

A History of Tobacco and the Rise of Lung Cancer
by Dr. Mark Millard, Baylor University



Global
Resource for
Advancing
Cancer
Education



"Skull with a Burning Cigarette" (1885 or 1886)
by Vincent van Gogh

**MAKING LOVE
WITH DEATH:
TOBACCO AND
LUNG CANCER**

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Foster Lung Care Center

Conflicts of interest

- The current practice of pulmonary medicine owes its existence to the tobacco industry which has created multiple disease entities in need of treatment by pulmonologists.
- Attended Duke University (undergraduate)



Professional conflicts of interest

- Speaker's bureau for GSK, AZ, Merck, BI, Pfizer.
- Research funding from GSK, Forest, AZ, BI, Novartis

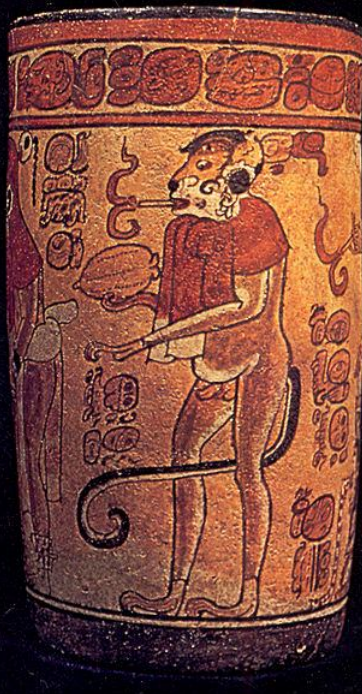
Learning objectives

- Discovering the link between tobacco and lung cancer
- Who is still smoking?
- Current status of smoking cessation strategies

The NEW ENGLAND JOURNAL of MEDICINE

TOBACCO SMOKING CONTRIBUTES TO some 5 million premature deaths each year worldwide.¹ It is highly addictive, with more than 95% of unaided attempts at cessation failing to last 6 months.² Every year that a smoker delays quitting beyond the mid-30s, the person loses 3 months of life expectancy.³ The World Health Organization's Framework Convention on Tobacco Control identifies evidence-based approaches to promote smoking cessation, which include mass-media campaigns, tax increases on tobacco, and help for smokers wanting to stop.⁴ Success in quitting is increased by behavioral support and a range of pharmacotherapies.⁵⁻⁸ Some pharmacotherapies have been shown to be cost-effective life-preserving treatments.^{5,9}

N Engl J Med 2011;365:1193-200.
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A gift from the New World

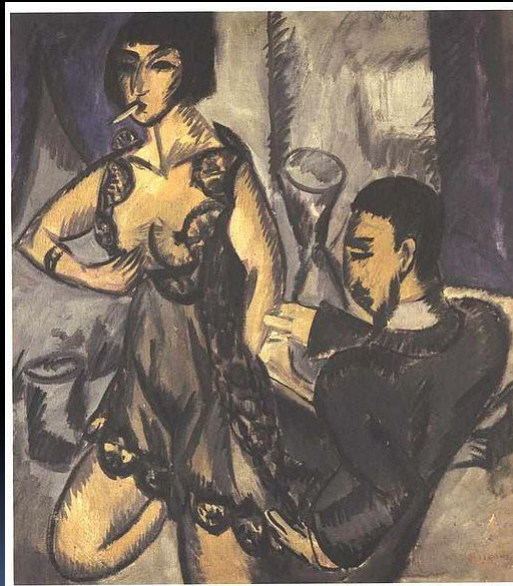
- Frequently represented in Mayan art
- Associated with magical powers and deities



Art and Tobacco

- Tobacco first was enjoyed by sailors, soldiers and lower echelon members of society

"Resting Travelers" (1671) by Adriaen van Ostade.



Unwitting contributors to an impending epidemic

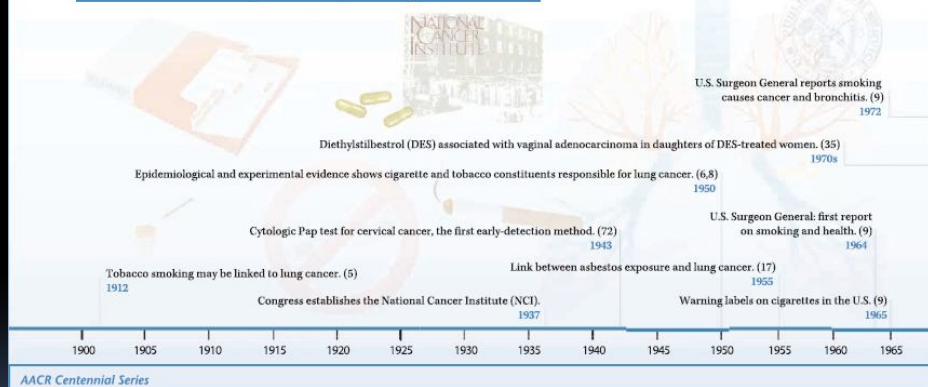
- Tobacco linkage to sexuality and society in pre-WW1 Europe presaged it's intercalation into the fabric of American society.

