

Cancer Issues and Challenges

The 12th Maryland
State Council on Cancer Control Conference
November 16, 2005

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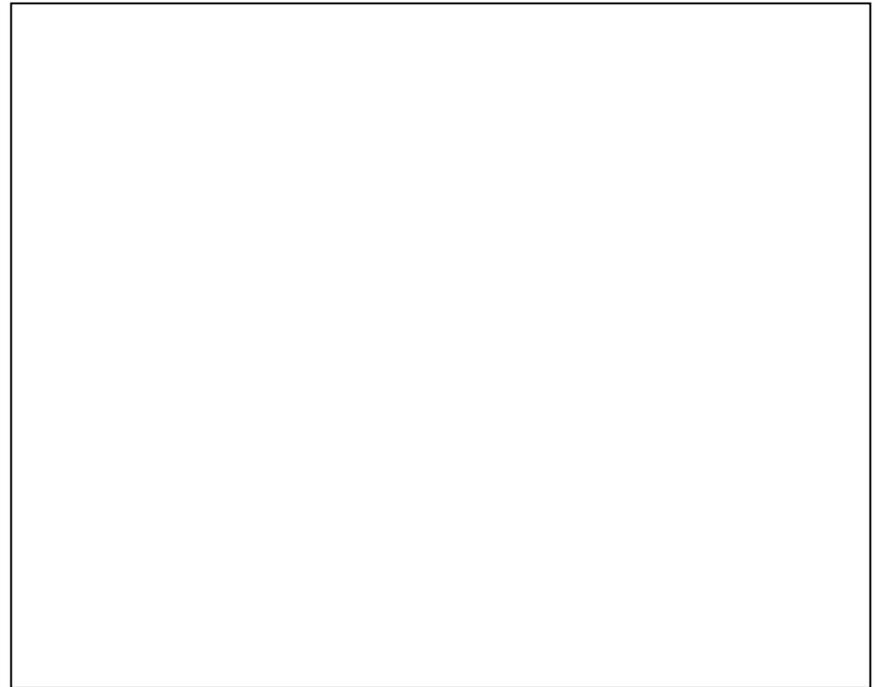
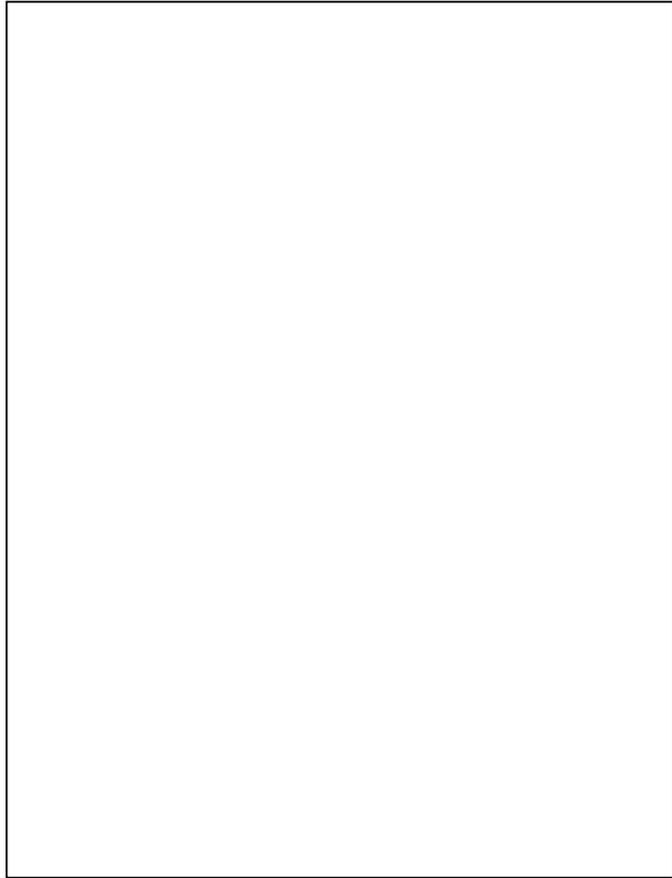
What is the
“Burden of Cancer?”

How do we measure it?



Cancer Deaths

Maryland 2001:
10,179 deaths



New Cancer Cases*

Maryland 2001 :
23,038

*excluding non-melanoma skin cancer [20,000??]



*We can live without our hair.
We can live without our breasts.*

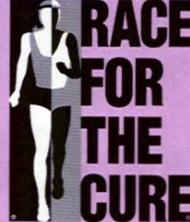
WE CANNOT LIVE WITHOUT OUR HOPE FOR A CURE.

Up to 75% of the net proceeds from our Race are spent locally, supporting the fight against breast cancer in your community.

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Walking off the pain of losing her son to cancer

BY LARRY PERL

This is how couch potato Mary Elizabeth "Betsy" McCaul wound up running — well, OK, walking

McCaul said.

Now, his family was driving him to the rolling hills of Tennessee, nearly 11 hours away.

"He was looking forward to

told him to go to the campus health clinic, where he was given ibuprofen.

By the following Monday, the young man who'd been so full of

The diagnosis was acute lymphocytic leukemia, an aggressive cancer. McCaul flew down the next day to put Sam on the next plane home.

Measuring the Burden of Cancer

- People with cancer or cancer deaths
- Years of 'productive' life lost
- Disparities
- Risk factors
- Screening

Measuring the Burden of Cancer

- Cost of research
- Cost of prevention
- Cost of treatment
 - Total
 - Cost per case treated
 - Cost per year of life saved
- Percent with access to quality health care
- Percent with health care insurance

The number of people with cancer

Health care access

Health care costs

Planning

End of life care, etc.

The rate of cancer

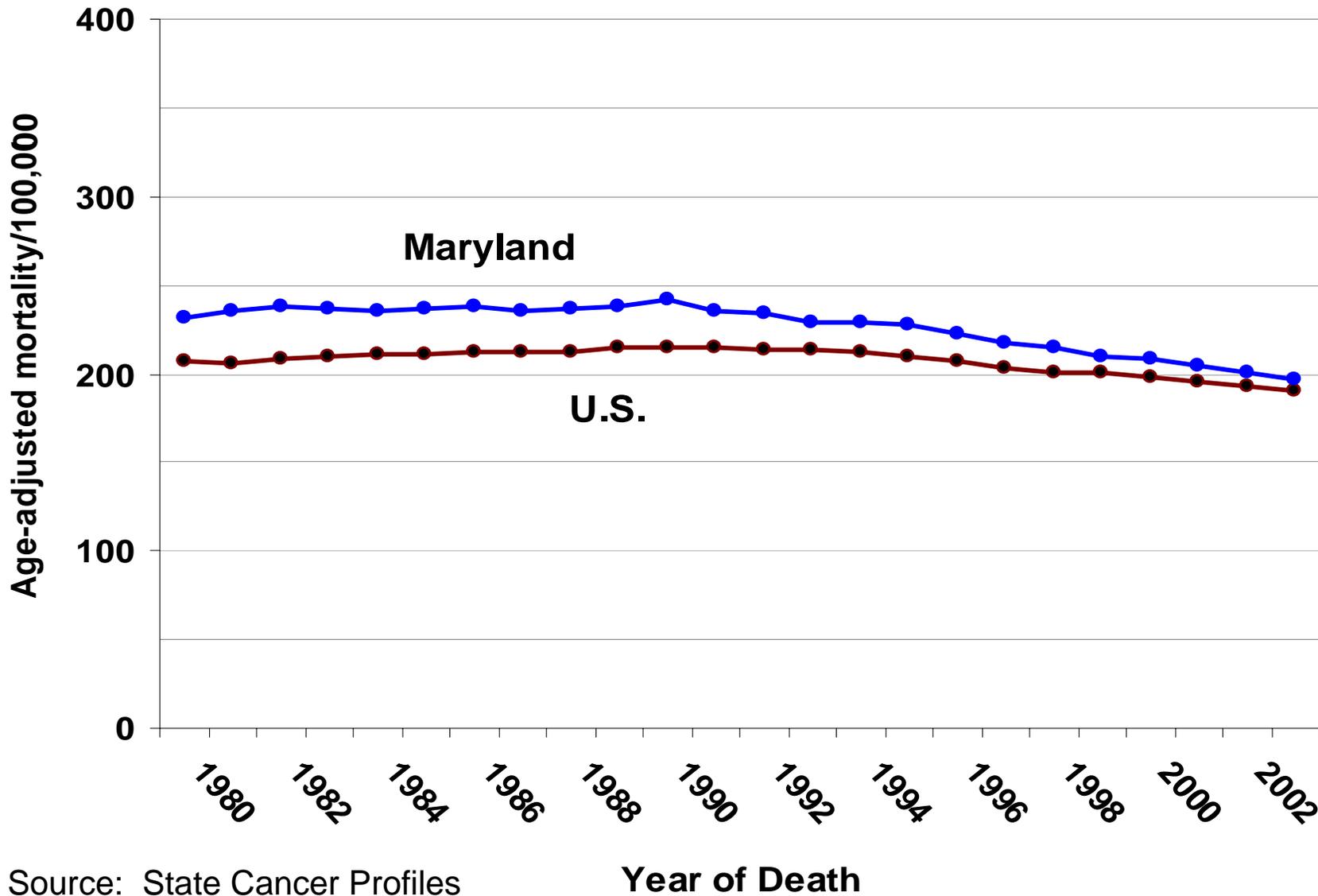
(age-adjusted, standardized)

Trends over time

Comparisons among states, jurisdictions, populations

Indicator Profile of Cancer Deaths

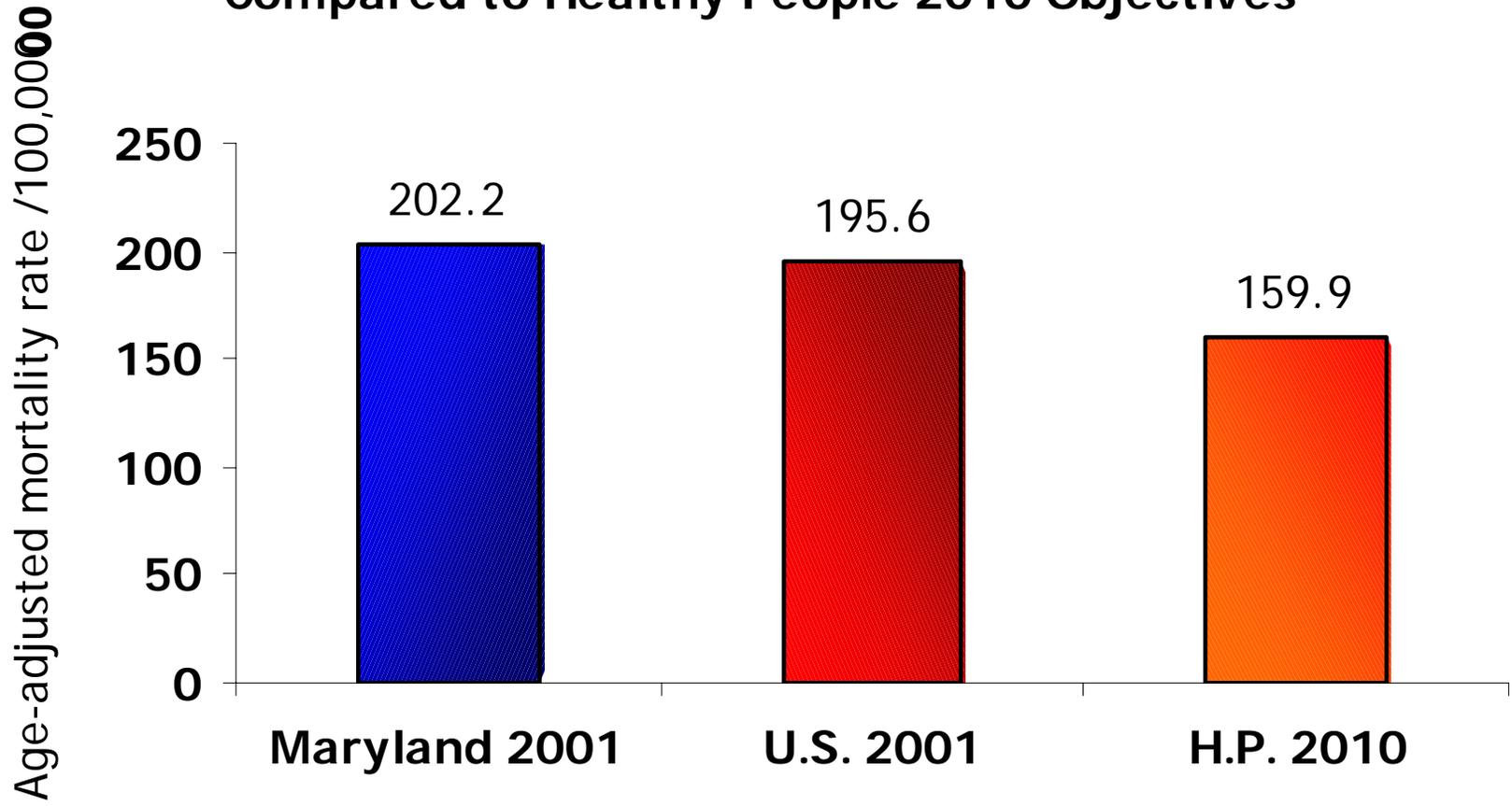
Cancer Death Rate, Maryland and U.S., 1980-2003



