop says. The costs of cigarette-related death and disease are about \$26 billion for lost manpower and \$13 billion for health care, he says.

A spokesman for the Tobacco Institute, the trade association of the \$25 billion industry, which received \$57 million in federal subsidies between 1933 and 1981, termed the report “unproven ... conjecture.”

“Dr. Koop seems to have disqualified himself from objective science by reciting the anti-smoking coalition’s political agenda by rote. He ought to think about what he’s doing,” said spokesman Bill Toohy. “We’re hopeful that open-minded readers of the ... report will discover that health claims by anti-smokers about environmental tobacco smoke [passive smoking] remain unproven. It is based on a great deal of conjecture.”

Koop says 80 studies back up his assertions, with more studies to follow soon.

“The tobacco industry has always said these things about our reports,” Koop says. “I guess if I was selling cigarettes I’d say the same thing.”

Meanwhile, researcher Kathleen Stone of Ohio State University in Columbus released a related report on passive smoke at the American Lung Association’s yearly meeting last week. She found that smoke puts both pregnant women and their fetuses at “significantly” higher risk for abruptio placentae — when the placenta prematurely pulls away from the uterine wall. Also, smoke-exposed infants under one year suffer more colds and pneu-

monia, she says.

Koop says his and prior reports on smoking may be why fewer people smoke: The U.S. per capita consumption of cigarettes dropped from 4,195 in 1964 to 3,949 this year. A nicotine chewing gum approved for sales this year may help people quit, as may sterner new warnings imprinted on cigarette packs, he says.

Pending before Congress is a bill that would make manufacturers rotate four warnings about smoking that more explicitly cite health hazards than the cur-

Criminal destiny: Nature meets nurture

When psychologist Sarnoff Mednick began studying criminal convictions among adoptees and their biological and adoptive parents over 10 years ago, he was a confirmed believer in the environment as the master architect of behavior. The environment is still an important part of his theoretical blueprint, but he now says that biological predispositions can affect criminal behavior, especially repeated property crimes.

Mednick and William F. Gabrielli Jr., both of the University of Southern California in Los Angeles, and Barry Hutchings of the University of Copenhagen, Denmark, report in the May 25 *SCIENCE* that there is a statistically significant association between 14,427 Danish adoptees and their biological parents for convictions of property crimes. There is no similar connection for violent crimes, or between adoptee and adoptive parent court convictions.

Siblings adopted into different homes tend to have the same conviction rates. This relationship becomes stronger if the shared biological father has a criminal record.

But only a small number of the adoptees committed crimes, notes Mednick. Repeat offenders had a disproportionate number of convictions; 4 percent of the male adoptees account for 69 percent of all court convictions for males in the sample. Adoptees whose biological parents committed three or more crimes were more likely to be repeat offenders. Still, 75 percent of this group never received a court conviction.

Mednick says that social factors such as poverty and an unstable home environment have a major influence on criminality, but that a biological predisposition may also be at work in children who grow up to become career criminals.

“Our study suggests that we [may be able] to predict who will become a career criminal by using measures of biological function,” Mednick told *SCIENCE NEWS*. Environmental variables would also have to be considered, he adds.

When Mednick presented preliminary

statement that cigarettes pose a risk. Congress is expected to vote in June.

Koop also calls for a private industry campaign aimed at young people, who can benefit most from quitting the habit. But self-motivation is the key to quitting, he says, as it was with his own father. Once a two-pack per day smoker, the elder Koop stopped after overhearing his son say, “Pop hasn’t got the guts to quit.”

Koop recalls that his father “went upstairs, threw his cigarettes in the toilet ... and never smoked again. Why? I was his only son. My approval was important. You’ve got to find something like that for most people,” Koop says. —A. Rowand

findings from his study two years ago at an American Association for the Advancement of Science meeting in Washington, D.C., he received harsh criticism from researchers and civil libertarians. They feared that the study might be used to justify the forced treatment of children tagged as having a genetic predisposition to crime and the neglect of social problems that contribute to criminality.

“There are some good reasons for these fears,” says Mednick. “But we need to reduce the burden on the general public, the victims of crime and the offenders who go to overcrowded, ineffective prisons ... [We can do this] through preventive efforts that address a gene-environment interaction.”

Mednick’s results are consistent with three studies of Swedish adoptees reported in the November 1982 *ARCHIVES OF GENERAL PSYCHIATRY*. Psychiatrist C. Robert Cloninger of the Jewish Hospital of St. Louis and three colleagues found a complex interplay among genetic and environmental risk factors for criminality in a sample of 913 women and 862 men.

Their data indicate that alcohol abuse is associated with repeated violent offenses while nonalcoholic criminals usually commit a small number of petty property offenses; unstable adoptive families increase the risk for petty criminality; low social status is correlated with alcohol-based crimes; social status of adoptive and biological parents increases the risk of criminality only when the biological parents are petty criminals; male and female petty criminals have similar biological backgrounds but appear to respond to different environmental variables.

The Danish study provides more evidence for a combination of genetic and environmental influences on some types of criminality, says Cloninger.

“It’s silly to think that genes code specifically for criminal behavior,” he explains. “But there are gene products that can be influenced by the environmental setting and social learning and that indirectly predispose some people to criminal reactions.” —B. Bower