"Couple in a room" by Ernst Ludwig Kirchner (1912)

You've got to smoke to be famous...



Landmarks in the History of Cancer Epidemiology: 1900–Present



AACR Centennial Series

Cancer Res 2009; 69: (6), March 15, 2009

Epidemiology and observation catch up with statistics

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MAY 27, 1950

TOBACCO SMOKING AS A POSSIBLE ETIOLOGIC FACTOR IN BRONCHIOGENIC CARCINOMA

A Study of Six Hundred and Eighty-Four Proved Cases

ERNEST L. WYNDER
and
EVARTS A. GRAHAM, M.D.
St. Louis

General Increase.—There is rather general agreement that the incidence of bronchiogenic carcinoma has greatly increased in the last half-century. Statistical

a few of the workers who thought that there was some evidence that tobacco was an important factor in the increase of cancer of the lungs. Müller¹⁴ in 1939, from a careful but limited clinical statistical study, offered good evidence that heavy smoking is an important etiologic factor. In 1941 Ochsner and DeBakey¹⁵ called attention to the similarity of the curve of increased sales of cigarets in this country to the greater prevalence of primary cancer of the lung. They emphasized the possible etiologic relationship of cigaret smoking to this condition. In a recent paper Schrek¹⁶ concluded that there is strong circumstantial evidence that cigaret smoking is an etiologic factor in cancer of the respira-

Case-control led linkage: 1950

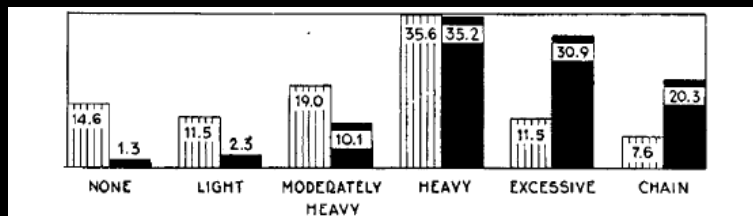


Fig. 3.—Percentages for amount of smoking among 605 male patients with cancer of the lungs (solid bars) and 780 men in the general hospital population without cancer (lined bars) with the same age and economic distribution.

VOLUME 143 NUMBER 4 TOBACCO SMOKING AND CARCINOMA—WYNDER AND GRAHAM

The conclusion speaks for itself

CONCLUSION AND SUMMARY

1. Excessive and prolonged use of tobacco, especially cigarettes, seems to be an important factor in the induction of bronchiogenic carcinoma.

2. Among 605 men with bronchiogenic carcinoma, other than adenocarcinoma, 96.5 per cent were moderately heavy to chain smokers for many years, compared with 73.7 per cent among the general male hospital population without cancer. Among the cancer group 51.2 per cent were excessive or chain smokers compared to 19.1 per cent in the general hospital group without cancer.

3. The occurrence of carcinoma of the lung in a male nonsmoker or minimal smoker is a rare phenomenon (2.0 per cent).

4. Tobacco seems at this time to play a similar but somewhat less evident role in the induction of epidermoid and undifferentiated carcinoma in women. Among this group a greater percentage of nonsmokers will be found than among the men, with 10 of 25 being nonsmokers.

A Frank Statement to Cigarette Smokers

Distinguished authorities point out:

