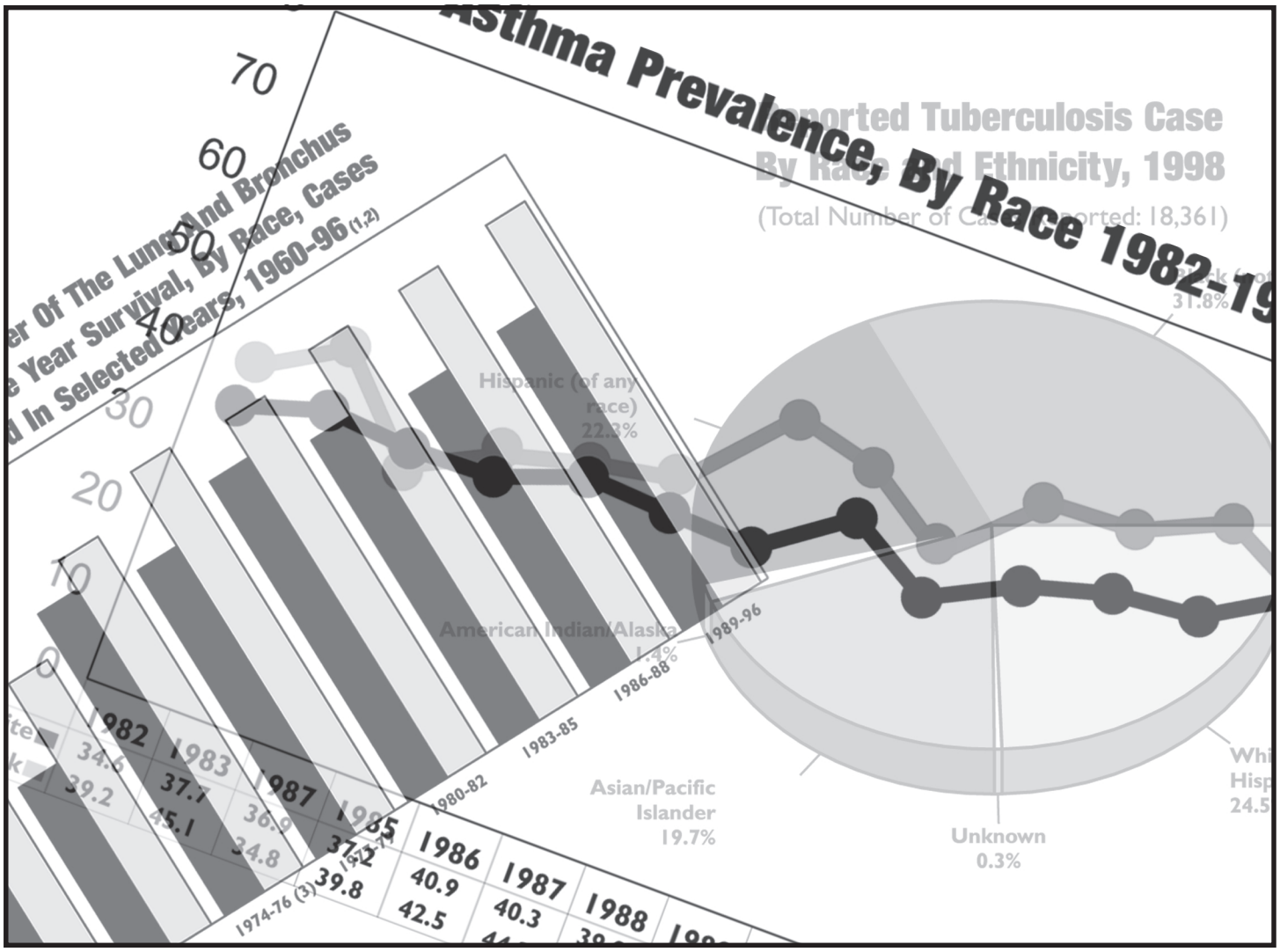
AMERICAN LUNG ASSOCIATION®

Minority Lung Disease Data 2000



MINORITY LUNG DISEASE DATA 2000

HELPFUL DEFINITIONS

Prevalence: The number of existing cases of a particular condition, disease, or other occurrence (e.g. persons smoking) at a given time.

Incidence: The number of new cases (as of a disease) occurring during a particular period of time (as a year).

Prevalence or Incidence Rate: Cases in a particular population quantity (e.g., 10 cases per hundred thousand).

Age-adjusted Figure: A figure that is statistically manipulated to remove the distort ing effect of age when comparing populations with different age structures.

RACIAL AND ETHNIC CATEGORIES

By and large, the terminology used by the U. S. Public Health Service and other Federal agencies reflects the self-identification categories employed by the census. These designations are sometimes ambiguous or imprecise, and they may overlap.

"**African Americans**" **or** "**black Americans**" refers to residents of the United States who are of African descent. African Americans account for an estimated 12.8 percent of the U. S. population.

"**Hispanic**" **or** "**Hispanic-Americans**" refers chiefly to a wide spectrum of ethnic groups from Mexico and Spanish-speaking areas of Central and South America and the Caribbean. According to March 1993 estimates, 64.3 percent are of Mexican origin or descent, 10.6 percent Puerto Rican, and 4.7 percent Cuban; slightly more than 13 percent are from Central and South America. The terms "Chicano" and "Latino" are sometimes used. "Hispanic" is essentially a cultural/linguistic term; Hispanics may be of any race. They represent an estimated 11.0 percent of the U. S. population.

"**American Indians/Alaskan Natives**" **or** "**Native Americans**" denotes descendants of the various indigenous peoples of North America, including those referred to as American Indians, Eskimos, Aleuts, and Inuit. Together, they account for just under one percent of our population.

"**Asians/Pacific Islanders**" is a geographic designation rather than a cultural or strictly racial one. The category represents an estimated 3.8 percent of the U. S. population. Of the Asians, most are of Chinese (22.6 percent), Filipino (19.3 percent), Japanese (11.7 percent), Asian Indian (11.2 percent), Korean (11.0) percent), or Vietnamese (8.5 percent) descent. Pacific Islanders represent 4.5 % of the Asian/Pacific Islander population. The Pacific Islanders are overwhelmingly of Hawaiian (65.2 percent), Samoan (19.5 percent), or Guanmanian (15.3 percent) origin.

Introduction

Lung disease affects people from all races and nationalities. But some groups are especially hard hit by suffering caused by asthma, lung cancer, tuberculosis and other forms of lung disease.

Some populations are at increased risk because they suffer elevated exposure to indoor-air contaminants. Examples include Native Americans who have higher-than-average smoking rates, or people living in substandard, roach-infested housing in urban environments. In addition, there are populations who are at risk because they do not have access to health education or quality medical services, such as recent immigrants, the rural poor, and people with low literacy skills. Some minority groups may be at increased risk of certain lung diseases because they are genetically predisposed to these conditions; researchers are studying the role of genetics in a wide range of lung diseases.

To understand the broad impact that lung disease has on minority communities, consider the following:

- Smoking among African American youths increased substantially during the 1990s.
- If current patterns continue, an estimated 1.6 million African Americans who are now under the age of 18 will become regular smokers. About 500,000 of those smokers will die of a smoking-related disease.
- The occurrence of childhood asthma is three times as high in Puerto Rican children compared with non-Hispanic white children.
- Black children are three times as likely as whites to be hospitalized for treatment of asthma.
- The overall risk of becoming infected with tuberculosis in 1996 for Asians and Pacific Islanders in the United States was almost 15 times that for whites.
- In 1998, the incidence rate of tuberculosis among Native Americans was 12.6 per 100,000 persons, more than five times that for non-Hispanic whites and nearly twice the risk of the general population.

The American Lung Association's *Minority Lung Disease Data* is designed to provide statistics, background material and useful information for everyone involved in the fight against lung disease to help people breathe easier in the diverse communities we serve. We have chosen asthma, tobacco control and the environment as areas of special focus, because we believe they represent the most pressing challenges as well as the great promise of early conquest.

For information on how you can fight lung disease in your community, call your local American Lung Association at 1-800-LUNG-USA (1-800-586-4872) or visit our web site at www.lungusa.org.

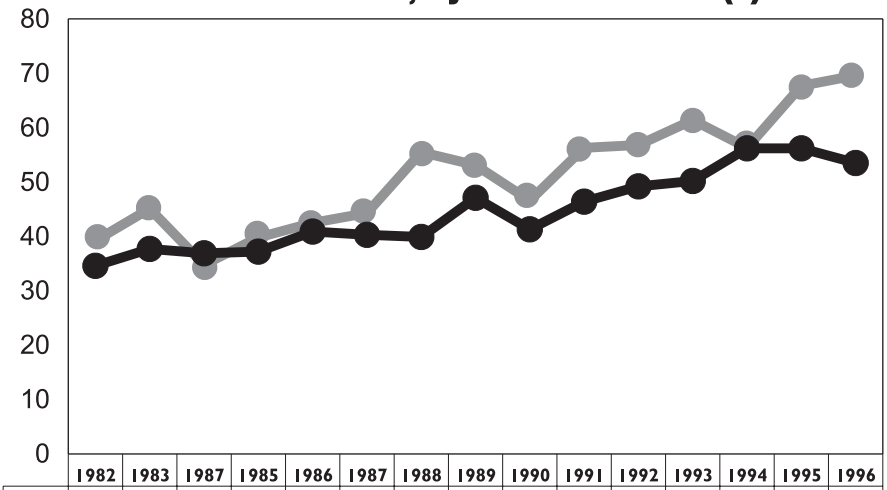
FOCUS: ASTHMA

Asthma ranks eighth in prevalence among chronic conditions in our nation. It is a leading cause of serious illness among children and poses a special danger to the health and lives of minority children in the U.S. In addition, asthma has been on the rise among children and adults.