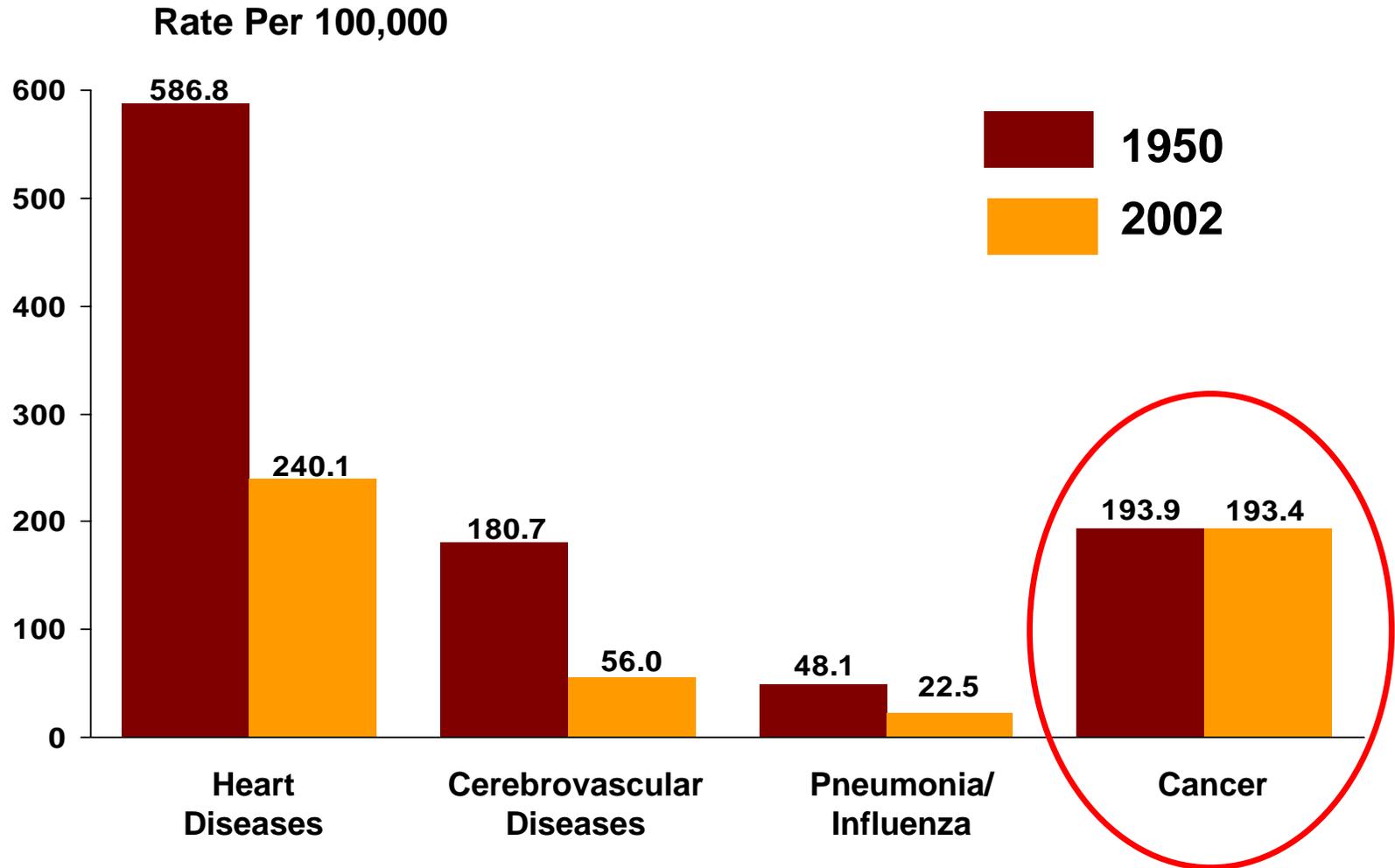
Source: State Cancer Profiles

Year of Death

Maryland and U.S. All Cancer Sites Mortality Rates, 2001 Compared to Healthy People 2010 Objectives



Change in the US Death Rates* by Cause, 1950 & 2002

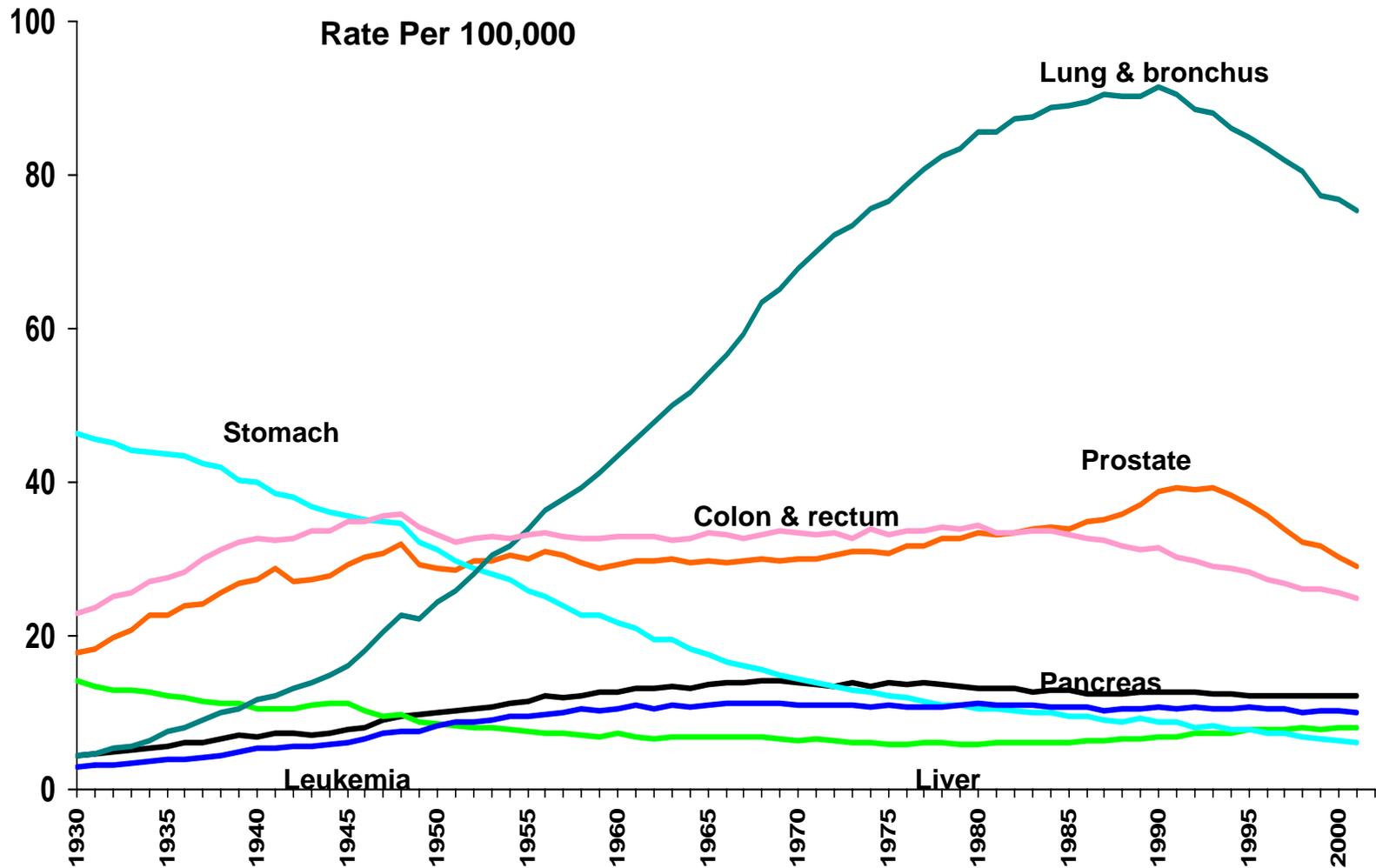


* Age-adjusted to 2000 US standard population.

Sources: 1950 Mortality Data - CDC/NCHS, NVSS, Mortality Revised.

2002 Mortality Data: US Mortality Public Use Data Tape, 2002, NCHS, Centers for Disease Control and Prevention, 2004

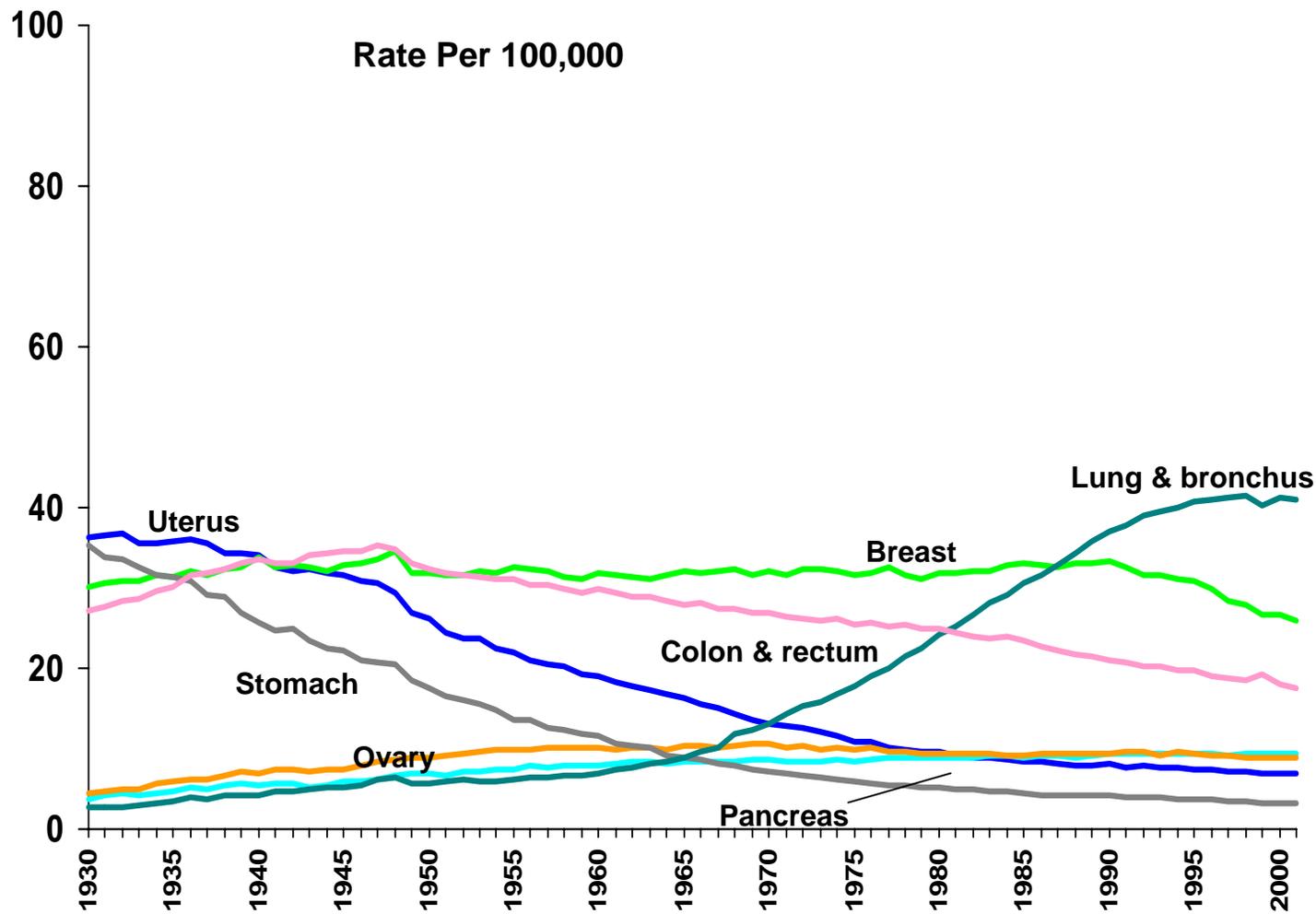
Cancer Death Rates*, for Men, US, 1930-2001



*Age-adjusted to the 2000 US standard population.

Source: US Mortality Public Use Data Tapes 1960-2001, US Mortality Volumes 1930-1959, National Center for Health Statistics, Centers for Disease Control and Prevention, 2004.

Cancer Death Rates*, for Women, US, 1930-2001

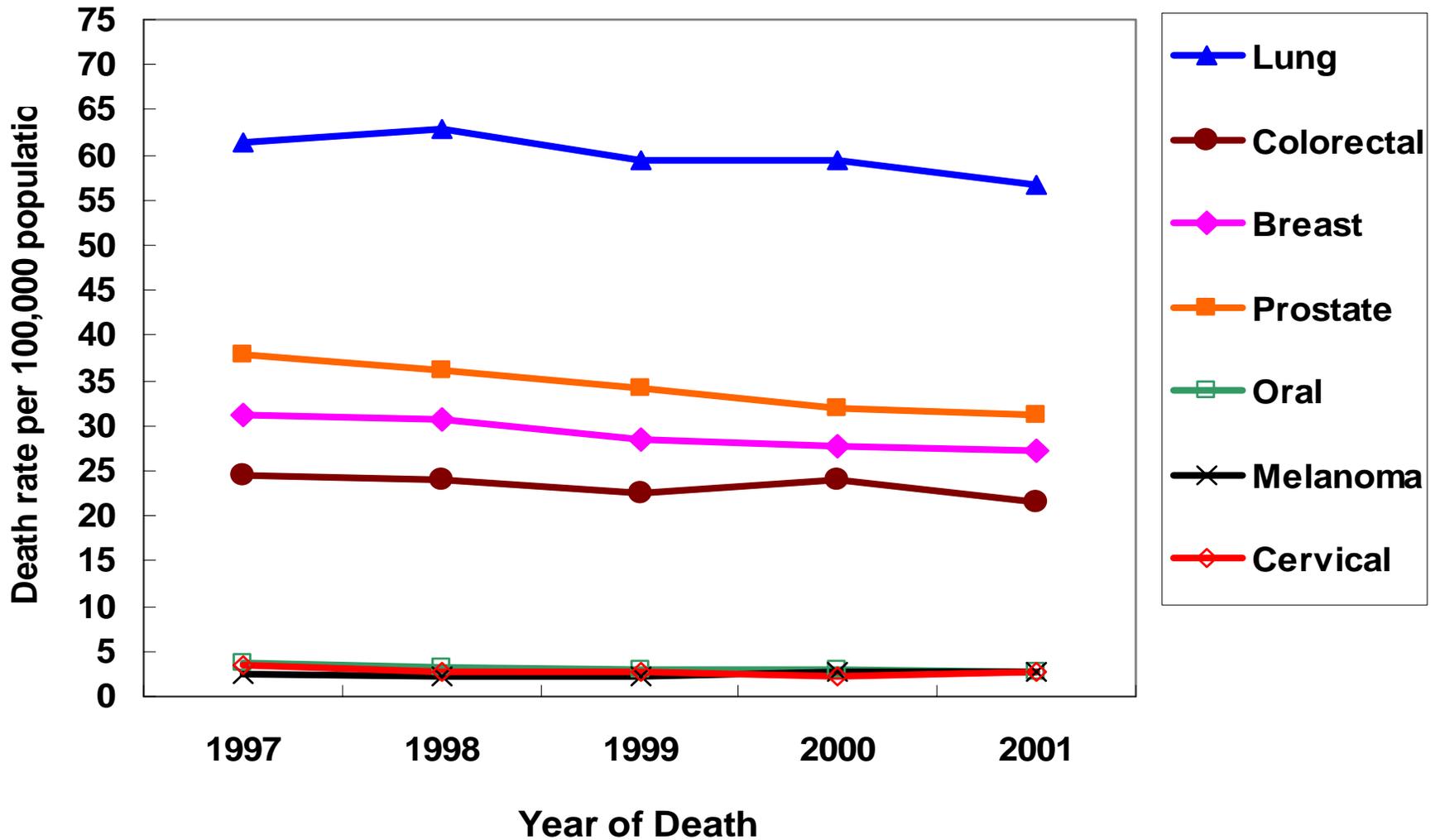


*Age-adjusted to the 2000 US standard population.