1. That medical research of recent years indicates many possible causes of lung cancer.

2. That there is no agreement among the authorities regarding what the cause is.

3. That there is no proof that cigarette smoking is one of the causes.

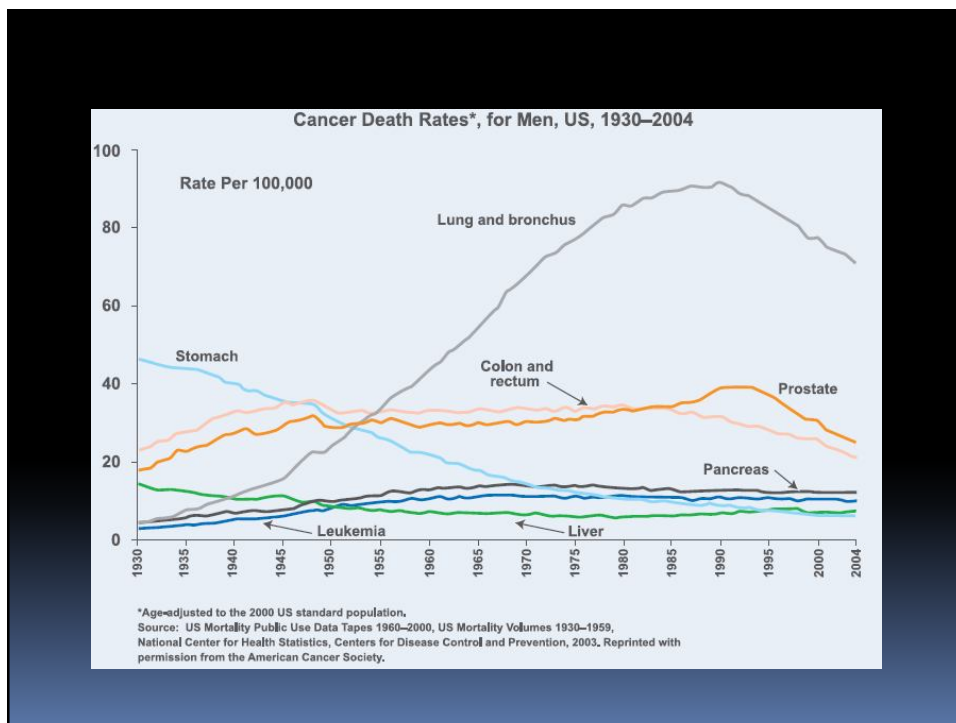
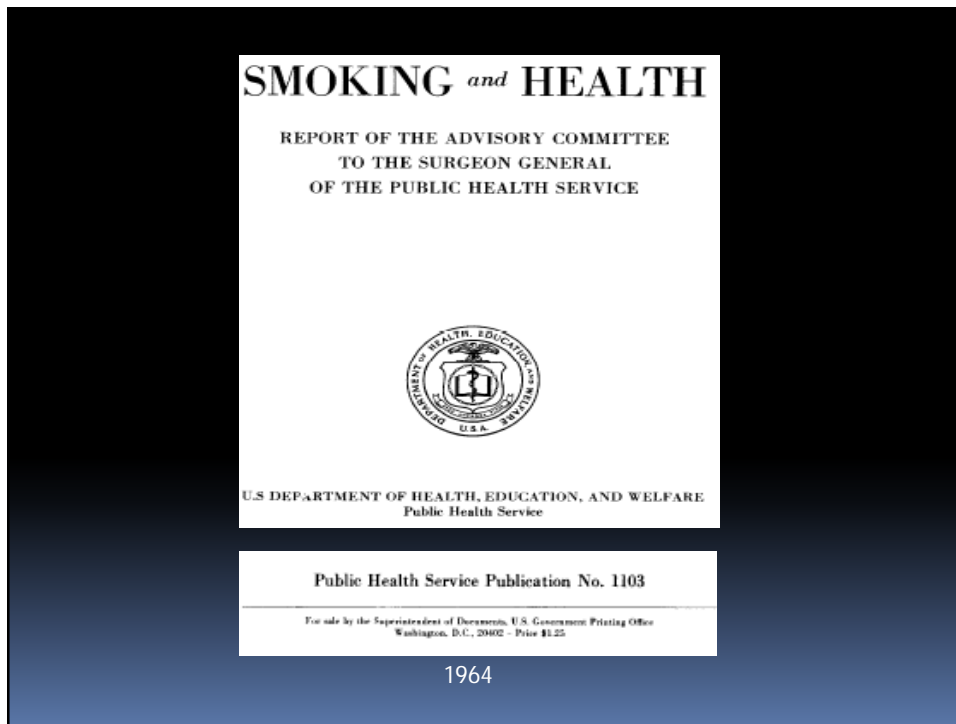
4. That statistics purporting to link cigarette smoking with the disease could apply with equal force to any one of many other aspects of modern life. Indeed the validity of the statistics themselves is questioned by numerous scientists.