Between 1982 and 1996, the prevalence rate—the rate per thousand persons (for all ages)— of asthma rose from 34.8 to 55.2—an increase of 59 percent. The prevalence rate of pediatric asthma rose from 40.1 to 62.0—a 55 percent increase—during the same period of time. Scientists have not been able to determine a definitive cause for the increase.

The airways of asthma sufferers are almost continuously inflamed and hyperactive, sent into suffocating spasms by a broad range of triggers that may vary from one person to another. Asthma triggers include: smoke, airborne molds, pollens, dust, animal dander, exercise, cold air, many household and industrial products, air pollutants, scents and simple stress. An attack finds the victim gasping for breath as the airways become constricted, the passages inflamed and clogged with thick, sticky secretions. Such attacks—which can be fatal—also bring more than 1.9 million Americans to emergency rooms each year. Asthma accounts for 17 percent of all pediatric emergency room visits in the United States.

Asthma Prevalence, By Race 1982-1996 (1)



	1982	1983	1987	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
White	34.6	37.7	36.9	37.2	40.9	40.3	39.9	47.1	41.3	46.4	49.2	50.2	56.2	56.2	53.5
Black	39.2	45.1	34.8	39.8	42.5	44.3	55.5	53.1	46.6	56.3	56.8	61.4	56.3	67.7	69.6

Source: National Center For Health Statistics: National Health Interview Survey, 1982-1996 Note: (1) Because these estimates are based on a sample, they may differ from figures that would be obtained from a census of the population. Each data point reported is an estimate of the true population value and subject to sampling variability.

More Than a Childhood Illness

An estimated 17.7 million Americans suffer from asthma; more than 5.6 million are children under age 18. And 75 percent of these children will continue to struggle with asthma into adulthood. People most often do not outgrow the condition entirely. According to a research report published by the American Lung Association, 85 percent percent of women and 72 percent of men live out their lives with the disease.

A Disease That Discriminates

Asthma is a potential danger to the health of all children—and many adults—with the disease, but the illness occurs in disproportionate rates among people of different ethnic and cultural backgrounds.

Hispanics

A number of studies have found that mainland Puerto Ricans, for unknown reasons, have a higher rate of asthma compared with other Hispanic groups. The occurrence of childhood asthma is three times as high in Puerto Rican children compared with non-Hispanic white children. A study of more than 3,000 Hispanics in New York found that overall, Puerto Ricans reported a 13.2 percent asthma prevalence rate, compared with 5.3 percent among Dominicans and other Latinos. The study, published in June 2000 in the *American Journal of Public Health*, noted that differences among Hispanic groups were not explained by location, household size, use of home remedies, education level, or the country where education was completed.

In addition to having higher asthma prevalence rates, Puerto Ricans also have higher asthma death rates compared with other Hispanic groups as well as whites and non-Hispanic blacks. According to a recent study in the *American Journal of Respiratory and Critical Care Medicine,* Puerto Ricans had an age-adjusted annual asthma death rate of 40.9 per million, followed by Cuban-Americans (15.8), and Mexican-Americans (9.2). The rate of non-Hispanic whites was 14.7 per million, and non-Hispanic blacks, 38.1 per million.

African Americans

Reported asthma prevalence in non-Hispanic blacks is almost twice as high as that reported in Non-Hispanic whites. Black children are three times as likely as whites to be hospitalized for treatment of asthma. And that number tells only part of the story. Blacks are rushed to emergency rooms for asthma attacks at more than four times the rate (22.9 visits per thousand population) of whites (4.9 per thousand) or those of other races (3.3 per thousand).

In July 1999, researchers at Mount Sinai School of Medicine published research showing that hospitalization rates for asthma in New York City are as much as 21 times higher in low-income neighborhoods and those where the population is predominantly of minority race. The study appeared in the *Journal of Asthma*.

Health care differences. Not only are asthma rates higher in African Americans compared with whites, but several studies point to racial differences in health service use for patients with asthma. A study published in August 1998 found that African American patients with asthma enrolled in a managed care organization were 36 percent less likely than their Caucasian counterparts overall to visit an asthma specialist. The study, published in the *American Journal of Respiratory and Critical Care Medicine*, also found that African Americans filled fewer prescriptions for inhaled steroids, the mainstay of treatment for chronic asthma.

A 1999 Cleveland Clinic Foundation study of managed care patients who had been hospitalized for asthma found that African American patients made more asthma-related emergency department visits (45.2 percent) than white patients (22.4 percent) during the one year after the initial hospitalization. During the same year, whites made more asthma-related visits to their primary care doctor (70.2 percent) and allergy/pulmonary visits (38.8 percent) than African Americans, 47.6 percent of whom visited a primary care doctor and 27 percent of whom visited an allergist or pulmonologist. Regular care from a primary care physician or asthma specialist can help patients keep their asthma under control and help prevent emergency room visits for asthma attacks. The researchers note that asthma education programs are needed for low-income African American patients to improve asthma health care use.

A Life-Threatening Illness

Asthma is far more than a recurring, chronic, condition. If not managed carefully and treated quickly, the disease can be fatal. The number of asthma deaths, like asthma cases, has been rising. There were 5,438 deaths from asthma recorded in 1998, up from 2,598 in 1979. More alarming are the considerable differences in asthma deaths among persons in communities of color. Although African Americans represent 12.8 percent of the U.S. population, they account for 23.7 percent of asthma deaths. The age-adjusted asthma mortality rate for 1998 was 1.1 per 100,000 for whites and 3.7 per 100,000 for blacks—more than three times as high. As with asthma prevalence rates, the reasons for this discrepancy are unknown.

Asthma should be a controllable disease, yet a recent study in the journal *Pediatrics* found that many inner-city children with persistent or severe asthma appear not to use the recommended treatment of inhaled anti-inflammatory medicine on a daily basis. Doctors at the New York Academy of Medicine studied inner-city children with asthma, three-quarters of whom were Puerto Rican or black, and found that of the 107 children who were identified as having severe or persistent asthma, only 39 percent took anti-inflammatory medication daily, even though most of those children would benefit from daily treatment with this medication, the researchers noted.

Risks and Possible Causes

While the exact causes of the excessively high rates of asthma among black and other minority children are still a mystery, there is growing evidence that pollution, both outdoors and indoors, and limited access to quality healthcare play a major role. Acidic air particles, sulfur dioxide, and overexposure to ozone—all forms of air pollution that are far more prevalent in minority communities—have been linked to increases in patients' emergency-room visits and hospital admissions.

In recent years, researchers have been trying to determine whether income plays a role in the higher rate of asthma among African Americans. A study by Harvard University researchers published in December 1999 in the journal *Pediatric Pulmonology* looked at families with a history of asthma and found that black and Hispanic parents were twice as likely as white parents to have asthma, and black and Hispanic children were 2.9 times as likely as white children to suffer from asthma. These

researchers concluded that a large proportion of the racial/ethnic differences in asthma prevalence in their study was explained by factors related to income, residence and education.

But two other recent studies came to a different conclusion. A researcher at Rutgers University in New Brunswick, New Jersey analyzed data from a national survey of maternal and infant health, and found that asthma prevalence, hospitalization and emergency room use did decline with increasing income for non-black children, but not for black children. And a study of patients hospitalized for asthma in California in 1993, published in the journal *Chest* in 1998, found that rates of asthma among blacks remained fourfold higher even after taking income into account.

Asthma and Violence

A study presented at the 2000 International Conference of the American Thoracic Society suggests that stress related to living in high-crime areas may contribute to asthma among urban minority children. Children under the age of 26 months who live in areas with higher levels of violent crime are up to twice as likely to have physician-diagnosed asthma as those who live in low-crime areas, according to the study by Harvard University researchers. In addition, this study suggests violent crime and higher levels of vacant housing was each associated with a 40 percent increased risk of having physician-diagnosed asthma among children over age 2.

Rosalind Wright, M.D., M.P.H. and colleagues set out to find out whether living in areas of social disorganization (defined by measures including poverty, substandard housing, and high rates of crime and violence), might worsen the impact of individual-level risk factors of asthma. They interviewed the families, used the Boston police database to calculate violent crimes reported per capita, and used census data to look at poverty and housing. They examined the relationship between markers of neighborhood disadvantage and data on 549 inner-city children they had followed since birth for development of asthma/wheeze, looking at incidence of these children's respiratory symptoms, use of bronchodilators, and physician diagnosis of asthma.