Source: US Mortality Public Use Data Tapes 1960-2001, US Mortality Volumes 1930-1959, National Center for Health Statistics, Centers for Disease Control and Prevention, 2004.

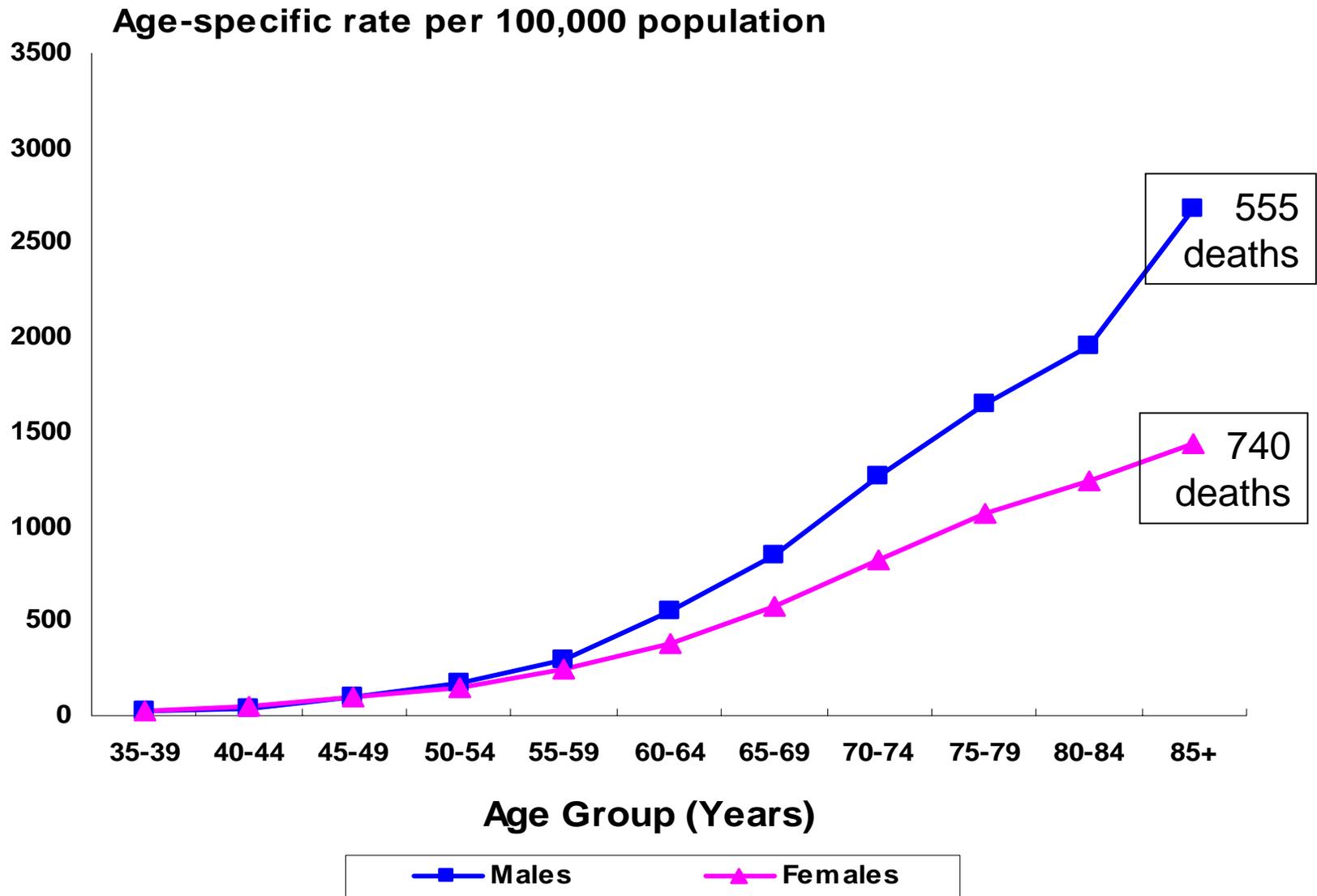
Maryland Indicator Profile of Targeted Cancers

Mortality Rates for Men and Women*, Maryland, 1997-2001



*Mortality rates/100,000 population, age-adjusted to the US standard population 2000

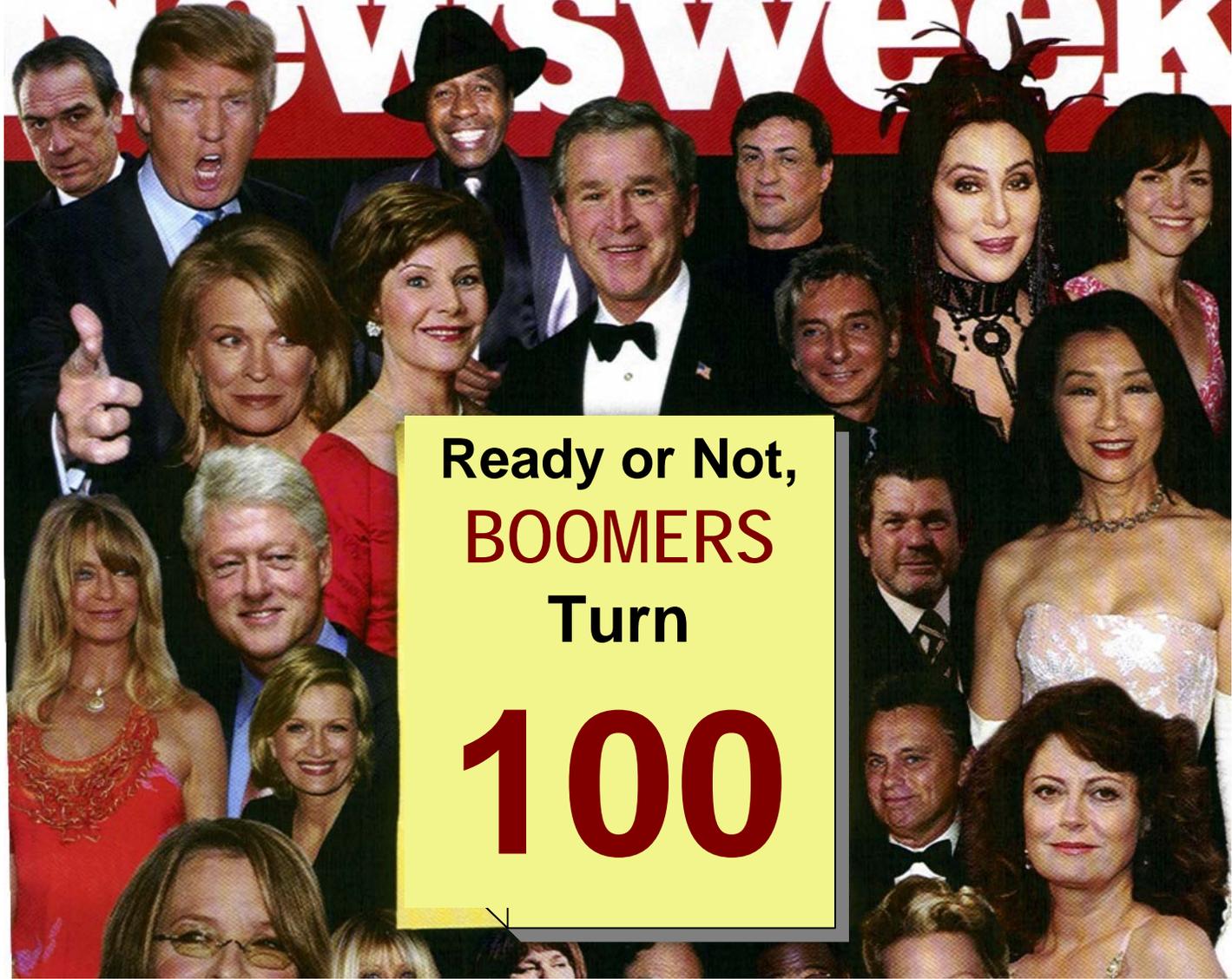
All Cancer Sites Age-Specific Mortality Rates by Gender Maryland, 2001