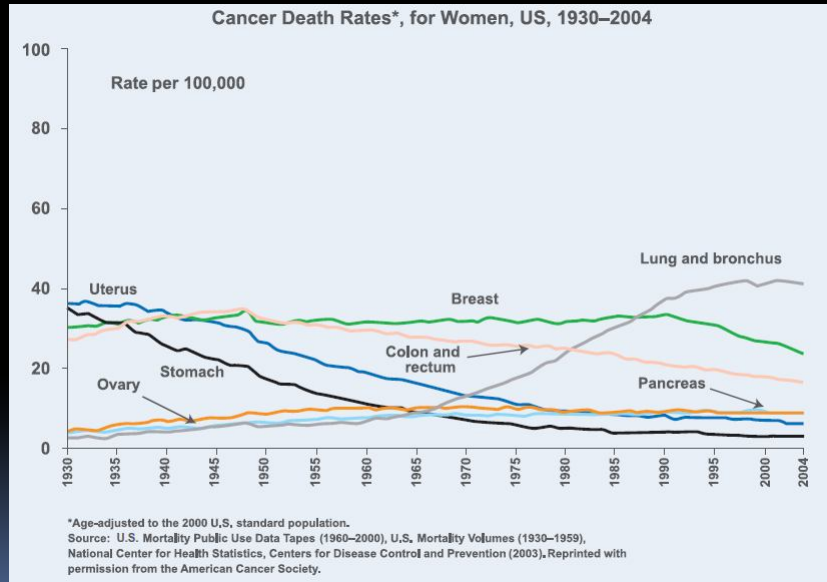
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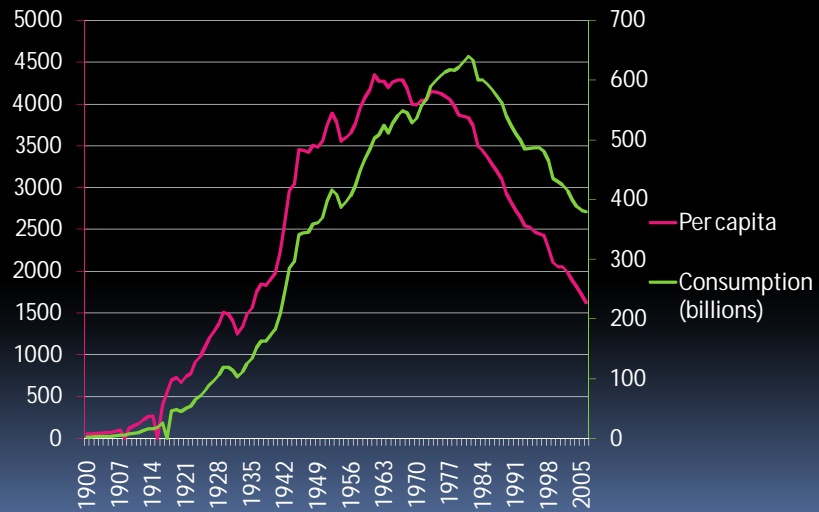
Published 4 Jan 1954





Who's smoking now?

Total and per capita adult yearly consumption of manufactured cigarettes and percentage changes in per capita consumption—United States, 1900–2006



The relationship between sales and price: cost may influence addiction

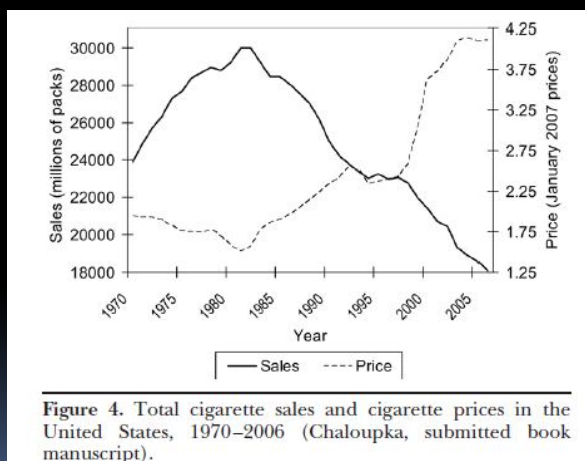
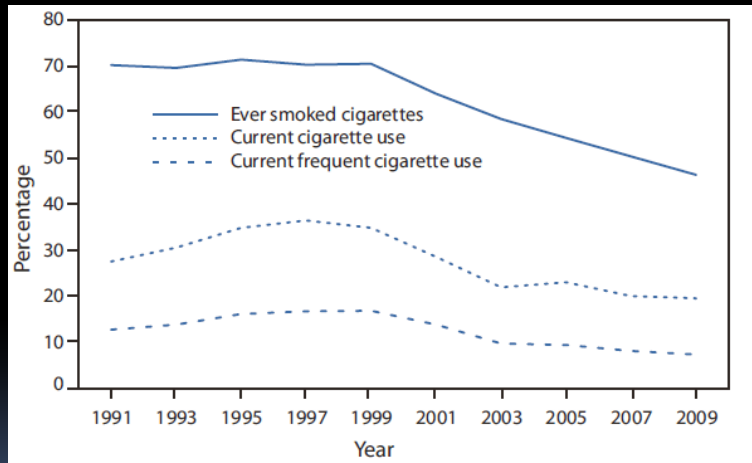


Figure 4. Total cigarette sales and cigarette prices in the United States, 1970–2006 (Chaloupka, submitted book manuscript).