Dr. Wright presented data on this same group of children at the ATS meeting two years ago suggesting that violence may be associated with increased severity and occurrence of asthma among inner-city children. That earlier study suggested that children exposed to violence in their neighborhood (such as hearing gunshots, or witnessing physical violence, often involving weapons), were twice as likely to experience wheezing and to use bronchodilator asthma medication for wheezing, and almost three times as likely to be diagnosed with asthma compared with children not exposed to violence.

Other proposed explanations for the disproportionately high asthma rates among inner-city residents include increased exposure to cockroach allergens. The results of the National Cooperative Inner-City Asthma Study suggest an association between exposure to cockroaches and episodes of asthma.

Prevention: Keeping Airways Free and Clear

The best defenses against asthma attacks are prevention strategies that can be effective in the home and the community. Here are some of the American Lung Association's recommendations:

1. Create a smoke-free environment. Research suggests that the children of smokers are twice as likely to have asthma as the children of non-smokers, and that otherwise healthy babies born to women who smoked during pregnancy have narrowed airways. Do not expose children or asthmatic adults to secondhand smoke. Do not smoke during pregnancy.
2. Clean up indoor pollution. The National Cooperative Inner-City Asthma Study also revealed that more than 36.8 percent of the children surveyed were reactive to cockroach allergen, 34.9 percent to dust-mite allergen, and 22.7 percent to cat allergen. Other research indicates that adults with asthma have similar sensitivities. Control cockroach proliferation in the home with the use of non-aerosol pesticides and by careful food management. Dust mites cannot be eliminated, but they can be controlled by several measures:

- Wash bed linens in temperatures of 130 degrees or more.
- Do not put stuffed animals, rugs, carpets, fluffy curtains or other dust magnets in bedrooms.
- Keep floors as dust-free as possible by damp mopping or vacuuming with a specially designed vacuum.

3. Bring the American Lung Association's Open

Airways For Schools program to your child's school. This program teaches children how to manage their asthma and lead healthy, normal lives. Call 1-800-LUNG-USA to find out more.

4. Treat with care. Mild asthma can quickly become severe asthma if proper medication and management procedures are not followed. Strictly adhere to doctors' instructions and stick to medication schedules. Seek the best treatment, which currently is thought to include antiinflamatory medications.
5. Avoid outdoor air pollution. The most important step asthmatics can take to protect themselves from outdoor air pollution on a day-to-day basis is to avoid exposure on bad air quality days. When ozone and particulate matter levels are high, asthmatics should restrict their physical activity outdoors, or stay inside.

   For information about daily air quality conditions, and about the national air quality standards, contact your local American Lung Association at 1-800-LUNG-USA, or call your state or local air quality control office.

FOCUS: Tobacco control and lung disease

The evidence that cigarette smoking kills is overwhelming. An estimated 430,700 Americans die yearly from diseases directly related to cigarette smoking. Roughly 50 percent of regular cigarette smokers will eventually die as a result of the their addiction.

Cigarette smoking causes a wide range of damage including lung cancer (87 percent of cases), emphysema, chronic bronchitis, coronary heart disease, and stroke. According to a report from an American Cancer Society conference tobacco smoke contains at least 63 distinct, cancer-causing chemicals. Secondhand smoke (also known as environmental tobacco smoke or ETS) is smoke inhaled by nonsmokers from other people's cigarettes and has been shown to have devastating effects on the health of adults and children.

The U. S. Environmental Protection Agency has classified secondhand smoke as a known human (Group A) carcinogen. ETS is estimated to cause 3,000 lung cancer deaths, 37,000 heart disease deaths and 13,000 deaths from other cancers each year. ETS also poses a health threat to children.

The Youngest Victims. Smoking during pregnancy accounts for an estimated 20 to 30 percent of low-birthweight babies, up to 14 percent of premature deliveries, and some 10 percent of all infant deaths. For many minority groups—notably African Americans and Native Americans—who already experience far above average infant mortality rates, preventing smoking or exposure to secondhand smoke among pregnant women is crucial.

Smoking by parents has also been associated with a wide range of illnesses in their children. An increased number of colds and ear infections, incidence of sudden infant death syndrome (SIDS), and exacerbated cases of asthma are all more common among children of smokers. Smoking in teens and young adults is on the rise. That is of particular concern because 90 percent of adults who smoke started before age 21, and half of them had become regular smokers by their 18th birthday. Recent data from the Centers for Disease Control and Prevention's nationwide 1999 Youth Risk Behavior Survey show that current cigarette smoking (defined as smoking during the prior 30 days) among high school students is on the rise—increasing from 27.5 percent in 1991 to 34.8 percent in 1999. The increase is particularly noticeable among black males, increasing from an estimated 14.1 percent in 1991 to 21.8 percent in 1999. However, black teens still smoke far less than both white, non-Hispanic teens and Hispanic adolescents. Here's the comparison:

	Black	White	Hispanic
Female	17.7%	39.1%	31.5%
Male	21.8%	38.2%	34.0%

Why do white teens smoke more than black teens? Research suggests that more white teens think smoking is "cool," while smoking is less socially acceptable among black teens. Other factors may be the importance of athletics and religion among blacks, as well as the perception among whites that cigarettes help control weight. As for quitting smoking, more blacks age 18 and older stop smoking cigarettes for at least one day compared with whites. However, more whites than blacks actually quit for a least one year.

Recent research by the CDC's Office on Smoking and Health indicates that blacks and non-black Hispanics are more likely than white smokers to reduce or quit

smoking due to cigarette price increases. A study by University of Illinois at Chicago in 1999 also found that smoking rates of young black men are significantly more responsive to changes in price compared with young white men.

Special Risks Among Minorities

Health problems that can be caused or aggravated by smoking or by exposure to secondhand smoke—such as tuberculosis, SIDS, acute lung infections, asthma, AIDS, and occupational or environmentally related lung disease—occur at disproportionately high rates among people of color.

Since various ethnic and cultural groups use tobacco at different rates (Native Americans, for example, smoke far more than African Americans), there is a very broad range of tobacco-related health problems in different groups. Among racial and ethnic groups, the prevalence of current smoking is highest among American Indians/ Alaskan Natives (34.1 percent), followed by African Americans (26.7 percent), whites (25.3 percent), Hispanics (20.4 percent) and Asians/Pacific Islanders (16.9 percent).

African Americans. While the overall level of smoking for African Americans is similar to that of whites, the smoking rates for African American men is much higher. As is noted in the following section, lung cancer occurrence rates among African American males are higher than whites as well. The Surgeon General's Report on Tobacco Use Among U.S. Racial/Ethnic Minority Groups, released in April 1998, showed some disturbing trends:

- Each year, approximately 48,000 African Americans die from a smoking-related disease that could have been prevented.
- If current patterns continue, an estimated 1.6 million African Americans who are now under the age of 18 will become regular smokers. About 500,000 of those smokers will die of a smoking-related disease.
- Smoking declined dramatically among African American youths during the 1970s and 1980s, but has increased substantially during the 1990s.

Hispanics. The numbers suggest that Hispanics smoke a lot less than the national average. This is primarily due, however, to the very small proportion of Hispanic women who report smoking. Hispanic women are less likely than Hispanic men to be current smokers. Only 14.3 percent of Hispanic females report current smoking compared with 26.2 percent of Hispanic men. Among Hispanic groups, smoking prevalence is highest in Puerto Rican Americans (25.0 percent), followed by other Hispanics (22.4 percent), Mexican Americans (22.2 percent) and Cuban Americans (20.7 percent).

A national survey has revealed a sharp upward trend in Hispanic teen smoking: among Hispanic adolescents, the smoking rate increased 29 percent between 1991 (25.3 percent) and 1999 (32.7 percent). During the same years, the rate of increase for white students was 25 percent, from 30.9 percent in 1991 to 38.6 percent in 1999.

Asians/Pacific Islanders. Recent prevalence data show that Asian American and Pacific Islander men (21.6 percent) smoked slightly less than white men (27.4 percent). However, smoking prevalence was substantially lower among Asian American and Pacific Islander women (12.4 percent) compared with white women (23.3 percent). Nonetheless, unlike the general population, smoking rates among Asian and Pacific Islander women increases with age.

There are significant variations in smoking rates among Asian Americans and Pacific Islander groups. Much higher smoking rates are seen among population groups from Southeast Asia (e.g., Vietnam, Cambodia, Laos) than among population groups from other locations (e.g., Philippines, China, Japan).

Native Americans. Smoking rates among Native Americans vary greatly by region. Tribes in the southwest-

Current Cigarette Smokers (%) Age 18 and up

Groups	Total	Men	Women
Whites	25.3	27.4	23.3
African-Americans	27.2	33.9	21.8
Hispanics	19.5	24.3	15.2
American Indians/ Alaskan Natives	42.2	53.7	33.7
Asians/ Pacific Islands	13.9	20.4	7.5
General Population	25.5	28.2	23.1

ern states smoke far less than the general population, while those living in the Plains states smoke far more. In 1997, 34.1% of Native Americans smoked, 37.9% and 31.3% of men and women respectively. Reporting is limited by the fact that there is insufficient information available on this group. American Indian and Alaska Native lands are sovereign nations and are not subject to state laws prohibiting the sale and promotion of tobacco products to minors. As a result, American Indian and Alaska Native youth have access to tobacco products at a very young age.