November 14, 2005: \$3.95

newsweek.msnbc.com

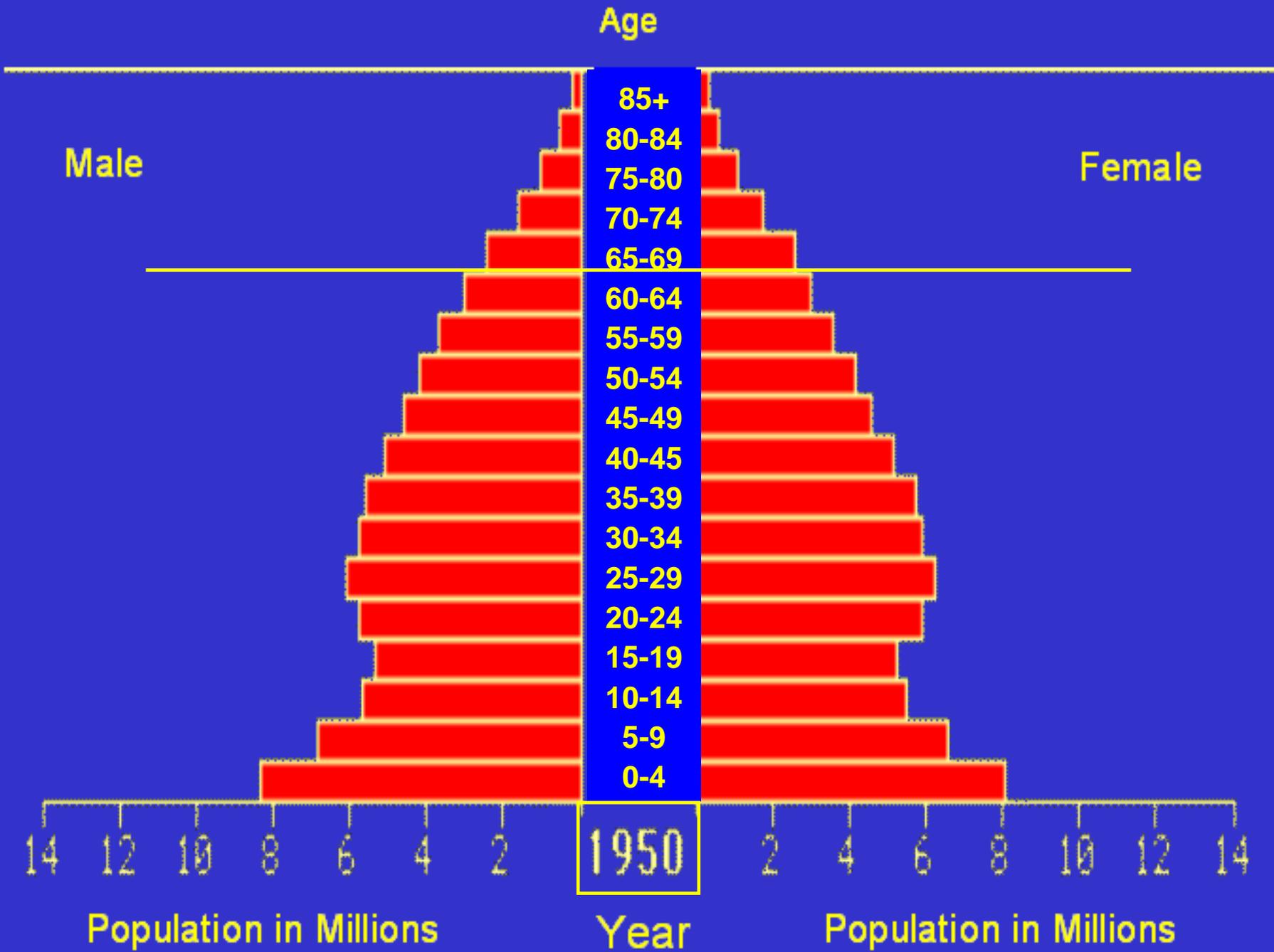
Newsweek

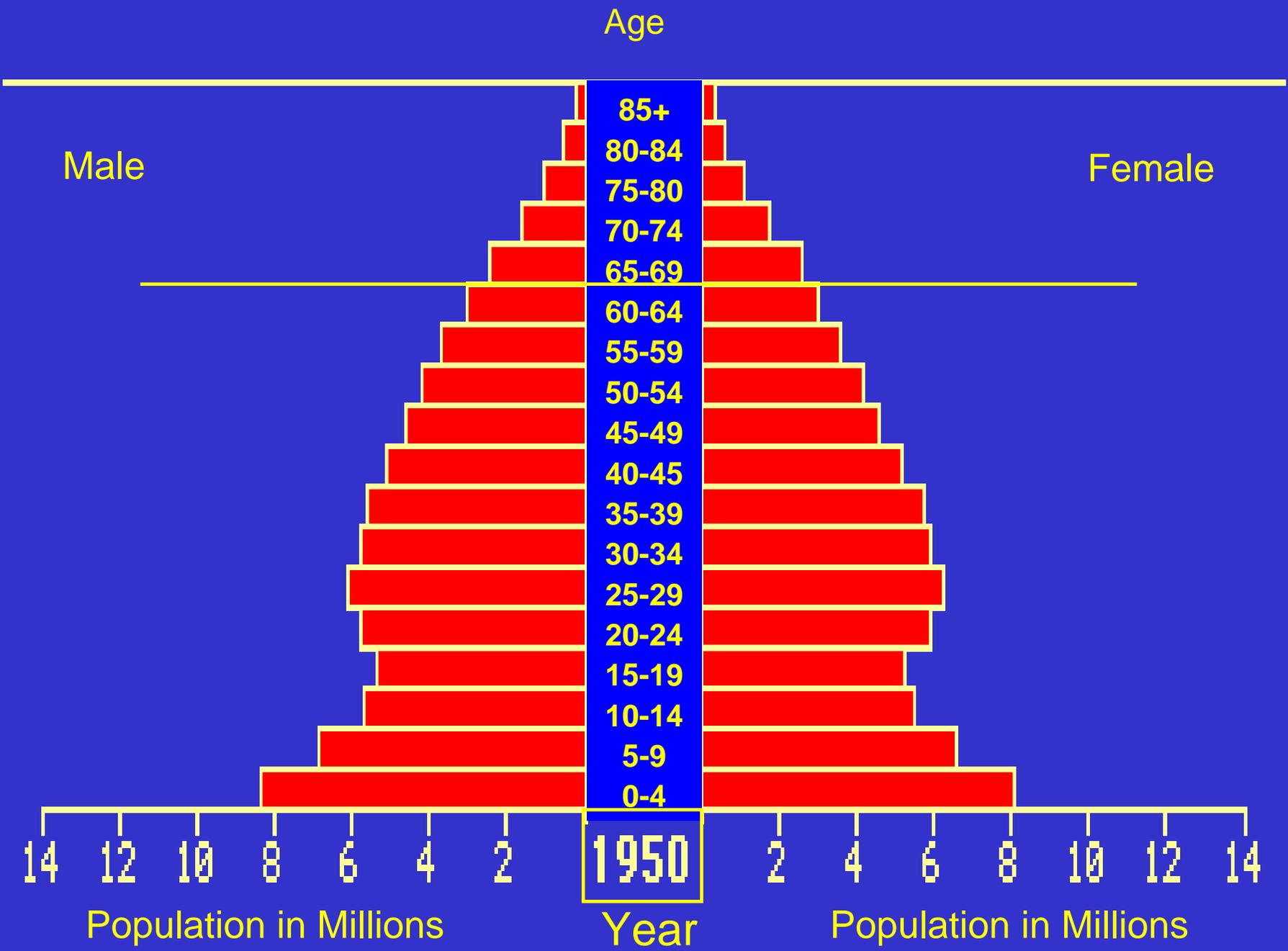


Ready or Not,
BOOMERS
Turn
100

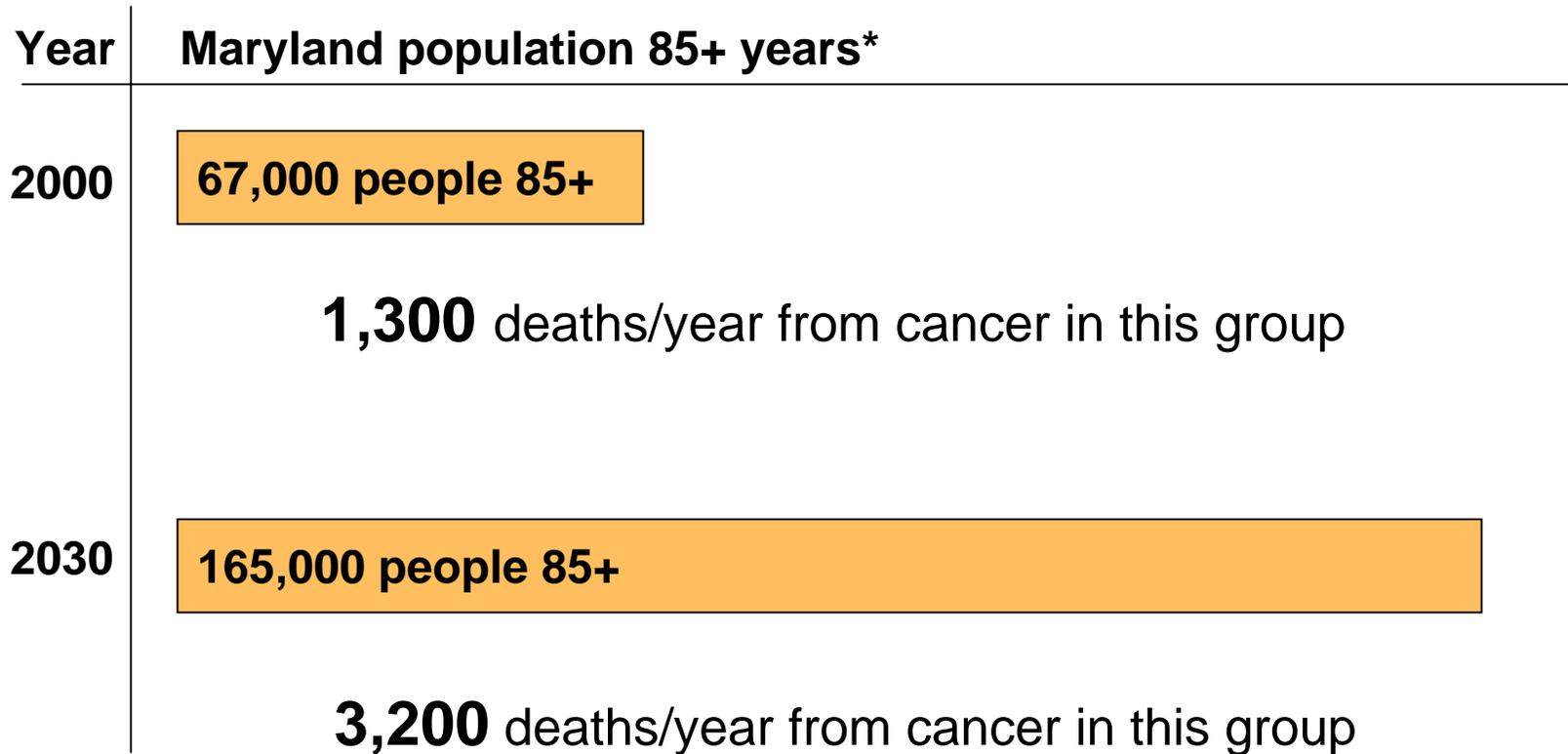
“By some estimates,
the annual number of
**new cases of cancer may
double by 2050”**

Source: National Cancer Institute. The Nation's Investment in Cancer Research http://plan.cancer.gov/pdf/nci_2007_plan.pdf, page 7





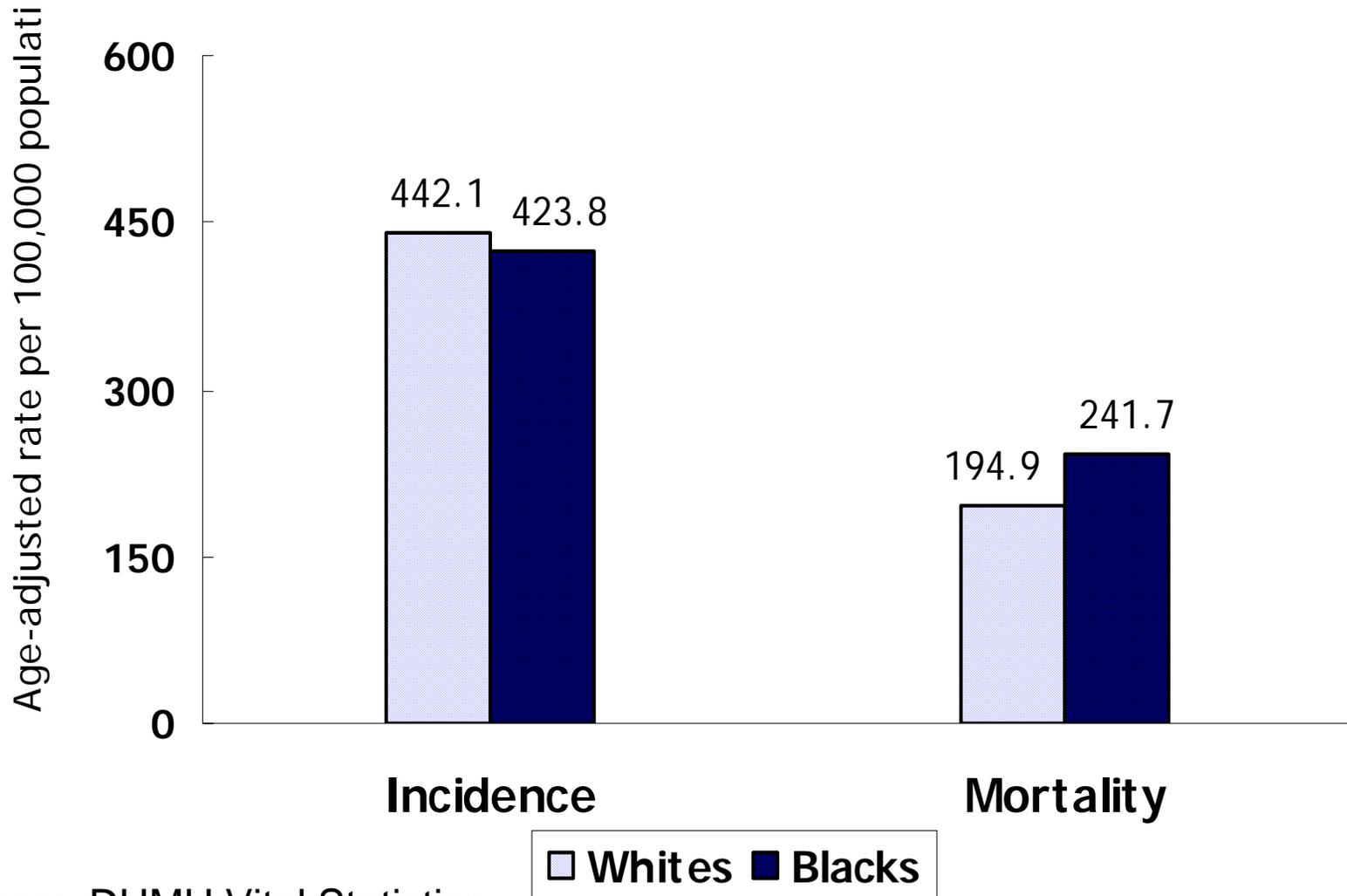
If rates of cancer stay the same....



Source: Maryland State Data Center, Maryland Department of Planning
http://www.mdp.state.md.us/msdc/dw_popproj.htm

Burden of Cancer: Measuring Racial Disparities

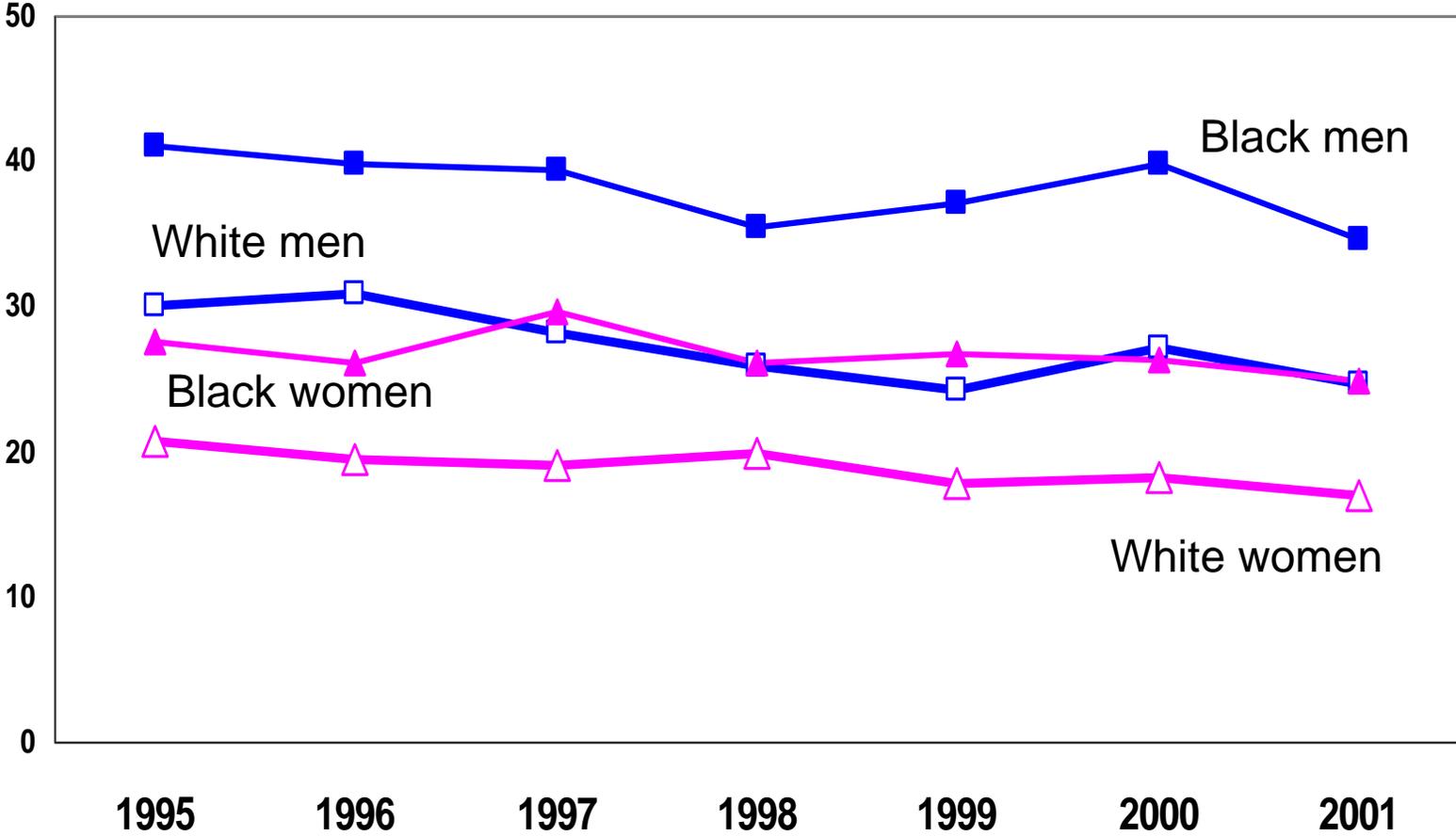
All Cancer Sites Incidence and Mortality Rates by Race, Maryland, 2001



