EPIDEMIOLOGY of TOBACCO USE
“CIGARETTE SMOKING... is the chief, single, avoidable cause of death in our society and the most important public health issue of our time.”

C. Everett Koop, M.D., former U.S. Surgeon General

All forms of tobacco are harmful.
WORLDWIDE ADULT TOBACCO USE PREVALENCE (Men/Women)

TRENDS in ADULT CIGARETTE CONSUMPTION—U.S., 1900–2011

Annual adult per capita cigarette consumption and major smoking and health events

CIGARETTE PRICES and CIGARETTE SALES, 1970–2009


Trends in cigarette current smoking among persons aged 18 or older

18.1% of adults are current smokers

68.8% want to quit
52.9% tried to quit in the past year

Graph provided by the Centers for Disease Control and Prevention. 1955 Current Population Survey; 1965–2012 NHIS. Estimates since 1992 include some-day smoking.
STATE-SPECIFIC PREVALENCE of SMOKING among ADULTS, 2010

Prevalence of current* smoking (2010)

- < 13.0%
- 13.0 – 15.9%
- 16.0 – 18.9%
- 19.0 – 21.9%
- ≥ 22.0%

* Has smoked ≥ 100 cigarettes during lifetime and currently smokes either every day or some days.
PREVALENCE of ADULT SMOKING, by RACE/ETHNICITY—U.S., 2012

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple race</td>
<td>26.1%</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>21.8%</td>
</tr>
<tr>
<td>White</td>
<td>19.7%</td>
</tr>
<tr>
<td>Black</td>
<td>18.1%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>12.5%</td>
</tr>
<tr>
<td>Asian</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

PREVALENCE of ADULT SMOKING, by EDUCATION—U.S., 2012


Trends in cigarette smoking among 12th graders: 30-day prevalence of use

Institute for Social Research, University of Michigan, Monitoring the Future Project
www.monitoringthefuture.org
PUBLIC HEALTH versus “BIG TOBACCO”

The biggest opponent to tobacco control efforts is the tobacco industry itself.

Nationally, the tobacco industry is outspending our state tobacco control funding.

For every $1 spent by the states, the tobacco industry spends $23 to market its products.
TOBACCO INDUSTRY MARKETING

- $8.37 billion spent in the U.S. in 2011
- $23.0 million a day

New marketing restrictions

For decades, the tobacco industry publicly denied the addictive nature of nicotine and the negative health effects of tobacco.

April 14, 1994: Seven top executives of major tobacco companies state, under oath, that they believe nicotine is not addictive: [http://www.jeffreywigand.com/7ceos.php](http://www.jeffreywigand.com/7ceos.php)

- Tobacco industry documents indicate otherwise
- Documents available at [http://legacy.library.ucsf.edu](http://legacy.library.ucsf.edu)

The cigarette is a heavily engineered product.

- Designed and marketed to maximize bioavailability of nicotine and addictive potential
- **Profits over people**
An EFFECTIVE MARKETING STRATEGY: “LIGHT” CIGARETTES

The difference between Marlboro and Marlboro Lights...

an extra row of ventilation holes

Image courtesy of Mayo Clinic Nicotine Dependence Center - Research Program / Dr. Richard D. Hurt

The Marlboro and Marlboro Lights logos are registered trademarks of Philip Morris USA.
This is Superslims from Virginia Slims

Low Smoke™
70% less smoke from the lit end

The ultra light with more taste than meets the eye.

© Philip Morris Inc. 1980
Fashions by Victoria Plum

6 mg "tar," 0.4 mg nicotine av per cigarette by FTC method.

Surgeon General's Warning: Quitting Smoking Now Greatly Reduces Serious Risks to Your Health.
"You like them FRESH?
So do I!"

You don't have to tell the woman who has switched to Camels the benefits of a fresh cigarette. She knows all about it — that's the reason she stays switched.

She has learned that the fine, fragrant, sun-ripened choice tobaccos in Camels have a perfectly preserved delicate mildness all their own.

She knows by a grateful throat's testimony what a relief this smooth, cool, slow-burning fresh cigarette means to sensitive membrane.

Camels are fresh in the Camel Humidor Pack because they are made fresh, fresh with natural moisture and natural flavors — they are never parched or toasted.

If you don't know what the Reynolds method of scientifically applying heat so as to avoid parching or toasting means to the smoker — switch to Camels for just one day — then leave them — if you can.

R. J. REYNOLDS TOBACCO COMPANY, Winston-Salem, N.C.

"Are you Listening?"