Prevention: Reducing Tobacco Use

As rates of smoking among white Americans continue to decline, tobacco companies have stepped up their efforts to target Asian/Pacific Islander, African American, and Hispanic communities with print and broadcast advertising campaigns. Since nicotine has been proven to be a highly addictive drug, combating tobacco company efforts with solid anti-smoking programs is the best defense.

l. Stop them before they start. Since most smokers start their habit in the early years of high school, experts say that prevention efforts should begin as early as kindergarten and continue through high school, with a special emphasis on the critical preteen years. Here's how to begin:

- Parents can start by setting a good example. Protect your children from the health risks posed by second hand smoke. Raise them in a smoke-free home.
- Let children know that smoking is bad for their health and a dangerous habit to start as soon as they are old enough to understand.
- Teens respond poorly to health risk messages, but it does help to explain to them that smoking means yellow teeth, stained fingers, and bad breath.
- Call your local American Lung Association to find out about our Teens Against Tobacco Use (TATU) program to keep kids smoke-free. For teens who already have started smoking but are ready to quit, the American Lung Association offers a new state-of-the-art smoking cessation program designed specifically for teens called Not on Tobacco (N-O-T).

2. Kick the habit. There are currently 44 million ex-smokers in the U. S. They are living proof that cigarette smoking can be beat, but no single method works for everyone. The first thing to remember is that while nicotine is addictive, countless keep-smoking cues—such as consuming alcoholic beverages—exist in smokers' lives. Learning when and why you smoke and keeping a record is a good first step to cutting down on the number of cigarettes you smoke each day.

Quitting smoking is a two-step process that includes: 1) Overcoming the physical addiction to nicotine. 2) Breaking the smoking habit. Nicotine replacement therapy products are available to help people quit by providing nicotine to the bloodstream in order to reduce cravings and relieve physical withdrawal symptoms. These products are safer than smoking because they do not contain the more than 50 toxins which are found in cigarettes. Nicotine replacement therapy products are available in numerous forms such as the patch and gum, which are available over the counter, and the nasal spray and inhaler, which are available by prescription. Research has shown that nicotine replacement therapy, in conjunction with a comprehensive behavior-change program, can substantially increase chances of quitting compared with trying to quit cold turkey. These products, however, are not intended for everyone. It is important to check first with a doctor or pharmacist to find out which product is right for each individual.

Nicotine patches help reduce nicotine withdrawal symptoms by providing a steady dosage of nicotine throughout the day. Each day, a new patch is applied to the upper body. Patches sold over the counter are available in either 6-week or 10-week treatment periods. Nicotine gum provides nicotine to the bloodstream to help reduce the urge to smoke. Like the nicotine patch, nicotine gum helps reduce some of the physical symptoms that people experience when trying to quit. Nicotine gum is available over the counter and the recommended treatment period is 12 weeks.

Some people need to check with their doctors before they use these products, including pregnant and nursing women, those with heart disease, high blood pressure and those who have had a recent heart attack.

New research reports that the best overall approach to building a solid smoking cessation program is to enlist the help of your physician, family, and friends, while participating in a programs such as the American Lung Association's Freedom From Smoking Clinics.

Lung Cancer

Lung cancer is the most common fatal malignancy in the United States for both men and women. (Skin cancer is far more common, but not ordinarily fatal). An estimated 156,900 Americans will lose their lives to lung cancer in 2000 and a disproportionate number of those people will be from minority groups.

How the Disease Discriminates

African Americans. Black men suffer high rates of this disease. Overall, lung cancer accounts for 14 percent of all cancers; in black males, the figure is 25 percent—or one in four.

The 1997 lung cancer death rate for black males (70.6 per 100,000) is almost 43 percent higher than that for white males (49.3 per 100,000). These dramatic differences do not occur between black and white females. In 1997, the lung cancer mortality rate in black females was almost identical to the rate in white women (27.4 per 100,000 and 27.5 per 100,000, respectively.)

Although the lung cancer incidence rate for black men has declined over the past decade, black men still had an incidence rate that was more than 54 percent higher than that of white men in 1997. Black men and women also have lower lung cancer survival rates: the five-year survival rate for blacks is only 11 percent, while the rate for whites is 14 percent—more than 27 percent higher.

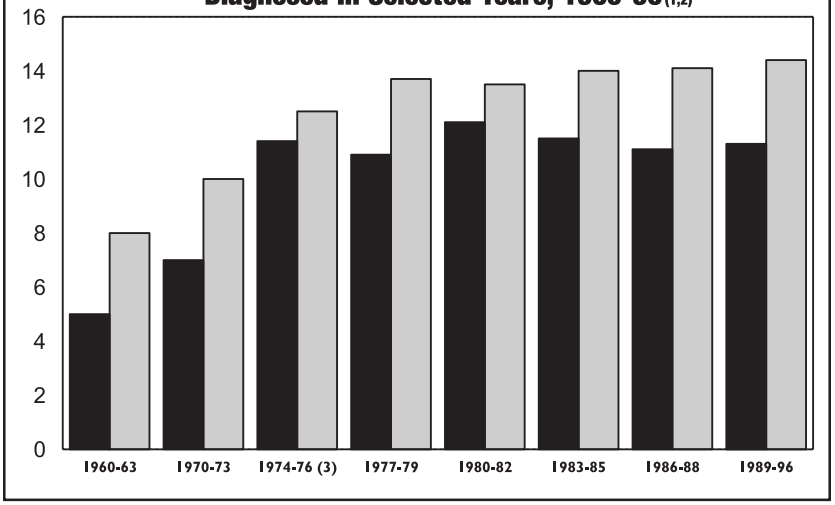
Scientists from the National Cancer Institute believe that genetic factors play only a small role in these rates and that more research is needed to understand how behavior, socio-economic status, and access to medical care affect cancer rates.

A recent study suggests that the lower survival rate among black patients with early-stage, non-small-cell lung cancer, compared with white patients, is largely explained by the lower rate of surgical treatment among blacks. The study, published in October 1999 in *The New England Journal of Medicine*, found that the rate of surgery among patients with this type of lung cancer was 12.7 percentage points lower for black patients than for white patients, and the five-year survival rate was also lower for blacks.

Hispanics. Studies conducted in the late 1970s and early 1980s strongly suggested that Hispanics were at reduced risk for lung cancer compared with other ethnic groups. The difference was especially dramatic among women, but significantly lower for men as well. These limited data appeared to be directly correlated with the lower level of cigarette smoking among Hispanics as compared with blacks and non-Hispanic whites.

Those figures have changed somewhat, with the tobacco industry aggressively targeting Hispanics along with other minority groups. One study found a doubling of Spanish-surnamed lung cancer patients in Denver between 1969 and 1981. Another study, analyzing data between 1958 and 1982, found that lung cancer mortality rates among the Hispanic population increased from 10.1 to 28.8 per 100,000 for men and from 4.8 to 11.2 per 100,000 for women during that period.

Figure 7: Cancer Of The Lung And Bronchus Trends In Five Year Survival, By Race, Cases Diagnosed In Selected Years, 1960-96 (1,2)



Source: National Cancer Institute: Seer Cancer Statistics Review, 1973-1997 Notes: (1) Rates are based on end results group data from a series of hospital registries and one population-based registry. (2) Rates are from the seer program. They are based on data from population-based registries in CT, NM, UT, IA, HI, Atlanta, Detroit, Seattle-Puget Sound and San Francisco-Oakland. Rates are based on follow-up of patients through 1996.

The most recent National Cancer Institute Seer Program estimates, for 1990-97, place the age-adjusted (to the 1970 U.S. population) lung cancer mortality rates (per 100,000) for Hispanics at 31.6 for men and 11.0 for women. Incidence rates (per 100,000) for the same time period were reported to be 38.0 for men and 19.4 for women. These rates are lower than those reported for other racial and ethnic subgroups, but higher than those reported for Hispanics in the recent past.

Asians/Pacific Islanders and Native Americans. There is marked variation among the national and ethnic groups that are included in the "Asians/Pacific Islanders" designation. While lung cancer is among the more common forms of malignancy among Asians and Pacific Islanders, rates are low in many Asian and Pacific Island nations. However, once they come to the United States, immigrants and their descendants experience higher rates of lung cancer, suggesting that environmental factors may influence their cancer risks. Overall data reported from the SEER program for 1990-97 indicate the incidence rates for Asians/Pacific Islanders as follows: 51.9 per 100,000 males and 22.5 in females. Mortality rates were 34.2 per 100,000 males and 14.9 in females.

To add to the complexity of tracing lung cancer factors and trends within these groups, there is a great deal of variation in cancer rates throughout Asia and the Pacific Islands, not only *between* nations, but also *within* countries. The lung cancer rates for Chinese and Japanese natives, for example, differ greatly by region.

Native Americans. Lung cancer death rates among Native Americans vary greatly by region and gender. In the Southwest, the Native American death rate from lung cancer ranges from a low of 4.1 deaths per 100,000 in the Tucson (Arizona) district, to a high of 28.5 deaths per 100,000 in the Billings district, which covers Montana and Wyoming. From 1958 to 1982, the New Mexico death rate from lung cancer increased 104 percent among Native American men and 163 percent among Native American women. The rate in New Mexico may be due to employment in uranium mining, which is known to contribute to lung cancer. Overall incidence rates from 1990-1997 were 42.2 per 100,000 males and 20.4 percent on females. Mortality rates were 40.9 percent per 100,000 males and 19.8 in females.