Source: DHMH Vital Statistics

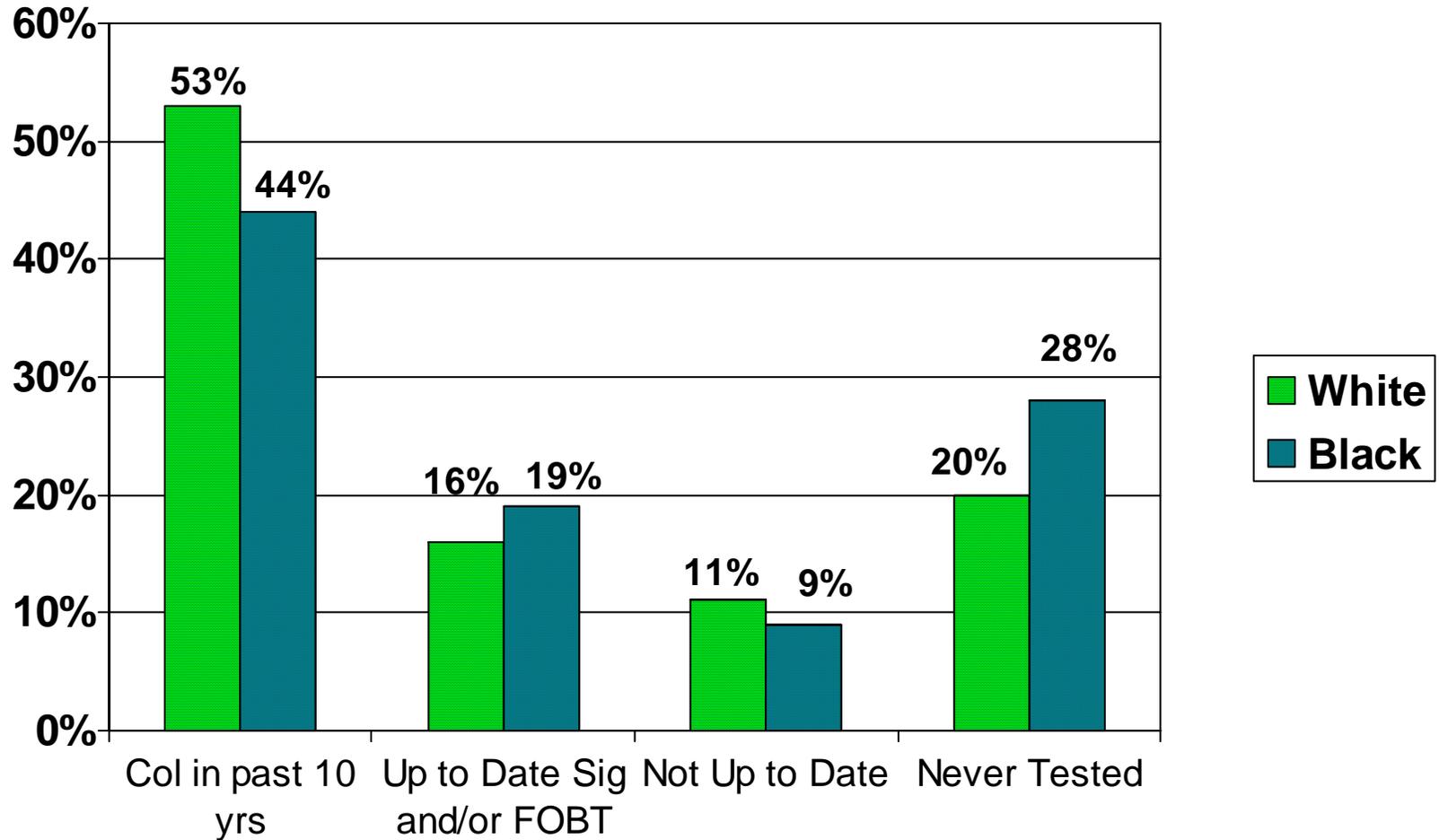
Colorectal Cancer Mortality Rates by Race and Sex in Maryland, 1995-1999

Age-adjusted rate per 100,000 population



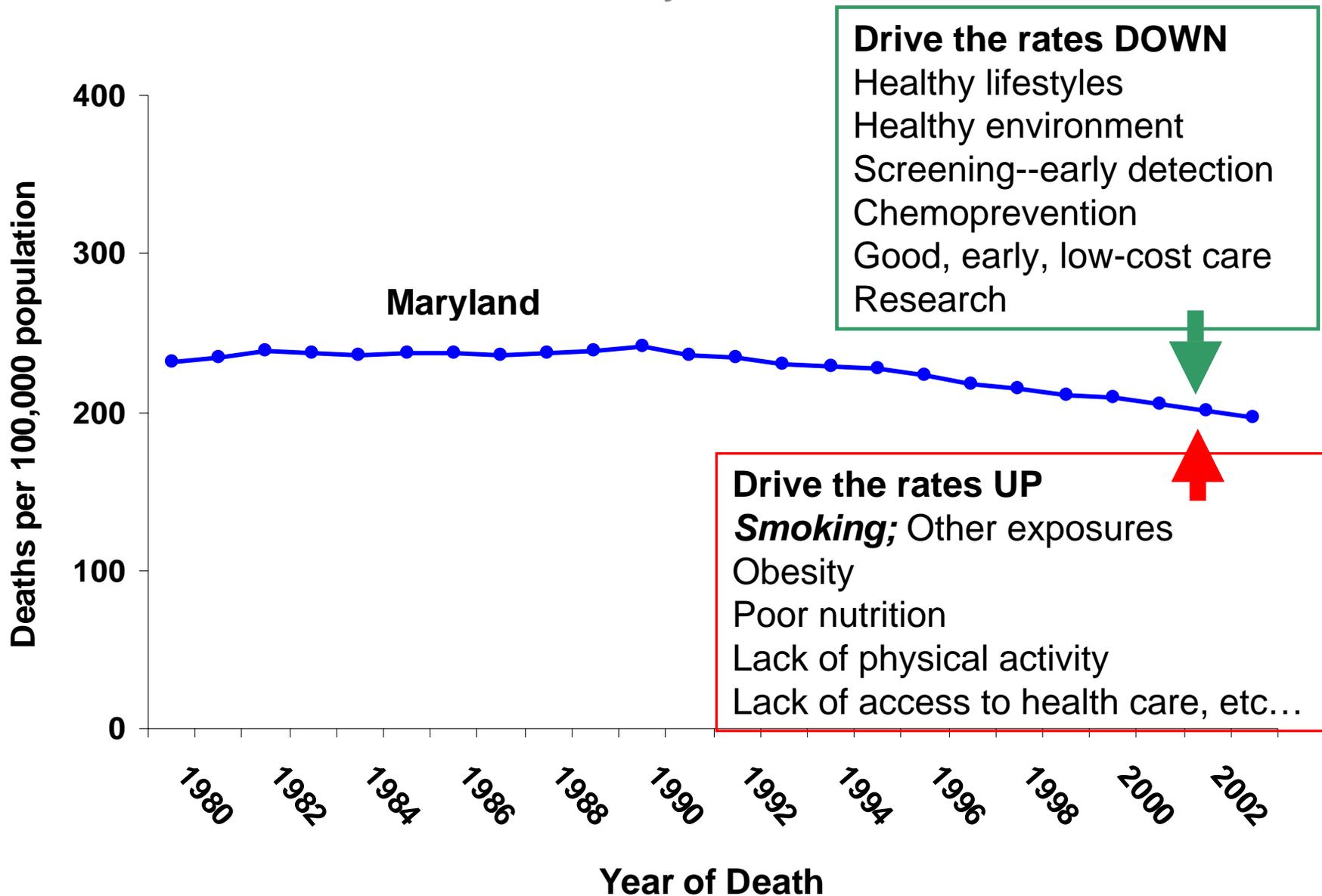
Source: Maryland DHMH Vital Statistics

Current CRC Screening Status Comparison of Whites and Blacks 50+ Years Old Maryland Cancer Survey, 2004