R. J. REYNOLDS TOBACCO COMPANY'S COAST-TO-COAST RADIO PROGRAMS—SEE RADIO PAGE OF LOCAL NEWSPAPER FOR TIME


"I agree..."
says NURSE Shirley Gellman
Los Angeles, California

1932

© 1932, R. J. Reynolds Tobacco Company

It's Wise to Smoke
EXTRA-MILD FATIMA

Don't remove the moisture-proof wrapping from your package of Camels after you open it. The Camel Humidor Pack is protection against pests and powdery odors, dust and germs. In office and homes, even in the dry atmosphere of artificial heat, the Camel Humidor Pack can be depended upon to deliver fresh Camels every time.

CAMELS
Made FRESH — Kept FRESH

© 1932, R. J. Reynolds Tobacco Company

Market Research Department
SEP. AUG 5 1950
1936

"...sound as a bell"

Wise doctor.
Wise mother.
Fortunate youngster.

Regular physical examinations plus all the methods developed to prevent or inhibit even the once-casual diseases are now routine in American life.
The magnificent advance made in guarding health by fighting illness before it strikes is still another proud chapter in the history of the medical profession.

According to a recent Nationwide survey:

More Doctors Smoke Camels
than any other Cigarette

The "T-Zone"...T for Taste and Throat

Your "T-Zone" is a critical 'laboratory' when it comes to cigarettes. Try Camel's flavor on your taste. See how your throat reacts to Camel's cool mildness. Like millions of other smokers, you too may say, "Camels suit my T-Zone to a T!"

The makers of Camels take an understandable pride in the results of a nationwide survey among 115,597 doctors by three leading independent research organizations.

When queried about the cigarette they themselves smoked, the cigarette named most by the doctors was... Camel. Every branch of medicine was represented—physicians, surgeons, diagnosticians, specialists.

Like you, doctors smoke for pleasure. The rich, full flavor and cool mildness of Camel's costlier tobaccos are just as appealing to them as to you. Compare Camels—in your own "T-Zone."

CAMELS Costlier Tobaccos
**SMOKING in MOVIES**

- Cigarette smoking is pervasive in movies
  - Evident in at least ¾ of box-office hits
  - Average, 10.9 smoking incidents per hour
  

- There is a dose-response, **causal relationship** between exposure to smoking in movies and youth smoking initiation


**70% of adults support assigning an “R” rating to movies with smoking.**

For more information on smoking in movies, go to http://smokefreemovies.ucsf.edu
Currently, the FDA Center for Tobacco Control Products is responsible for regulation of:

- Cigarettes
- Cigarette tobacco
- Roll-your-own tobacco
- Smokeless tobacco
- E-cigarettes that are marketed for therapeutic purposes*

*Currently regulated by the FDA Center for Drug Evaluation and Research. It is anticipated that the FDA Center for Tobacco Control Products will regulate other nicotine-containing products, including electronic cigarette products that do not make a therapeutic claim, in the future.
## COMPOUNDS in TOBACCO SMOKE

An estimated 4,800 compounds in tobacco smoke, including 11 proven human carcinogens

<table>
<thead>
<tr>
<th>Gases</th>
<th>Particles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide</td>
<td>Nicotine</td>
</tr>
<tr>
<td>Hydrogen cyanide</td>
<td>Nitrosamines</td>
</tr>
<tr>
<td>Ammonia</td>
<td>Lead</td>
</tr>
<tr>
<td>Benzene</td>
<td>Cadmium</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>Polonium-210</td>
</tr>
</tbody>
</table>

Nicotine is the addictive component of tobacco products, but it does NOT cause the ill health effects of tobacco use.
ANNUAL U.S. DEATHS ATTRIBUTABLE to SMOKING, 2000–2004

<table>
<thead>
<tr>
<th>Category</th>
<th>Deaths</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular diseases</td>
<td>128,497</td>
<td>29%</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>125,522</td>
<td>28%</td>
</tr>
<tr>
<td>Respiratory diseases</td>
<td>103,338</td>
<td>23%</td>
</tr>
<tr>
<td>Second-hand smoke</td>
<td>49,400</td>
<td>11%</td>
</tr>
<tr>
<td>Cancers other than lung</td>
<td>35,326</td>
<td>8%</td>
</tr>
<tr>
<td>Other</td>
<td>1,512</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

TOTAL: 443,595 deaths annually

ANNUAL SMOKING-ATTRIBUTABLE ECONOMIC COSTS

Health-care expenditures: $96.7 billion
Lost productivity costs: $97.6 billion
Total federal-state Medicaid program costs: $30.9 billion
Total Medicare program costs: $18.9 billion
Total economic burden of smoking, per year: $194 billion

Societal costs: $10.47 per pack of cigarettes smoked

Cigarette smoking is causally linked to diseases of nearly all organs of the body, diminished health status, and harm to the fetus. Additionally, smoking has many adverse effects on the body, such as causing inflammation and impairing immune function.