Prevention: Protecting Your Lungs from Toxins

Almost 90 percent of lung cancer cases in the United States are attributed to smoking. Heredity, lifestyle, and environment may all play a role in the development of lung malignancies. Here's what doctors currently know about prevention:

l. Avoid tobacco smoke. The number one cause of lung cancer is smoking. An estimated 87 percent of cases (seven out of eight) are the result of long-term tobacco use. The disease does not develop overnight. It takes years, usually decades, so even if you have been a smoker for some time, quitting can still cut your risk.

2. Guard against occupational risks. Prolonged exposure to hazardous materials such as asbestos can increase your chances of developing a lung malignancy. Be alert for hazards on your job.

3. Early detection is likely to reduce death from lung disease. The prognosis for lung cancer is seldom good. Since the disease offers few symptoms or warning signs, patients rarely have the opportunity to benefit from their own early detection that would make it easier for doctors to treat or manage the disease. Nevertheless, the best defense is to know the potential warning signs, such as persistent coughing, and shortness of breath. If you are experiencing either symptom, consult your doctor. A special new "CAT" scan is being investigated as a tool for early detection of lung cancer in individuals who are at high risk for the disease.

4. Nutrition and exercise count. A healthy immune system is an important defense against any form of cancer. Therefore, eating a diet rich in fruits and vegetable (five servings of each per day is the recommended minimum) and getting a moderate amount of exercise may help reduce your risk.

5. Hidden hazards can be stopped. Test your home for radon (an odorless, colorless gas that can cause lung cancer) contamination. If you discover levels above 4 pci/L, make sure your find the source and reduce the levels of the gas and your exposure.

Chronic Obstructive Pulmonary Disease: Emphysema and Chronic Bronchitis

Nearly 16 million Americans are estimated to suffer from some form of chronic obstructive pulmonary disease (COPD)—about 14 million from chronic bronchitis and about 2 million from emphysema. COPD is the fourth-ranking cause of death just behind heart ailments, cancers, and stroke. COPD, which includes emphysema and chronic bronchitis, claimed the lives of more than 112,584 Americans in 1998.

Classic emphysema develops after many years of assault on lung tissues. The walls between the tiniest air sacs within the lungs break down, and those compartments become unnaturally enlarged. Elasticity of the lung tissue is lost, and the lungs become distended, unable to expand and contract normally. As emphysema progresses, the effort needed to breathe increases and, ultimately, each breath becomes a chore.

Chronic bronchitis, though less well known than emphysema, is the ninth-ranking chronic condition in our nation. Like emphysema, many who suffer from it are subject to periodic attacks of obstructed breathing, when airways of the lungs become inflamed and clogged with mucus, often in response to environmental irritants.

COPD is the *only* lung disease category in which white Americans are disproportionately affected, and the only one for which the age-adjusted death rate for whites exceeds that for blacks (for 1998 the rates were 21.9 per 100,000 population for whites and 17.7 for blacks). This holds true even though one of the primary causes of COPD is smoking, a factor in high rates of other lung conditions among minorities.

While no firm figures are available for other population groups, the National Institutes of Health believes that such groups as Hispanics and Asian/Pacific Islanders also have lower prevalence rates of COPD than non-Hispanic whites. While overall, COPD was the fourth-ranking cause of death in the United States in 1998, COPD ranked ninth as the cause of death among Hispanics and eighth among blacks.

Prevention: Cutting Controllable Risks

Emphysema and chronic bronchitis usually occur together. The primary cause for both ailments is cigarette smoking (it accounts for 82 percent of COPD deaths). A smoker is 10 times more likely than a non-smoker to die of COPD. Other indoor and outdoor air pollutants may damage the lungs and contribute to COPD. And genetic factors may also play a role in determining susceptibility. To reduce your risks of COPD:

l. Steer clear of tobacco. COPD, like lung cancer, is considered a smoker's illness. For the best protection do not smoke and avoid exposure to secondhand smoke whenever possible.

2. Fight for clean air. Call your local American Lung Association at 1-800-LUNG-USA to find out what you can do.

FOCUS: THE ENVIRONMENT AND LUNG DISEASE

How well or how poorly our lungs perform, and whether or not we are able to maintain our overall health, depends, in great part, on the quality of the air we breathe. Exposure to any one of a number of forms of indoor or outdoor air pollution adds up to a wide range of health risks for many populations.

Environmental Justice: A Critical Issue for Minority Communities

While air pollution is a health risk for all Americans, health advocates and experts are aware that poor and ethnic communities are at greatest risk. A 1990 report of the U. S. Environmental Protection Agency (EPA) Environmental Equity Workgroup stated that "Racial minority and low-income populations experience higher than average exposures to selected air pollutants, hazardous waste facilities, contaminated fish, and agricultural pesticides in the workplace."

Industrial and electricity generating facilities, for example, are major sources of harmful air pollution. Studies show that these facilities are disproportionately concentrated in counties with high percentages of minorities. Of all the U. S. counties considered urban, only 12 percent had minority populations of greater than 31 percent. However, these areas contain 21 percent of the 3,000 major air-polluting facilities in the nation.

Data also indicate that people of color are disproportionately represented in nonattainment areas (districts failing to meet national standards for clean air).

While information is unavailable for all communities, the chart below gives some idea of levels of exposure to particularly dangerous pollutants.

Percent Minorities Living in Highly Polluted Areas

Pollutant	Whites	Blacks	Hispanics
Particulates	14.7	16.5	34.0
Carbon Monoxide	33.6	46.0	57.1
Ozone	52.5	62.2	71.2
Sulfur Dioxide	7.0	12.1	5.7
Lead	6.0	9.2	18.5

Source: EPA,Environment Equity: Reducing the Risks for All Communities, June 1993, Vol. 1 (Comments last updated Jan. 29, 1998)

In addition, while 33 percent of whites were found to live in areas that exceeded federal health standards for two or more pollutants, 50 percent of blacks and 60 percent of Hispanics lived in these areas. Even greater differences were found for areas that violate air quality standards for three and four pollutants.

Indoor Air Pollution

Elements within our homes and workplace have been recognized as a threat to respiratory health. The major culprits are:

Environmental tobacco smoke ("**secondhand smoke**"). All the perils posed by smoking apply not only to the smoker but to those in the smoker's environment, as well. For specifics, see the section on tobacco control and lung disease.

Radon is a naturally occurring gas resulting from the radioactive decay of radium, which is itself a decay product of uranium. Radon, in turn, breaks down into components known as radon progeny, sometimes called "radon daughters," which emit high-energy alpha particles. These emissions, which are odorless and colorless, are often present in the home and increase the risk of lung cancer. Smokers exposed to radon substantially increase their risk of lung cancer in comparison to exposed nonsmokers.

Combustion products (aside from tobacco smoke), include carbon monoxide (CO), nitrogen dioxide (NO2), and sulfur dioxide (SO2); they stem from such sources as stoves, furnaces, fireplaces, heaters, and dryers. Carbon monoxide, which is both colorless and odorless—can be a particularly insidious and rapid killer; fatal and near-fatal carbon monoxide poisonings have occurred most often in winter, as a result of misuse or malfunction of heating devices.

Biologicals. Excreta and dander, from living organisms such as insects, other animals (both pets and pests), pollen, molds, and dust mites that are likely to be the cause of allergic reactions. In office buildings, heating, cooling, and ventilation systems are frequent sources.

Volatile organic compounds are emitted as gases from solids or liquids. Sources include formaldehyde-containing building materials, as well as an array of home and office products ranging from cosmetics, paints, and cleaners to pesticides, copiers and printers, glues and adhesives, and craft supplies.

Lead dust is a particular danger to children and fetuses. It can cause impaired physical and mental development, as well as acute illness in both children and adults. Within older buildings (the type most likely to be found in poverty-ridden urban areas) lead dust comes from old, lead-based paint that is still on the walls. While the primary impact is not on the lungs, the respiratory system is the major route of entry into the body for lead particles. Lead poisoning via ingestion by small children (nibbling on old chips or putting lead-dust-covered objects in the mouth) has been most widely publicized—but it is the absorption of lead via the lung in children that is most devastating. Lead absorption rates in children, via the lung, are 95 percent, versus 30 to 40 percent for ingested lead.

Asbestos occurs in homes and other buildings. It was once widely used in shingles, fireproofing, heating systems, floor and ceiling tiles of older buildings. When asbestos-containing material is damaged or disintegrates, microscopic fibers are dispersed into the air. Asbestos is most dangerous in industrial settings.