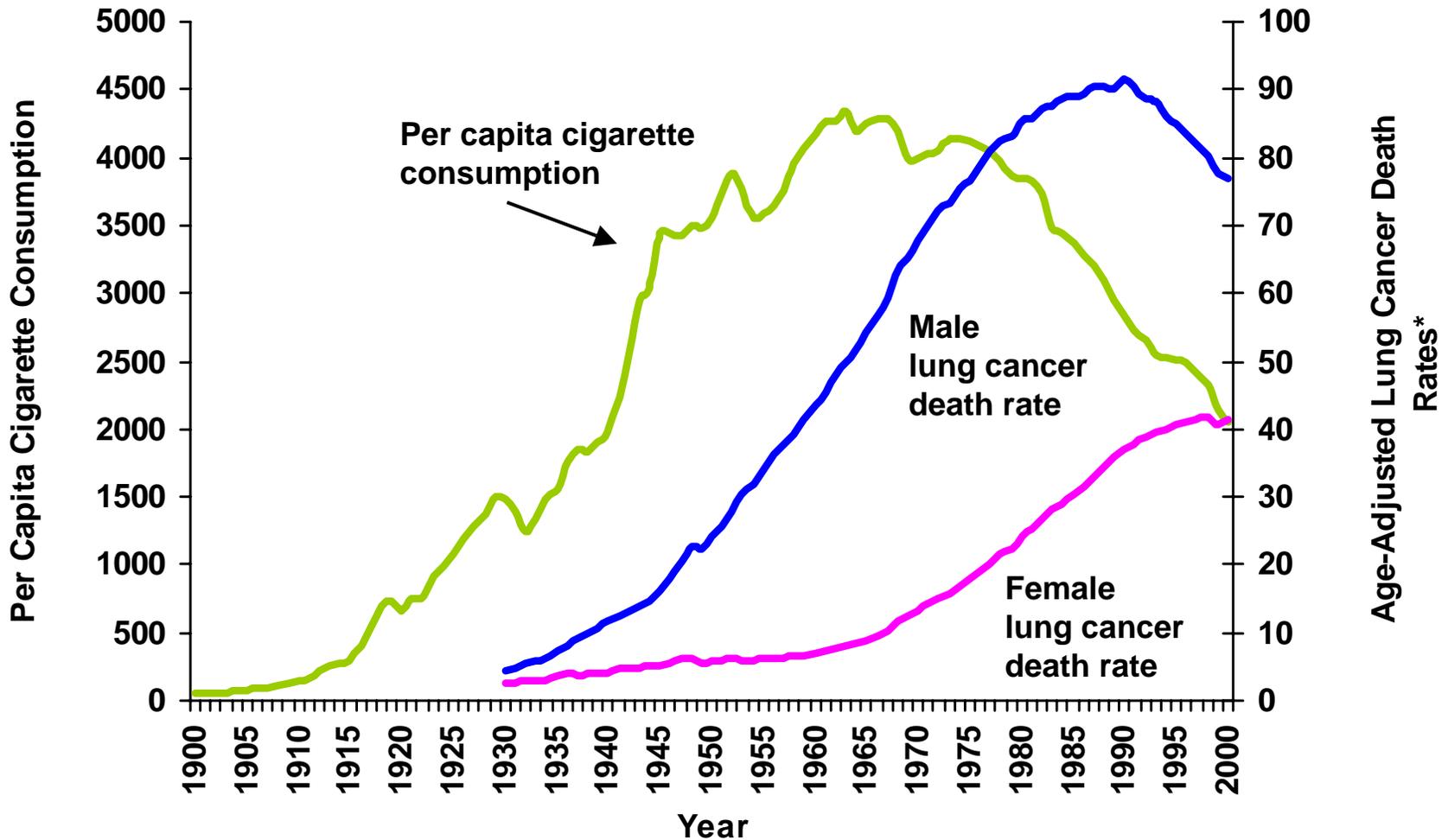
Indicator Profile of Cancer Deaths

Cancer Death Rate, Maryland and U.S., 1980-2003



Burden of Cancer: Cancer Risk Factors and Screening Rates

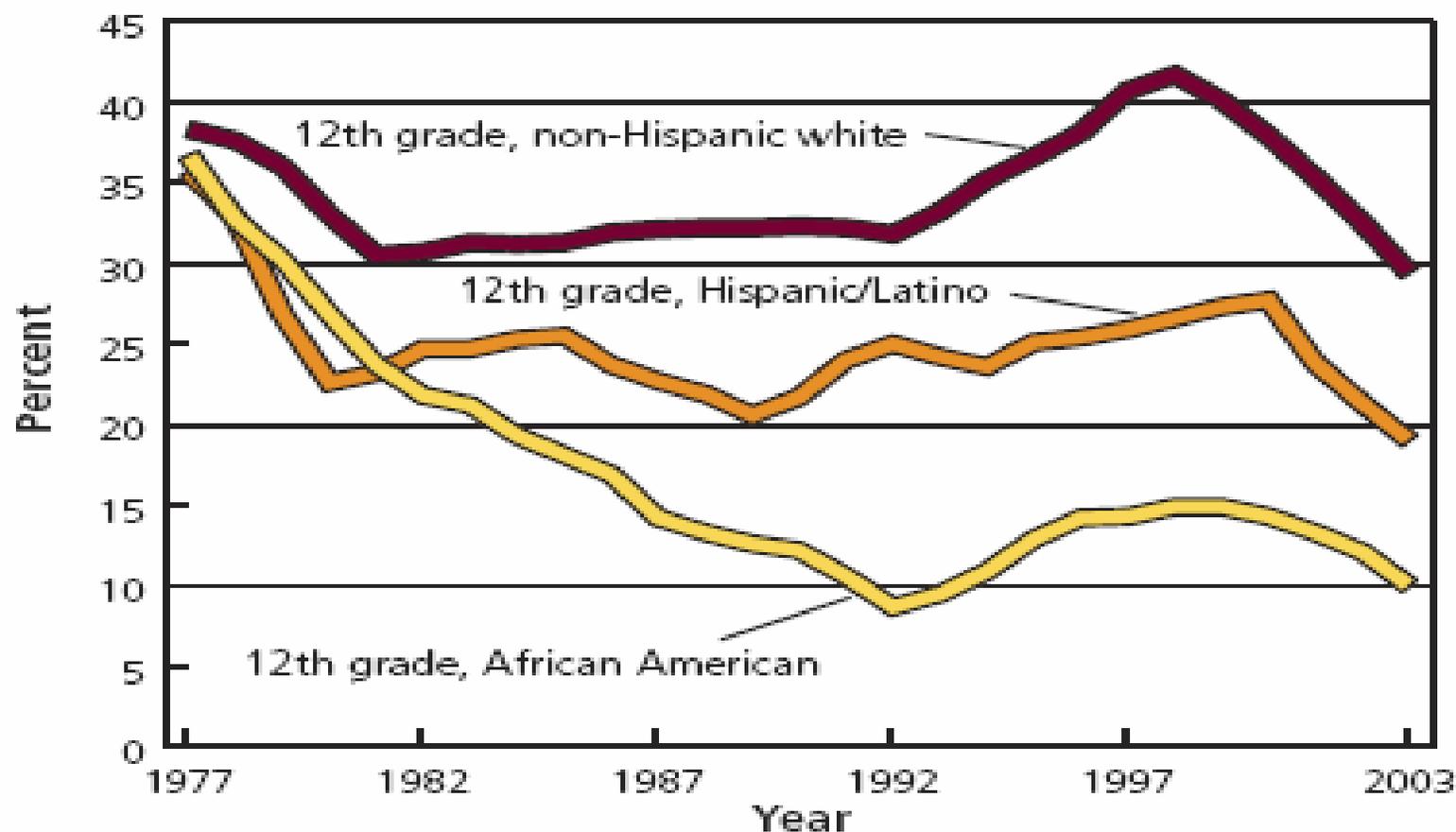
Tobacco Use in the US, 1900-2000



*Age-adjusted to 2000 US standard population.

Source: Death rates: US Mortality Public Use Tapes, 1960-2000, US Mortality Volumes, 1930-1959, National Center for Health Statistics, Centers for Disease Control and Prevention, 2002. Cigarette consumption: US Department of Agriculture, 1900-2000.

Figure 1A. Current* Cigarette Smoking Among 12th Graders, by Race/Ethnicity, 1977-2003

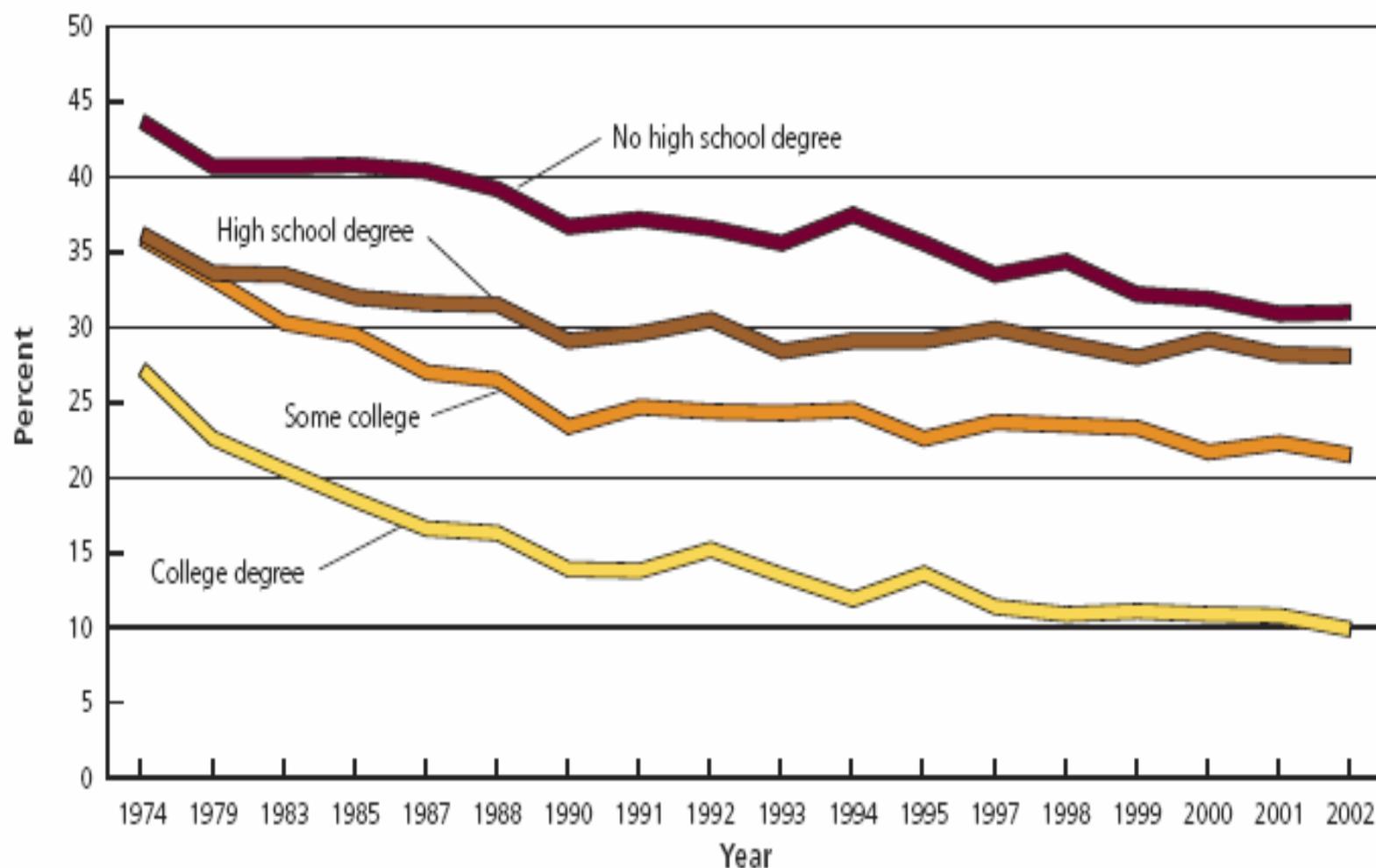


*Used cigarettes in the last 30 days.

Source: Monitoring the Future Survey, 1975-2003, National Institute on Drug Abuse.

American Cancer Society, Surveillance Research

Figure 2B. Current* Cigarette Smoking by Education, Adults 25 and Older, 1974-2002



*Adults 25 and older who have ever smoked 100 cigarettes in their lifetime and who are current smokers (regular and irregular).

Source: National Health Interview Survey, 1974-2002, National Center for Health Statistics, Centers for Disease Control and Prevention. Cigarette smoking among adults - United States, 2002. *MMWR Morb Mortal Wkly Rep.* 2004;53(20):427-431.

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A healthy diet?

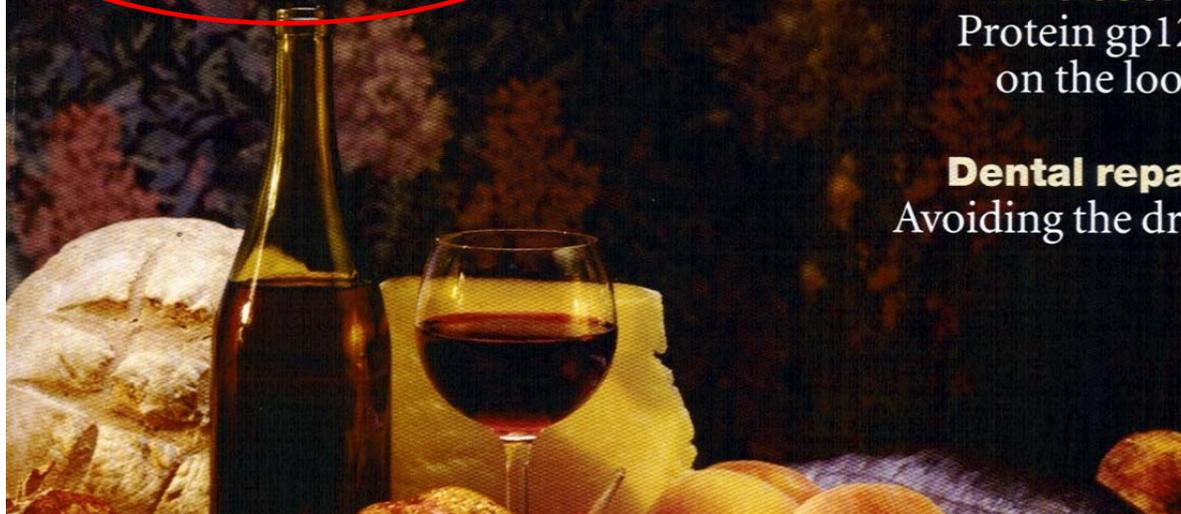
Dietary advice under the microscope

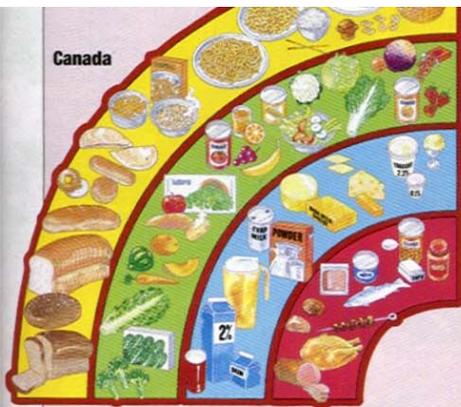
Planetary atmosphere
Earth and Venus divided by an ocean

Adult stem cells
Primed for action

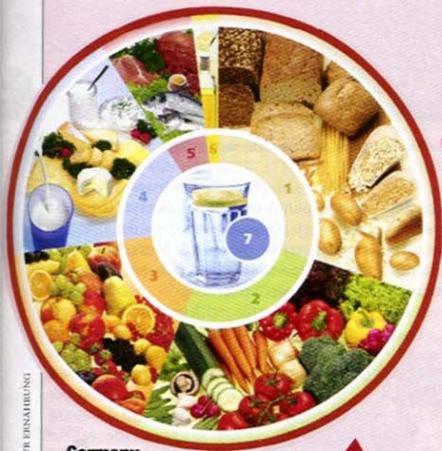
HIV's secret
Protein gp120 on the loose

Dental repair
Avoiding the drill

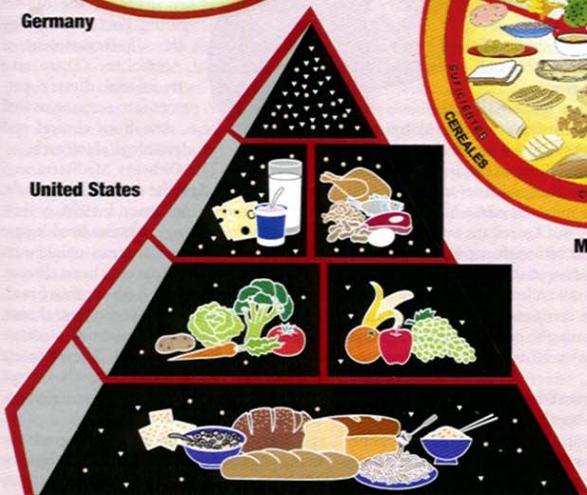




Canada



Germany



United States



China



Mexico

Around the world three square meals

In China, it's a pagoda; in Canada, a rainbow. But despite the diversity of design to be found in pictorial food guides from around the world, the core advice remains the same: eat your peas and porridge, limit your bacon and eggs.

In Canada's rainbow, for instance, breads and cereals occupy the outermost — and therefore the longest — curve of the arc. This band is colored golden yellow to represent grain. Vegetables and fruit are next in green, followed by dairy in blue and meat in the diminutive, innermost red.

Of course, in real rainbows, even Canada's red comes before yellow. Putting the colors in that order comes a bit closer to what real Canadians eat. According to data from the United Nations Food and Agriculture Organization, Canadians, like other North Americans, get more than twice as many calories from meat and fish as from fruit and vegetables.

That ratio is fairly common in parts of the world where meat is readily available. The

Chinese, avid consumers of porridge, have a similar proportion in their diets. This is despite the advice of the Chinese Food Guide Pagoda, which has grains at its foundation level, and fruit and vegetables just above it.