Exposure to secondhand smoke is causally linked to cancer, respiratory, and cardiovascular diseases, and to adverse effects on the health of infants and children.

Disease risks from smoking by women have risen over the last 50 years and for many tobacco-related diseases are now equal to those for men.
HEALTH CONSEQUENCES of SMOKING

- Cancers
  - Acute myeloid leukemia
  - Bladder/kidney/ureter
  - Cervical
  - Colorectal
  - Esophageal
  - Gastric
  - Laryngeal
  - Liver
  - Lung
  - Oral cavity and pharyngeal
  - Pancreatic

- Cardiovascular diseases
  - Aortic aneurysm
  - Coronary heart disease
  - Cerebrovascular disease
  - Peripheral vascular disease

- Reproductive effects
  - Reduced fertility in women, erectile dysfunction
  - Poor pregnancy outcomes (e.g., low birth weight, preterm delivery)
  - Infant mortality

- Pulmonary diseases
  - Acute (e.g., pneumonia)
  - Chronic (e.g., COPD)

- Other: diabetes, rheumatoid arthritis, cataract, osteoporosis, periodontitis, poor surgical outcomes, impaired immune function

HEALTH CONSEQUENCES of SMOKELESS TOBACCO USE

Periodontal effects
- Gingival recession
- Bone attachment loss
- Dental caries

Oral leukoplakia

Cancer
- Oral cancer
- Pharyngeal cancer

Oral Leukoplakia
Image courtesy of Dr. Sol Silverman - University of California San Francisco
“Smoking or non-smoking?”

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All rights reserved.
2006 REPORT of the SURGEON GENERAL: INVOLUNTARY EXPOSURE to TOBACCO SMOKE

- Second-hand smoke causes premature death and disease in nonsmokers (children and adults)

- Children:
  - Increased risk for sudden infant death syndrome (SIDS), acute respiratory infections, ear problems, and more severe asthma
  - Respiratory symptoms and slowed lung growth if parents smoke

- Adults:
  - Immediate adverse effects on cardiovascular system
  - Increased risk for coronary heart disease and lung cancer

- Millions of Americans are exposed to smoke in their homes/workplaces

- Indoor spaces: eliminating smoking fully protects nonsmokers
  - Separating smoking areas, cleaning the air, and ventilation are ineffective

There is no safe level of second-hand smoke.
SMOKING BANS in the UNITED STATES

Data current as of December 2012.

Smoke-free offices, restaurants, and bars
QUITTING: HEALTH BENEFITS

Time Since Quit Date

- **Circulation improves, walking becomes easier**
  - 2 weeks to 3 months

- **Lung function increases**
  - 1 to 9 months

- **Excess risk of CHD decreases to half that of a continuing smoker**
  - 1 year

- **Lung cancer death rate drops to half that of a continuing smoker**
  - 5 years

- **Risk of cancer of mouth, throat, esophagus, bladder, kidney, pancreas decrease**
  - 10 years

- **Risk of stroke is reduced to that of people who have never smoked**
  - after 15 years

- **Lung cilia regain normal function**
  - 1 to 9 months

- **Ability to clear lungs of mucus increases**
  - 1 to 9 months

- **Coughing, fatigue, shortness of breath decrease**
  - 1 to 9 months

- **Risk of CHD is similar to that of people who have never smoked**
  - after 15 years
BENEFICIAL EFFECTS of QUITTING: PULMONARY EFFECTS

AT ANY AGE, there are benefits of quitting.

COPD = chronic obstructive pulmonary disease

Reduction in cumulative risk of death from lung cancer in men

SMOKING CESSATION: REDUCED RISK of DEATH

- Prospective study of 34,439 male British doctors
- Mortality was monitored for 50 years (1951–2001)

On average, cigarette smokers die approximately 10 years younger than do nonsmokers.

Among those who continue smoking, at least half will die due to a tobacco-related disease.

FINANCIAL IMPACT of SMOKING

Buying cigarettes every day for 50 years at $6.03 per pack
(does not include interest)

- $330,143
- $220,095
- $110,048

Dollars lost, in thousands
Nearly one in five adults are current smokers; smoking prevalence varies by sociodemographic characteristics.

Nearly half a million U.S. deaths are attributable to smoking annually.

Smoking costs the U.S. $193 billion annually.

For the individual, a smoking a pack-a-day costs $2,201 annually, plus associated health-care costs.

At any age, there are benefits to quitting smoking.

The biggest opponent to tobacco control efforts is the tobacco industry.