Prevention: Clearing the Air Indoors

Here are some tips from the American Lung Association for preventing indoor air problems in your home:

- Declare your home a smoke-free zone. Secondhand smoke can cause serious health problems, especially for children. Ask smokers to take it outside.
- Good ventilation reduces indoor air pollution. Leave doors between rooms open most of the time for better air circulation. Open windows when possible to allow for a good supply of outdoor air. However people with asthma, allergies and COPD may benefit from keeping windows closed and using airconditioners when outdoor pollens and pollutants are high. Install exhaust fans in bathrooms to remove moisture and chemicals from the house.
- Keep humidity levels low with a dehumidifier or air conditioner, as needed. Clean both regularly so they don't become a source of pollutants themselves. Fix all leaks and drips in the home, as standing water and high humidity encourages the growth of mold and other biological pollutants.
- To prevent carbon monoxide poisoning, have all fuel burning appliances inspected by a qualified technician once a year. Install a carbon monoxide detector near your sleeping rooms.
- To keep dust mites and other allergens to a minimum, clean regularly. Wash bedding materials in hot water (at least 130°). Consider replacing carpet with area rugs that can be taken up and washed often.
- Fit your gas range with a hood fan that exhausts the air outside. Use the fan or open a window when cooking to remove gas fumes.
- Check commercial cleaning products and pesticides

for toxic ingredients, and use according to manufacturers directions. Keep your home well ventilated when using these products. Consider switching to less toxic alternatives.
- Test your home for radon. Use a radon test kit labeled "Meets EPA requirements".
- Never leave a car or lawn mower running in an attached garage or shed. Avoid the use of unvented heaters or charcoal grills indoors.

Protecting Your Children Outdoors
- Keep an eye on your child's health. Look for warning signs of undiagnosed asthma, such as coughing regularly, and shortness of breath when exercising, and share your observations with your pediatrician. Children with asthma are especially sensitive to air pollution.
- If your child does have asthma, learn to recognize what triggers his or her attacks, and help plan to avoid those substances. One of the problems with ozone air pollution is that it can sensitize asthmatics, so that on bad air days they react more strongly to triggers than usual.
- Keep track of air pollution levels. If the air quality is unhealthy, try to limit the amount of time your child spends outdoors in vigorous play. Plan the most strenuous activities for the early morning hours, before ozone levels climb. Keep all outdoor activities as far as possible from busy roadways and other sources of pollution.
- Make sure your child's coaches and camp directors are aware of the health risks of air pollution, and have policies in place to protect the kids when air quality is un healthy. If your child has asthma, it is important that these caregivers know he or she is especially vulnerable on high ozone days.
- Speak out in support of clean air. Community leaders need to hear from people who are concerned about the toll air pollution is taking on the health of our children.

Major Acute Infections: Influenza and Pneumonia

Influenza and pneumonia were the fifth leading cause of death in the United States among people ages 65 and older in 1998. The persons most at risk from these infections and their complications are those with weakened defenses against disease. They include the very young; the very old; those suffering from chronic respiratory or circulatory problems; and those whose immune systems have been compromised by medications (including some drugs used to treat cancer), or AIDS.

Both influenza and pneumonia are most likely to require hospitalization in those over 65. Influenza is largely preventable with vaccines, and the major form of pneumonia is controllable by vaccine, as well.

Overall, 91,871 deaths from these diseases were recorded in 1998; of these, 82,989 (90.3 percent) occurred in persons aged 65 or more. The age-adjusted mortality rate for influenza and pneumonia in 1998 was 37 percent higher for blacks than for whites.

Age-Adjusted Influenza/Pneumonia Death Rates*, 1984-1998, by Race and Sex

Group	1985	1987	1989	1991	1993	1995	1997	1998
Males	18.2	17.7	17.9	17.5	17.5	16.5	16.2	16.3
Females	10.1	10.0	10.7	10.6	10.7	10.4	10.5	11.0
Blacks	18.5	18.2	19.8	18.7	18.6	17.8	17.2	17.4
Whites	12.8	12.5	13.0	12.8	12.9	12.4	12.4	12.7
All	13.4	13.1	13.7	13.4	13.5	12.9	12.9	13.2

*Per 100,000 population. Data age-adjusted to the 1940 U.S. population. Source: National Center for Health Statistics

Immunization and minorities. Health experts recommend immunization against both influenza and pneumococcal pneumonia for all persons 50 and up, for people at risk due to chronic conditions and for people who come into contact with those at risk. That goal is far from being realized. According to the 1997 survey figures: for influenza, only 65.9 percent were immunized; for pneumonia, only 45.8 percent.

There is marked disparity, however, among various population groups. Data from various sources show that flu immunization rates in African-Americans are at 50.2 percent, compared with 67.2 percent in whites. The Behavioral Risk Factor Surveillance System, published in 1997 by the Centers for Disease Control and Prevention, found that non-Hispanic whites are substantially more likely to report ever receiving pneumococcal vaccine (47.3 percent) than either Hispanics (34.1 percent) or non-Hispanic blacks (29.7 percent). Additionally, non-

Hispanic whites were substantially more likely to report having received influenza vaccine during the preceding 12 months than Hispanics and blacks.

A 1997 survey by the Health Care Financing Administration found that among Medicare beneficiaries the level of immunizations against influenza among white respondents was 43.7 percent, while among blacks it was 24.3 percent.

Prevention: Vaccines And Self-Care Are Key. Unless you are struggling with a severely compromised immune system, you can dramatically cut your chances of developing influenza or pneumonia by keeping up with vaccines and protecting your overall health.

l. Know when to worry.

Influenza in the U. S. occurs most often between December and March, according to the Centers for Disease Control and Prevention in Atlanta (CDC). However, pneumonia can strike anyone at any time of the year. Keep in mind, that protection from the influenza vaccine doesn't develop fully until two to four weeks after the vaccination, but it lasts for six months. To be safe, get your shot well in advance of the flu season.

2. Who needs influenza vaccine?

- All children (over age 6 months) and adults with chronic cardiovascular or respiratory disorders, including asthma.
- All children and adults whose immune systems are suppressed.
- All children and adults who've needed regular medical follow-up during the preceding year for a metabolic disorder (including diabetes), kidney dysfunction, or any type of anemia or other blood problem.
- Children and teenagers (up to age 18) on long-term aspirin therapy.
- Women who are approaching the second or third trimester of pregnancy.
- Anyone having close contact with those in high risk groups, including persons caring for the elderly and health care workers.
- People over 50, people in chronic care facilities and healthcare workers.
- For everyone else the vaccine is considered optional.

3. Who needs pneumonia vaccine?

- All persons aged 50 or older.
- Persons between the ages of 2 and 50 who have chronic heart or respiratory problems.
- All persons age 2 or older with HIV infection or whose immune systems are suppressed.

Immunization of people in these at-risk categories is particularly crucial in light of the emergence of drug-resistant pneumococcal infections, as recently reported by the CDC. The vaccine is usually given only once but may be repeated in certain circumstances.

4. Understand the warning signs. The symptoms of both of these conditions may seem like a bad cold, but their severity is usually an indication that a person has something more serious. For influenza, watch out for: fever, headache, cough, sore throat, nasal congestion, muscle aches, and general malaise. For pneumonia, key symptoms are: coughing (that produces a great deal of sputum), fever, chills, and chest pain.

Tuberculosis (TB)

Tuberculosis, an infection of the lung, has been with us since ancient times. In the first half of the 20th century, it was generally spoken of as "consumption"—a dangerous illness that led to long stays in sanatoriums. The disease, caused by the bacterium *mycobacterium tuberculosis,* was thought to have been brought under control decades ago. By the mid-1980s, however, it was clear the disease was making an alarming comeback.

In 1989, the number of new cases increased 4.7 percent from the previous year, to a total of 23,495. This was the largest jump since national reporting of TB began in 1953. The number of cases continued to increase over the next three years. The trend reversed in 1993, when the number of cases began to drop slightly each year. This decline has continued, with 18,361 cases reported during 1998.

According to the Centers for Disease Control and Prevention, the decline in cases in recent years is due to improved treatment and prevention programs among HIV-infected persons, increased federal government support for state public health infrastructure, and wider screening and therapy for other people who are considered at high risk.

Higher rates among minorities. Of the 18,361 tuberculosis cases in the United States in 1998, a majority occurred among persons of color. Blacks, who are only

12.8% of the U. S. population, accounted for 31.8% of all TB cases.

From 1988 to 1998 the number of tuberculosis cases declined among non-Hispanic whites (from 11,280 to 4,495—a 60.2 percent drop), non-Hispanic black (from 8,474 to 5,831—a 31.2 percent drop) and American Indian/Alaskan Native (from 308 to253 -a 17.9% drop). During that same decade, the number of TB cases rose among Asian/Pacific Islanders (from 2,374 to 3,623—a 52.6 percent rise) and Hispanics (from 3,683 to 4,099—an 11.3 percent rise).