Nearly every official food guide emphasizes grains and cereals as the foundation of a healthy diet, and that's one recommendation the world as a whole has trouble living up to. In the United States and Europe, grains and cereals make up about a quarter of the average diet. In Asia, where rice is a staple, they are anywhere from 50% to 60% of daily calories. Diets in most other regions fall somewhere in the middle.

Although the basic recommendations are the same, each pyramid, rainbow, circle tends to reflect the national unique food culture. The Mexican food circle has an entire wedge devoted to beans. The Chinese pagoda's food depictions include a bowl of rice and a head of bok choy, and the German food circle features photographs of hearty whole-grain breads.

But no food guide seems to take adequate account of the irrepressible human sweet tooth. Sweets are listed along with fats as only for occasional consumption in most guides. And several make no mention of sweets at all, including those from China, Sweden, Germany and Portugal (see J. Painter, J.-H. Rah and Y.-K. Lee *J. Am. Diet. Assoc.* **102**, 483-489; 2002). Even so, North Africans get 9% of their calories from sugar, Europeans 11%, and Americans are consuming 18%.

Jonathan I.

Behavioral Risk Factor Survey 18+ years old Maryland, 2000

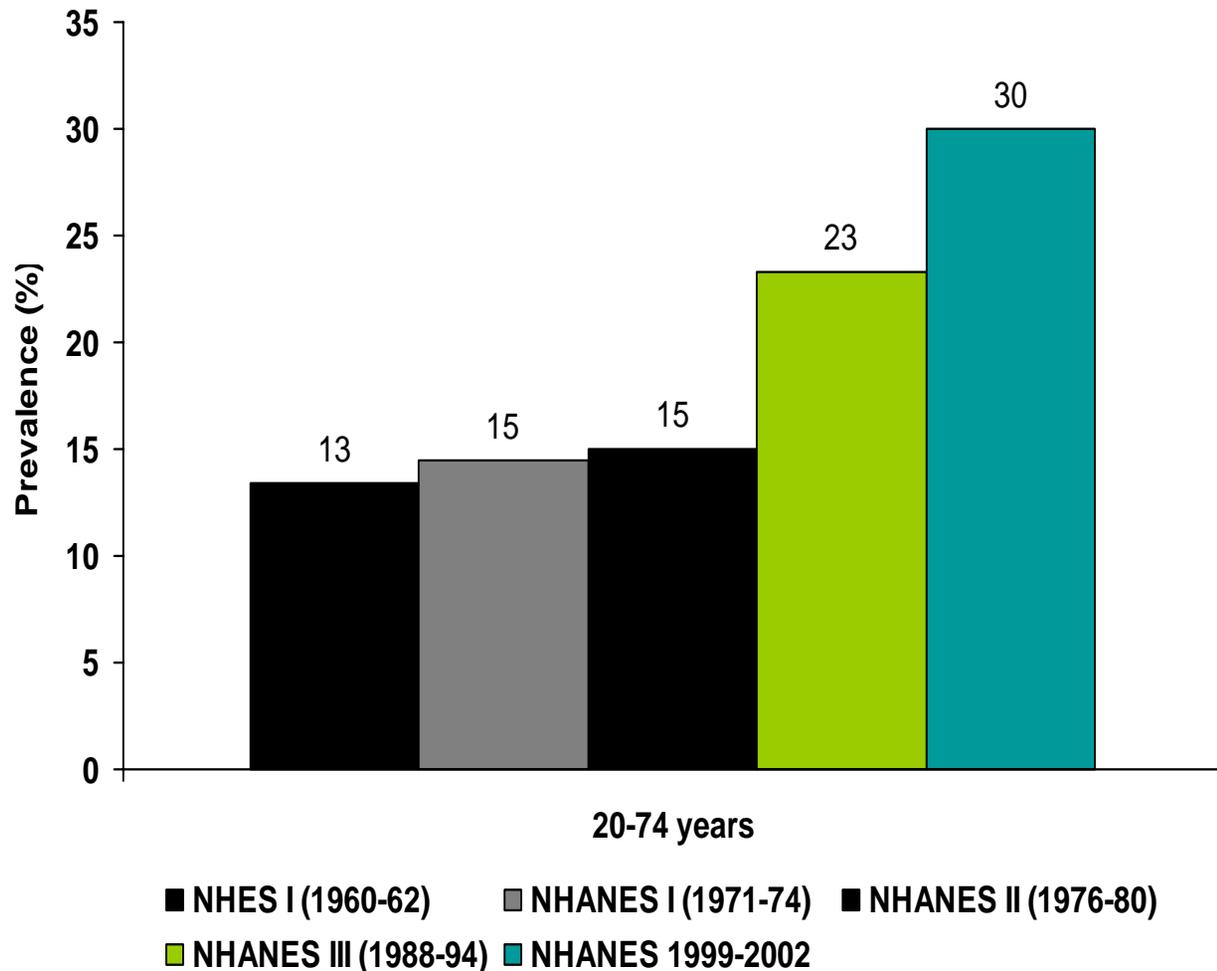
- **72.9% LOW intake of vegetables and fruits**
- 56.7% overweight or obese
- 77.4% physical inactivity

- In 2002, about **3.2 percent of all new cancers** were estimated to be linked to obesity ¹
- Percent of all **deaths from cancer** attributable to overweight and obesity in adults 50 and older² may be:
 - 14% in men**
 - 20% in women**

¹ Polednak AP. Trends in incidence rates for obesity-associated cancers in the U.S. *Cancer Detection and Prevention* 2003; 27(6):415–421.

² Calle EE, Rodriguez C, Walker-Thurmond K, Thun MJ. Overweight, obesity, and mortality from cancer in a prospectively studied cohort of U.S. adults. *New England Journal of Medicine* 2003; 348(17):1625–1638.

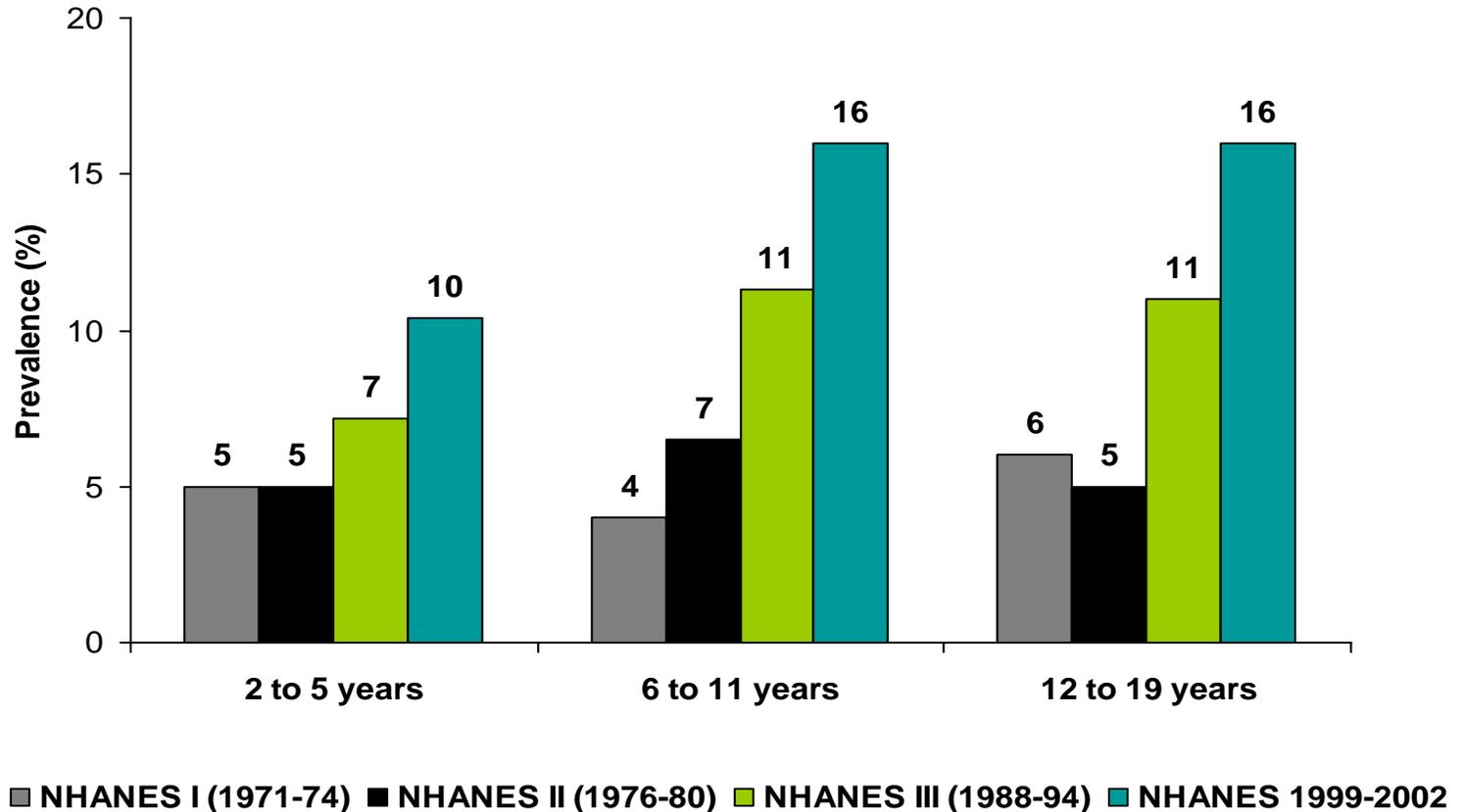
Trends in Obesity* Prevalence (%), By Gender, Adults Aged 20 to 74, US, 1960-2002



*Obesity is defined as a body mass index of 30 kg/m² or greater.

Source: National Health Examination Survey 1960-1962, National Health and Nutrition Examination Survey, 1971-1974, 1976-1980, 1988-1994, 1999-2002, National Center for Health Statistics, Centers for Disease Control and Prevention, 2002, 2004.

Trends in Overweight* Prevalence (%), Children and Adolescents, by Age Group, US, 1971-2002



*Overweight is defined as at or above the 95th percentile for body mass index by age and sex based on reference data.

Source: National Health and Nutrition Examination Survey, 1971-1974, 1976-1980, 1988-1994, 1999-2002, National Center for Health Statistics, Centers for Disease Control and Prevention, 2002, 2004.

Behavioral Risk Factor Survey 18+ years old Maryland, 2000

- 72.9% low intake of vegetables and fruits
- **56.7% overweight or obese**
- 77.4% physical inactivity

In 2002, a major review of observational trials found:

**Physical activity reduced
colon cancer risk by 50 percent.**

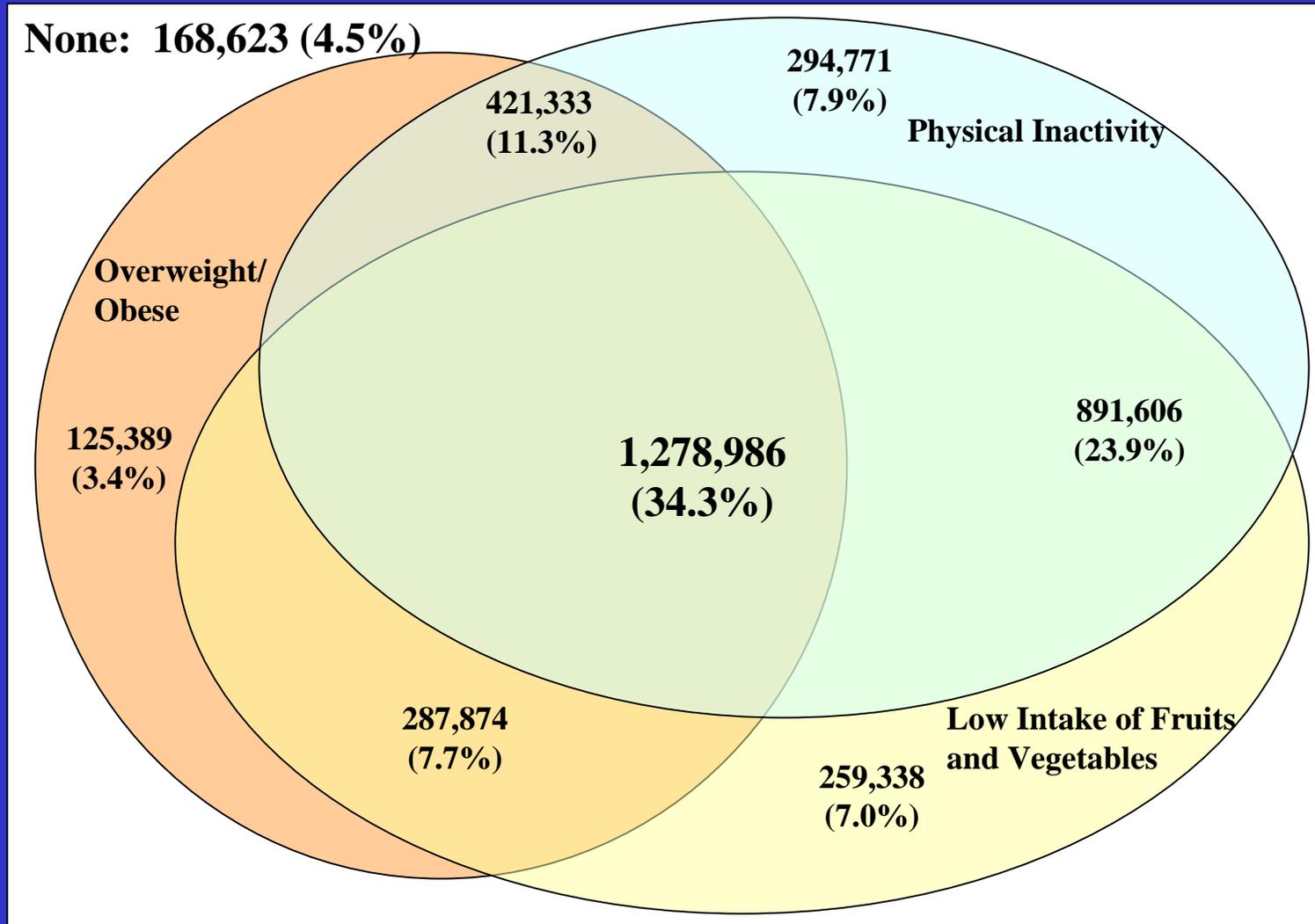
This risk reduction occurred even with moderate levels of physical activity.

