**Epidemiology of Tobacco Use module**

**Forms of Tobacco module**

**Nicotine Pharmacology & Principles of Addiction module**

**Drug Interactions with Smoking module**

**Assisting Patients with Quitting module**

**Hands-on workshop**

- *Aids for Cessation module*
- *Tobacco trigger tapes*
- *Case scenarios*

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**Epidemiology of Tobacco Use**

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*

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**WORLDWIDE ADULT TOBACCO USE PREVALENCE (Men/Women)**

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**TRENDS in ADULT CIGARETTE CONSUMPTION—U.S., 1900–2005**

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

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PUBLIC HEALTH versus “BIG TOBACCO”

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

In the U.S., for every $1 spent on tobacco prevention, the tobacco industry spends $28 to market its products.

An EFFECTIVE MARKETING STRATEGY: “LIGHT” CIGARETTES

The difference between Marlboro and Marlboro Lights...

an extra row of ventilation holes

The outdoor nicotine dependence center - Research Program / Dr. Richard D. Hurt

The Marlboro and Marlboro Lights logos are registered trademarks of Philip Morris USA.

The TOBACCO INDUSTRY

- For decades, the tobacco industry has 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.
  - Tobacco industry documents suggest otherwise
  - Documents available at 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

ANNUAL U.S. DEATHS ATTRIBUTABLE to SMOKING, 1997–2001

Percentage of all smoking-attributable deaths*

<table>
<thead>
<tr>
<th>Cause</th>
<th>Deaths</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular diseases</td>
<td>137,979</td>
<td>32%</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>123,936</td>
<td>28%</td>
</tr>
<tr>
<td>Respiratory diseases</td>
<td>101,454</td>
<td>23%</td>
</tr>
<tr>
<td>Second-hand smoke*</td>
<td>36,111</td>
<td>9%</td>
</tr>
<tr>
<td>Cancers other than lung</td>
<td>34,099</td>
<td>8%</td>
</tr>
<tr>
<td>Other</td>
<td>1,828</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

TOTAL: 437,902 deaths annually

* In 2005, it was estimated that nearly 50,000 persons died due to second-hand smoke exposure.


<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Billions of Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescription drugs</td>
<td>6.6 billion</td>
</tr>
<tr>
<td>Ambulatory care</td>
<td>27.7 billion</td>
</tr>
<tr>
<td>Hospital care</td>
<td>17.3 billion</td>
</tr>
<tr>
<td>Medical expenditures</td>
<td>(1998)</td>
</tr>
<tr>
<td>Nursing home</td>
<td>19.4 billion</td>
</tr>
<tr>
<td>Other care</td>
<td>5.4 billion</td>
</tr>
<tr>
<td>Societal costs</td>
<td>$7.18 per pack</td>
</tr>
<tr>
<td>Annual lost productivity costs (1995–1999)</td>
<td></td>
</tr>
</tbody>
</table>

Billions of dollars

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

Gases
- Carbon monoxide
- Hydrogen cyanide
- Ammonia
- Benzene
- Formaldehyde

Particles
- Nicotine
- Nitrosamines
- Lead
- Cadmium
- Polonium-210

Nicotine does NOT cause the ill health effects of tobacco.

HEALTH CONSEQUENCES of SMOKING

Cancers
- Acute myeloid leukemia
- Bladder and kidney
- Cervical
- Esophageal
- Gastric
- Laryngeal
- Lung
- Oral cavity and pharyngeal
- Pancreatic
- Pulmonary diseases
- Acute (e.g., pneumonia)
- Chronic (e.g., COPD)

Cardiovascular diseases
- Abdominal aortic aneurysm
- Coronary heart disease
- Cerebrovascular disease
- Peripheral arterial disease

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

Other effects:
- Cataract, osteoporosis, periodontitis, poor surgical outcomes

2004 REPORT of the SURGEON GENERAL:
HEALTH CONSEQUENCES OF SMOKING
FOUR MAJOR CONCLUSIONS:
- Smoking harms nearly every organ of the body, causing many diseases and reducing the health of smokers in general.
- Quitting smoking has immediate as well as long-term benefits, reducing risks for diseases caused by smoking and improving health in general.
- Smoking cigarettes with lower machine-measured yields of tar and nicotine provides no clear benefit to health.
- The list of diseases caused by smoking has been expanded.

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

SMOKE-FREE WORKPLACE LAWS
- Smoke-free offices, restaurants, and bars: California, Colorado, Connecticut, Delaware, Hawaii, Maine, Massachusetts, New Jersey, New York, Rhode Island, Vermont, Washington
- Smoke-free offices and restaurants: Arkansas, District of Columbia (bars in 2007), Florida, Georgia, Idaho, Louisiana, Montana (bars in 2008), Nevada, North Dakota, Utah (bars in 2009)
- Smoke-free offices: Maryland, South Dakota

QUITTING: HEALTH BENEFITS

Time Since Quit Date

- Circulation improves, walking becomes easier
- Lung function increases up to 30%
- 2 weeks to 3 months
- 1 to 9 months
- 1 year
- 5 years
- 10 years
- 15 years
- There is no safe level of second-hand smoke.
- 2 weeks
- 3 months
- 1 to 9 months
- 1 year
- 5 years
- 10 years
- 15 years
- Risk of stroke is reduced to that of people who have never smoked
- Lung cancer death rate drops to half that of a continuing smoker
- Risk of cancer of mouth, throat, esophagus, bladder, kidney, pancreas decreases
- Risk of CHD is similar to that of people who have never smoked
- 2 weeks
- 3 months
- 1 to 9 months
- 1 year
- 5 years
- 10 years
- 15 years
- Risk of CHD is similar to that of people who have never smoked
- There is no safe level of second-hand smoke.

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Data current as of November 9, 2006.
**BENEFICIAL EFFECTS of QUITTING: PULMONARY EFFECTS**

**AT ANY AGE, there are benefits of quitting.**

**Reduction in cumulative risk of death from lung cancer in men**

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**SMOKING CESSATION: REDUCED RISK of DEATH**

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

**FINANCIAL IMPACT of SMOKING**

- 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.

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**Epidemiology of Tobacco Use: Summary**

- About 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. $157.7 billion per year. Lifetime financial costs of smoking can exceed $300,000 for a heavy smoker.
- At any age, there are benefits to quitting smoking.
- The biggest opponent to tobacco control efforts is the tobacco industry itself.