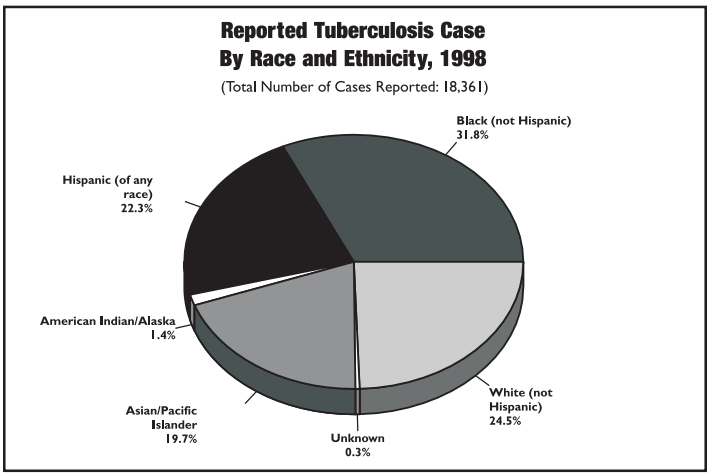
Higher Rate in Foreign-Born

The proportion of TB cases among foreign-born persons has increased steadily since the mid-1980s and increased markedly since 1992 (from 27 percent in 1992 to 42 percent in 1998). The TB case rate for foreign-born persons has consistently remained at least four to five times higher than that for U.S.-born persons. According to the CDC, most cases of active TB disease among foreign-born persons residing in the United States result from infection with the tuberculosis germ in the person's country of birth. Of the 7,591 TB cases in foreign-born persons in the U.S. in 1998, 45 percent were among Asian/Pacific Islanders, while 37 percent were among Hispanics.

These statistics underscore the fact that TB is a major international problem. In August 1999, WHO reported that nearly a third of the world's population is infected with TB, with 7.96 million new cases of the disease reported in 1997. By far the highest incidence of tuberculosis worldwide occurs in Southeast Asia, with almost 3 million TB cases occurring per year. In sub-Saharan Africa, nearly 2 million TB cases per year occur. No part of the world has been spared: According to the Pan American Health Organization, WHO's Americas division, 425,000 people in the Western Hemisphere had TB in 1995, and an estimated 75,000 died. WHO estimates that TB kills 1.5 million people worldwide each year, and 8 million are newly infected. Nearly 2 billion people—one-third of the world's population—have latent TB infection.

TB is the leading cause of death among people who are HIV positive, accounting for almost one third of fatalities worldwide and 40 percent in Africa. Of the 31 million people globally who were HIV positive in 1997, some 10.3 million were believed to be infected with TB as well.

Globally in 1990, 4.2% of new cases of TB were attributable to HIV infections; 20% of all new cases in Africa. WHO estimates that by 2006, HIV infection will produce at least 1.5 million active cases of TB annually that otherwise would not have occured.



Prevention: Working To Reduce Personal Risks. To date, there is no highly or uniformly effective vaccination for tuberculosis. Therefore, prevention depends greatly on personal health maintenance and management of exposure to risk factors. Here are some steps to keep you TB-free:

1. Listen to your body. The symptoms of TB include cough, fatigue, weight loss, and fever. If you experience them, get a test even if you are not in a high-risk group. The disease is progressive; it continues to damage your lungs and it can be fatal if untreated.

2. Close contact equals transmission. Tuberculosis, like influenza and the common cold, is spread by airborne droplets—coughs, sneezes, speech, and simple proximity. Most people casually exposed don't become infected, but "close contacts" and people who have contact with an infected person over a long period of time are at high risk. If you have contact wth a person who has TB —get tested. TB patients become noninfectious soon after beginning therapy. However, therapy must be continued for the prescribed length of time.

3. Complete all treatments. The most important factor involved in curing TB is following the full course of treatment. If you are diagnosed, be sure to finish all prescribed courses of medication, even if you no longer have symptoms.

Respiratory Distress Syndrome (RDS)

Respiratory Distress Syndrome is a life-threatening condition for newborns. Babies with RDS have arrived too soon, so their lungs are too immature and cannot readily sustain life outside the womb. This condition was previously known as "hyaline membrane disease," for the glassy appearance of certain membranes within the lungs.

The incidence of RDS declines with gestational age, occurring in 60 percent of those babies born at less than 28 weeks' gestation, 30 percent of those born at 28 to 34 weeks, and fewer than 5 percent of those born after 34 or more weeks. (Full-term pregnancy is defined as lasting between 37 and 42 weeks. Babies born after 35 weeks, however, rarely develop RDS.)

A generation ago, most babies born with RDS did not survive. But treatments including replacement of the missing substance in the lung (surfactant) and sophisticated breathing-assistance techniques have substantially improved survival of RDS babies.

A greater problem for African American babies. RDS does not occur at higher rates among African-American babies when adjusted for measures of prematurity, but their prognosis appears to be worse and the mortality rate among black infants with the syndrome has been markedly higher than that for white infants. In 1998 the RDS mortality rate among blacks was 70.2 per 100,000 versus 26.7 per 100,000 among whites—a difference of more than 163 percent.

It is possible that this difference is due to the higher rate of premature births among black women. In a recent study, involving a total of 2,000 pregnancies, 7.7 percent of black women, as opposed to 3.2 percent of white women, delivered premature, low-birthweight babies. Reliable figures for other minority groups are not yet available.

Prevention: A Healthy Pregnancy Is The Best Defense
In order to do your best to protect your baby:

l. Count on care. Get early and consistent prenatal care. Start before conception if you are planning to become pregnant.

2. Protect your body. Do not smoke, drink alcohol, or ingest any type of recreational drug during pregnancy. You should only take prescription or nonprescription drugs with the permission of your obstetrician.

3. Eat well for two. Consume a balanced and nutritious diet before and during your pregnancy. Your doctor will also suggest prenatal vitamins.

Sudden Infant Death Syndrome (SIDS)

Of the 28,371 U. S. infants who died in 1998, 9.9 percent—about one in ten—succumbed to SIDS, the third-ranking cause of infant death. Often called crib death, SIDS is a mysterious disease and is defined as the unexplained, sudden death of an infant from one month to one year of age. When it occurs, an apparently healthy baby is found lifeless, and no detectable, medical explanation can be found (autopsies are performed in 90 percent of cases). SIDS is considered the cause of death if the infant is under age one, but the highest rates are seen among babies age one to three months.

The cause of SIDS is unknown (see prevention below) though some health experts suspect that there may be some defect in an affected infant's breathing mechanism. Such a defect may cause infants to have unusual reactions to common infectious agents such as the cold virus.

Greater Danger Among Minority Babies

African Americans. Black babies have a higher rate of SIDS than white babies. Though the reasons are unknown, there is a correlation with prematurity. According to the Centers for Disease Control and Prevention, in 1998 the rate for white babies was 57.7 per 100,000, while the rate for black babies was 149.2 per 100,000.

Hispanics. Figures for this population are currently unavailable.

Native Americans. Native American babies are 2.8 times more likely than white babies to die of SIDS. The Centers for Disease Control and Prevention published a study in March 1999 noting a decline in SIDS among Northwest American Indians and Alaskan Natives between 1993 and 1996. A parental education program on infant sleeping position (see below) may have contributed to the decline, according to the CDC.

Asians. Statistically relevant data are not available for this group.

Prevention: Helping Babies Breathe Easier
Conclusive data on the cause of SIDS does not exist at this time. But, research has shown that there are precautions parents can take to protect their infant's health.

1. Position sleeping babies. The American Academy of Pediatrics recommends that babies sleep on their backs

or sides. They do allow, however, that a certain amount of "tummy time" during periods when a child is awake and being observed is good for developmental reasons, but this recommendation only refers to completely healthy infants. This message seems to be getting across to various degrees among both white and black families. Between 1994 and 1998, the percentage of infants of white mothers who were placed "tummy-down" declined from 44 percent to 17 percent, while among infants of black mothers, the rate declined from 53 percent to 32 percent, according to a study published in April 2000 in the *Journal of the American Medical Association*.

2. Use simple bedding. The Consumer Product Safety Commission has also warned of an association between SIDS and thick, soft, or fluffy bedding material that can easily cover the nose and mouth of a face-down infant. They recommend that no such material, including plush toys or pillows of any type, be placed in the crib.

3. Stay smoke-free. A 1995 study by researchers at the University of California at San Diego, reported in the *Journal of the American Medical Association*, found a significant correlation between smoking and SIDS, both for mothers who smoked during pregnancy and after the birth. In African American, Hispanic, Asian, and white families, even limited exposure to cigarette smoke was found to raise the risk of SIDS.

AIDS-Related Lung Disease

In the United States, the number of new cases of AIDS (Acquired Immunodeficiency Syndrome) developed as a result of HIV infection- increased steadily from 1981 to 1995. In 1996, the numbers started to decline until 1999 when the number of new cases increased by 4.2%.

The progression has been:

1993	1995	1996	1997	1998	1999
104,616	*72,967	68,473	49,689	44,296	46,137

*Figures reflects to some degree, 1993 change in the case definition used for surveillance reports.

In 1999, almost 50 percent of AIDS cases occurred in African Americans. Almost two-thirds of all women (57 percent) with AIDS were African American, and African American children represented 59 percent of all pediatric AIDS cases. The 1999 rate of reported AIDS cases among African Americans was 84.2 per 100,000 population, more than two times greater than the rate for Hispanics and nine times greater than the rate for whites.

In 1999, 32 percent of reported AIDS cases were white, 47 percent were black, 19 percent Hispanic and less than 1 percent were Asian/Pacific Islander and American Indian.

Of the women who have been diagnosed with AIDS, more than 77 percent have been black or Hispanic. Of the 8,718 total children reported with AIDS through 1999, 59 percent were non-Hispanic black, 2 percent were Hispanic, 17 percent were non-Hispanic white, and 1 percent were of other racial/ethnic groups.