Vainio H, Bianchini F. *IARC handbooks of cancer prevention. Volume 6: Weight control and physical activity.* Lyon, France: IARC Press, 2002.

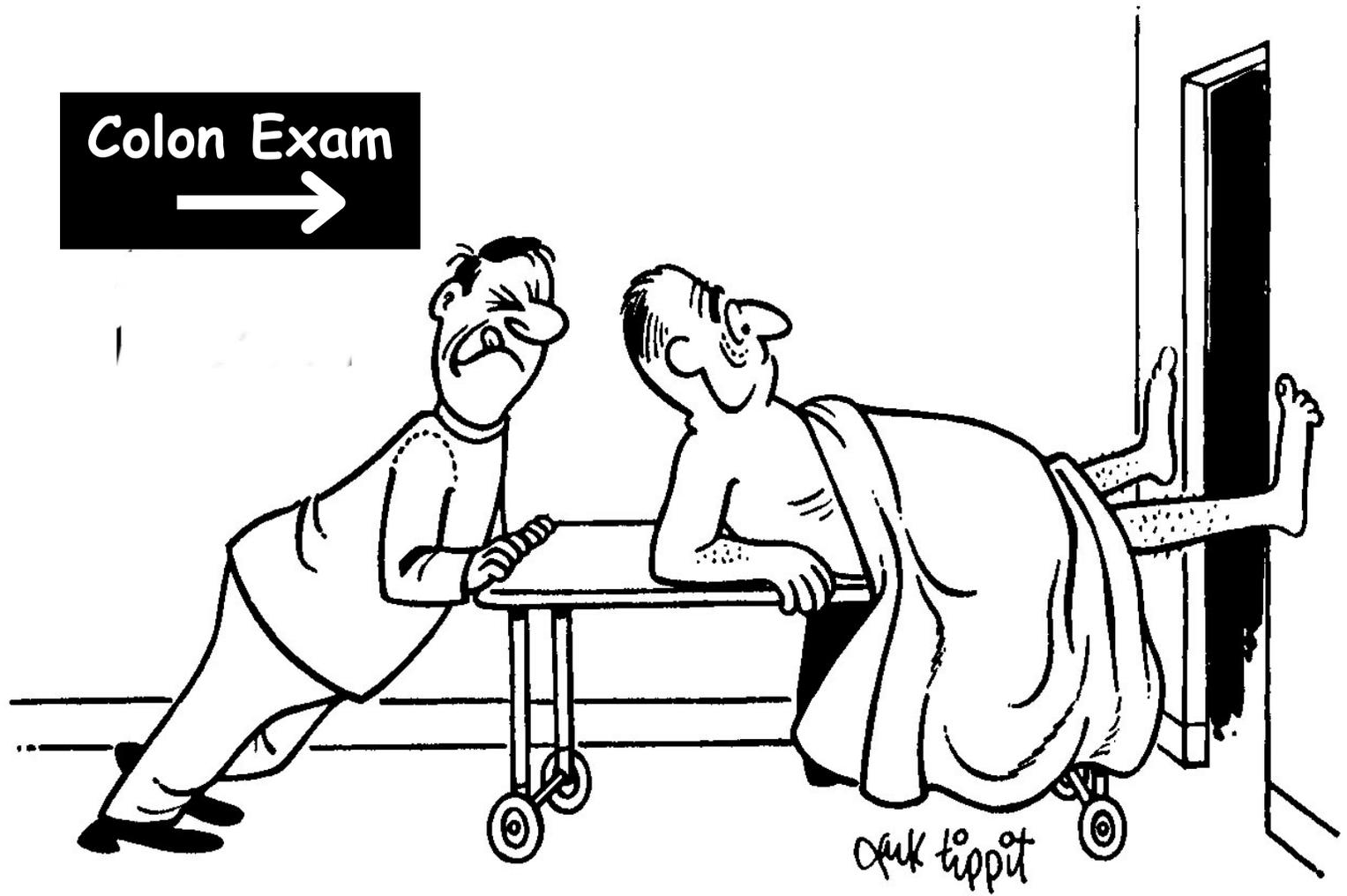
Behavioral Risk Factor Survey 18+ years old Maryland, 2000

- 72.9% low intake of vegetables and fruits
- 56.7% overweight or obese
- **77.4% physically inactive**

Low Intake of Fruits and Vegetables, Physical Inactivity, and Overweight/Obese: Maryland Adult Weighted Percentages

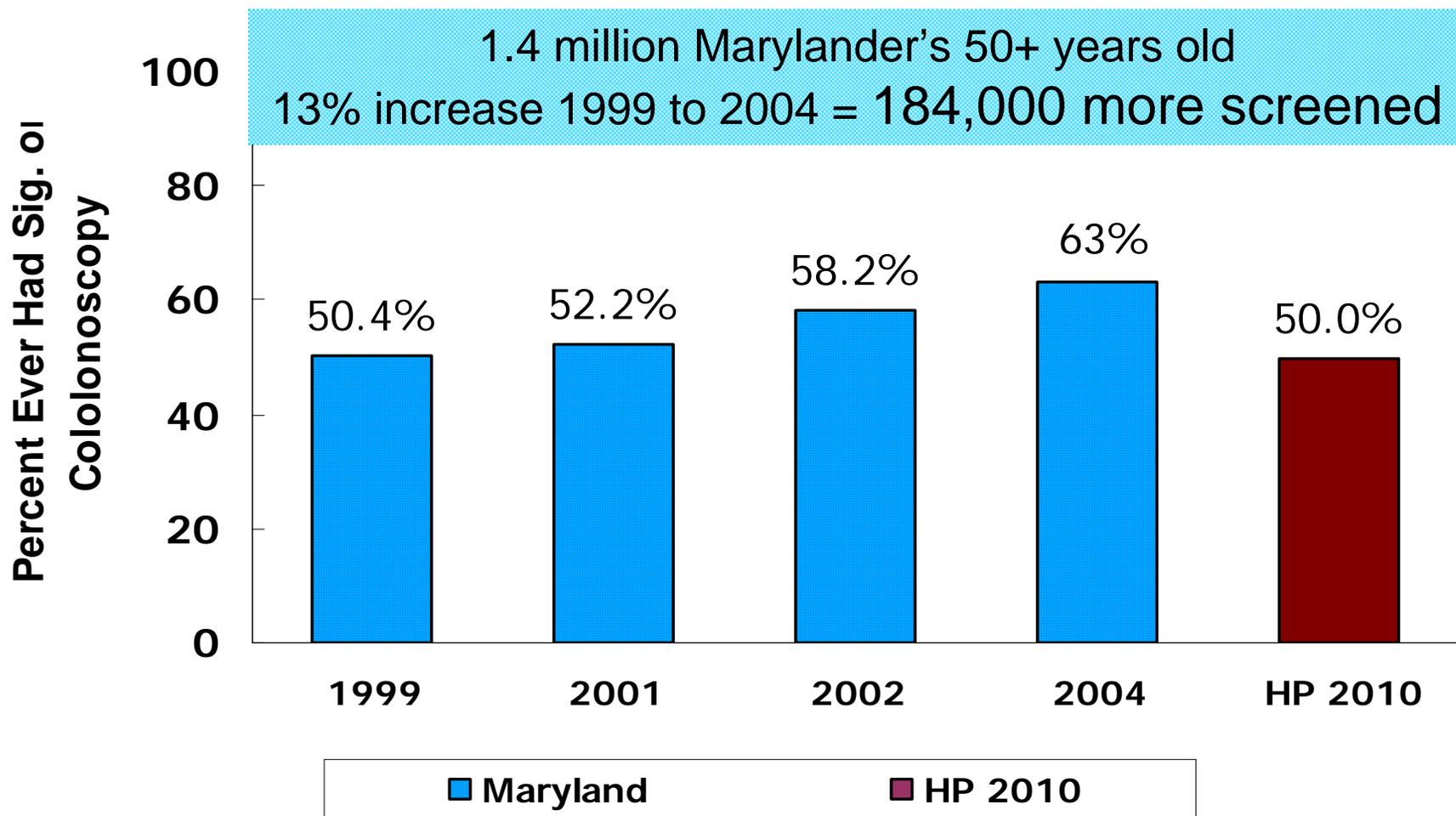


Source: Maryland BRFSS, 2000; Maryland Cancer Plan, page 134



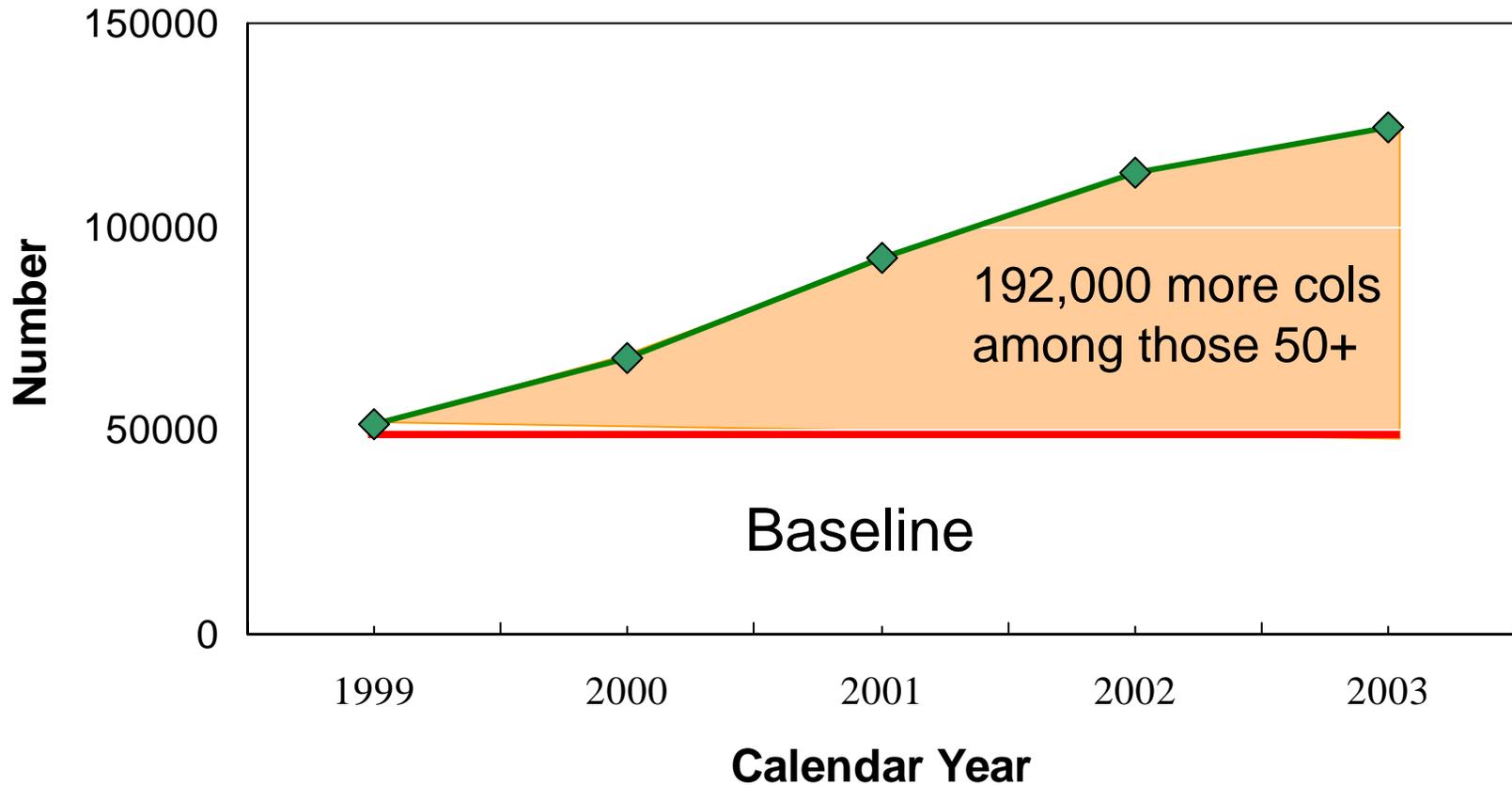
Adapted from Jack Tippit, Saturday Evening Post

Maryland--Ever Had Sigmoidoscopy and Colonoscopy 50 Years and Older by Year of Survey Compared to Healthy People 2010 Objective



Sources: BRFSS, Maryland DHMH Office of Surveillance and Assessment, 1999, 2001
Maryland Cancer Survey, DHMH Center for Cancer Surveillance and Control, 2002, 2004

Number of Insured Patients 50+ Who Had a Colonoscopy Maryland, 1999-2003



Source: Maryland Health Care Commission—using HEDIS definition of Colonoscopy

Hope for the Future

- Cervical cancer (HPV) vaccine
- New screening tests
- New diagnostic tests
- New treatments
- New ways to change behavior
- Universal access to quality health care

The burden of cancer
is what fuels
our passion for our work

Acknowledgements

- DHMH Maryland Cancer Registry; Maryland Tumor Registrars
- DHMH Vital Statistics
- DHMH, Center for Cancer Surveillance and Control--Surveillance and Evaluation Unit
- University of Maryland, Baltimore—Prev. Med. and Epidemiology
- Maryland Behavioral Risk Factor Surveillance System
- American Cancer Society
- Maryland Health Care Commission
- Maryland Dept. of Planning
- US Census bureau data: <http://www.census.gov/ipc/www/idbpyr.html> and <http://www.ac.wvu.edu/~stephan/Animation/pyramid.html>
- National Cancer Institute
- The Internet (!)