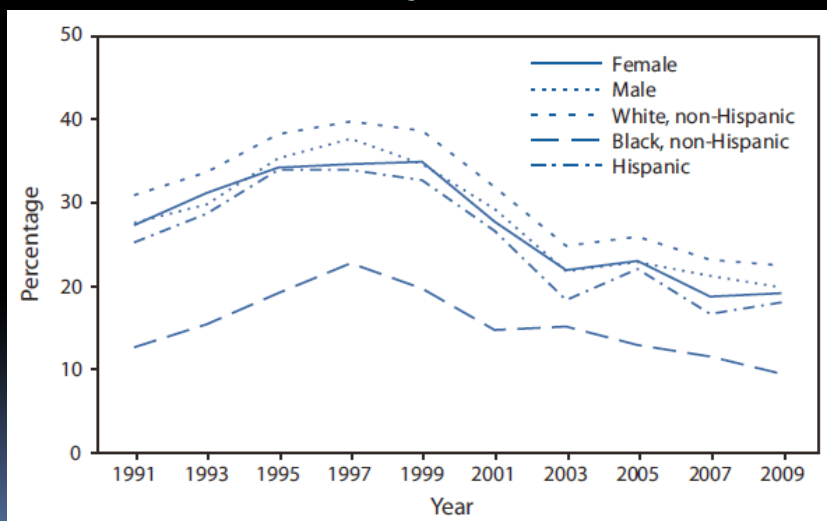
As quoted in Am J Prev Med 2007;33(6S)

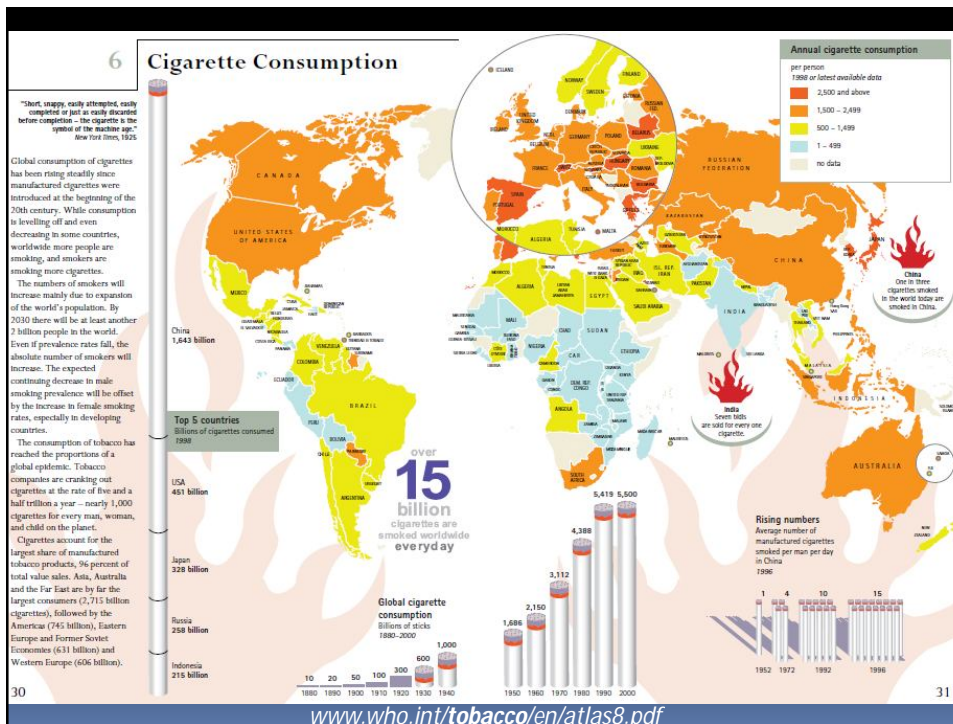
Cigarette Use Among High School Students Youth Risk Behavior Survey, US 1991--2009



Ever tried cigarette smoking: even one or two puffs.
 Current Smoked cigarettes on at least 1 day during 30 days before survey.
 Current frequent: Smoked cigarettes on ≥ 20 days during 30 days before survey.

Percentage current cigarette users among high school students by sex and race/ethnicity Youth Risk Behavior Survey, United States, 1991--





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