AIDS and lung disease. As HIV develops into full-blown AIDS and ravages a patient's immune system, that person's defenses against a range of illnesses declines. An AIDS patient can die of many conditions. Chief among them are lung infections and malignancies. The most important is *pneumocystis carinii pneumonia* (PCP). Next in line is tuberculosis. However, this order is reversed in Africa. Other lung ailments that can be fatal to AIDS patients are *Mycobacterium avium complex* (MAC), a condition caused by a bacterium very similar to the one that causes tuberculosis, and fungal infections that may attack the lungs as well as the whole body. AIDS also predisposes to a variety of other lung infections from bacteria and molds.

Prevention: Focus On Treatment

The only effective way to manage the many infections that come with AIDS is through careful medical monitoring and care.

l. Close compliance is key. Once a successful course of treatment has been determined by your physician, adhere as closely as possible to the recommended dosages of medication and complete the program of treatment. For more detailed information on drugs that target lung infections, contact: **CDC National AIDS Hotline at 800-342-AIDS.**

2. Protect yourself. Get plenty of rest, eat a nutritionally balanced diet, do not smoke, and reduce your exposure to any known viruses or bacteria to remain as healthy as possible.

Occupational Lung Disease

Occupational lung diseases are the number one group of work-related illnesses in the United States in terms of frequency, severity, and preventability. These diseases are related to long-term exposure to irritating or toxic substances that may cause acute or chronic respiratory ailments.

Discrimination on the job equals risk. Minority groups have been traditionally overexposed to occupational respiratory hazards. They are far less likely to hold managerial positions and are apt to be assigned to the "dirtiest" tasks in such industries as mining (coal, silica), textiles, demolition, and manufacturing involving hazardous materials (such as asbestos)—all of which have been associated with respiratory disease.

A 1998 U. S. Bureau of Labor Statistics report offers a fuller picture:

- African-Americans, 12.8 percent of the population, account for 19.4 percent of textile workers. Dusts from hemp, flax, and cotton processing cause byssinosis ("brown lung"), a chronic condition involving obstruction of the small airways, severely impairing lung function.
- Hispanics, 11.2 percent of the population, account for 25.1 percent of textile workers.
- African Americans are estimated to be 22.8 percent of cleaning and building service workers. 20.5 percent of cleaning and building service workers are Hispanics. These pursuits entail exposure to an array of noxious chemicals, as well as to maintenance systems that are often the source of biological contaminants associated with critical allergic reactions.
- Native Americans are employed at disproportionately high rates in uranium mines, increasing the risk of lung cancer in this group due to exposure to radon by-products. Results of a 30-year study of such workers reported in 1995 show elevated risks for lung cancer (up to 6.9 times the normal rate), tuberculosis, and pneumonia.

Prevention: Avoid Tobacco And Monitor Safety
Short of changing professions, some occupational risks cannot be avoided. But some of the precautions below can help.

l. Don't smoke, don't start. Smoking has been shown to increase the toxic effects of many substances that can harm the lungs.

2. Stick by standards. Keep a close watch on employee safety standards for your occupation and make sure that your employer follows them closely. Visit the Occupational Safety and Health Administration (OSHA) web site at www.osha.gov or call your local OSHA office for information on possible workplace hazards.

Sarcoidosis

Sarcoidosis is a condition characterized by the presence of granulomas—small areas of inflamed cells. Though it can affect any part of the body, sarcoidosis mainly attacks the lungs' tiny air sacs (alveoli) and/or its smallest breathing tubes (bronchioles). The result is a loss of lung capacity, or a reduction in the amount of air the lungs can hold. Studies have shown that some ethnic groups are at a greater risk than others for sarcoidosis. The best estimate today is that about 5 in 100,000 whites in the United States have sarcoidosis. Among blacks, the disease occurs more frequently, in probably 40 out of 100,000 people—meaning the prevalence rate of sarcoidosis is more than eight times greater in African Americans than in whites.

The estimated age-adjusted annual incidence rate per 100,000 population is reported to be 10.9 for whites and 35.5 for African-Americans. The lifetime risk of sarcoidosis is 0.85 percent for U.S. whites and 2.44 percent for U.S. blacks. It is also more common in whites of northern European descent than in other whites. Swedes, Danes and U.S. blacks have the highest prevalence rates in the world.

Sarcoidosis can be completely symptomless. Symptoms of pulmonary sarcoidosis, when they occur, may include a dry cough, shortness of breath, or mild chest pain; sometimes, these are accompanied by fatigue, weakness, and weight loss. (If other parts of the body are involved, symptoms will depend on the specific area and may include a scaly rash, reddish nodules particularly on the legs, fever, eye soreness, and painfully swollen ankles. Less commonly, lesions may affect bones, joints, muscles, or the heart or other organs.) Doctors will use tests such as X-rays, blood tests, and pulmonary function tests to diagnose sarcoidosis, and usually confirm the diagnosis through a biopsy. The disease must be differentiated from others with which symptoms may overlap, including certain malignancies, tuberculosis, and other infections.

The cause of sarcoidosis is unknown, and no known infectious agent is currently a candidate. It has been suggested that an exaggerated immune system defense reaction against some unknown substance may trigger the condition and that there may be contributing genetic factors.

Prevention: Careful Maintenance Will Improve Prognosis

To date, there is no known prevention of sarcoidosis. About 50 percent of sarcoidosis patients improve spontaneously, and fatality—due to progressive disease in the lungs—occurs in fewer than one in 20 cases. The remaining patients live with moderate degrees of impairment and disability. To increase chances of recovery:

l. Know when to get help. Sarcoidosis can occur without symptoms. But when warning signs do occur, they include a dry cough, shortness of breath, or mild chest pain. Sometimes, these are accompanied by fatigue, weakness, and weight loss. Some cases may also include a scaly rash, reddish nodules on the legs, fever, eye soreness, and painfully swollen ankles. Less commonly, lesions may affect bones, joints, muscles or the heart and other organs. If you recognize symptoms, get to your doctor.

2. Seek effective treatment. Since the cause of sarcoidosis is unknown, no known infectious agent can be targeted. Treatment is most likely to include corticosteroids to fight inflammation and relieve symptoms.

Sleep-Disordered Breathing (SDB)

Sleep-related breathing disorder, often called sleep apnea, is a condition in which the throat narrows repetitively throughout sleep. People with SDB tend to snore during the night and to be sleepy during the day. In addition to being at increased risk for high blood pressure, they are also at increased risk for heart disease.

Some individuals lose so much sleep due to this condition that their lack of alertness poses a serious hazard to themselves and others—as, when they are behind the wheel of a car (or a train, plane, or bus). A study published in June 1999 in *The New England Journal of Medicine* found a strong association between sleep apnea and the risk of traffic accidents.

Who is affected? It has been estimated that as many as 18 million Americans have sleep apnea. Four percent of middle -aged men and two percent of middle aged women have sleep apnea along with excessive daytime sleepiness. Men are more susceptible than women, evidently due to hormonal influences (SDB is rarely seen in premenopausal females). There are also SDB clusters within families. Obesity, even if moderate is a prediposing factor. It is worsened by the use of alcohol and sleeping pills. Young African Americans may be at increased risk of SDB. A 1997 study, published in the *American Journal of Respiratory and Critical Care Medicine*, found that African Americans under the age of 25 were twice as likely to have SDB than their white counterparts. A 1999 study in the same journal that examined risk factors for sleep-disordered breathing in children and teenagers found that African American children were more than three times as likely as children of other races to develop SDB.

Elderly African Americans, according to a 1995 study also published in the *American Journal of Respiratory and Critical Care Medicine* are more than twice as likely as elderly whites to suffer from sleep-disordered breathing. The researchers, at the University of California, San Diego, studied 54 African Americans and 346 whites aged 65 and older. They found that 17 percent of the African American subjects had SDB, compared with 8 percent of the whites. Statistics are not available for other groups.

Prevention: Recognizing and Remedying a Problem

To get help for sleep-disordered breathing:

l. Talk to your doctor. The first step to doing some thing about SDB is admitting that it's a problem and discussing daytime sleepiness or excessive snoring with your physician so that he or she can help you deal with the condition.

2. Slimming down may help. SDB is more common among people who are moderately overweight to obese, so a diet and exercise program may eliminate or dramatically reduce occurrences.

3. Get technical help. If necessary, your doctor will advise a visit to a sleep lab to evaluate your condition. A technique called nasal CPAP (continuous positive airway pressure) delivers air through a mask while a patient sleeps, which is effective in helping people get a good night's rest and avoid sleep-related daytime accidents. In some cases, surgery may be recom mended to correct an anatomical obstruction that is causing SDB. In mild cases special dental appilances may help.

4. **Children.** Sleep apnea occurs in children usually due to enlarged tonsils and adenoids. A child who is sleepy during the day and snores at night should be medically evaluated.

We need your support to fight lung disease, the third leading cause of death in the U.S. Call your local American Lung Association to find out how you can help.

Call 1-800-LUNG-USA
(1-800-586-4872)

National Web Site:
www.lungusa.org

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