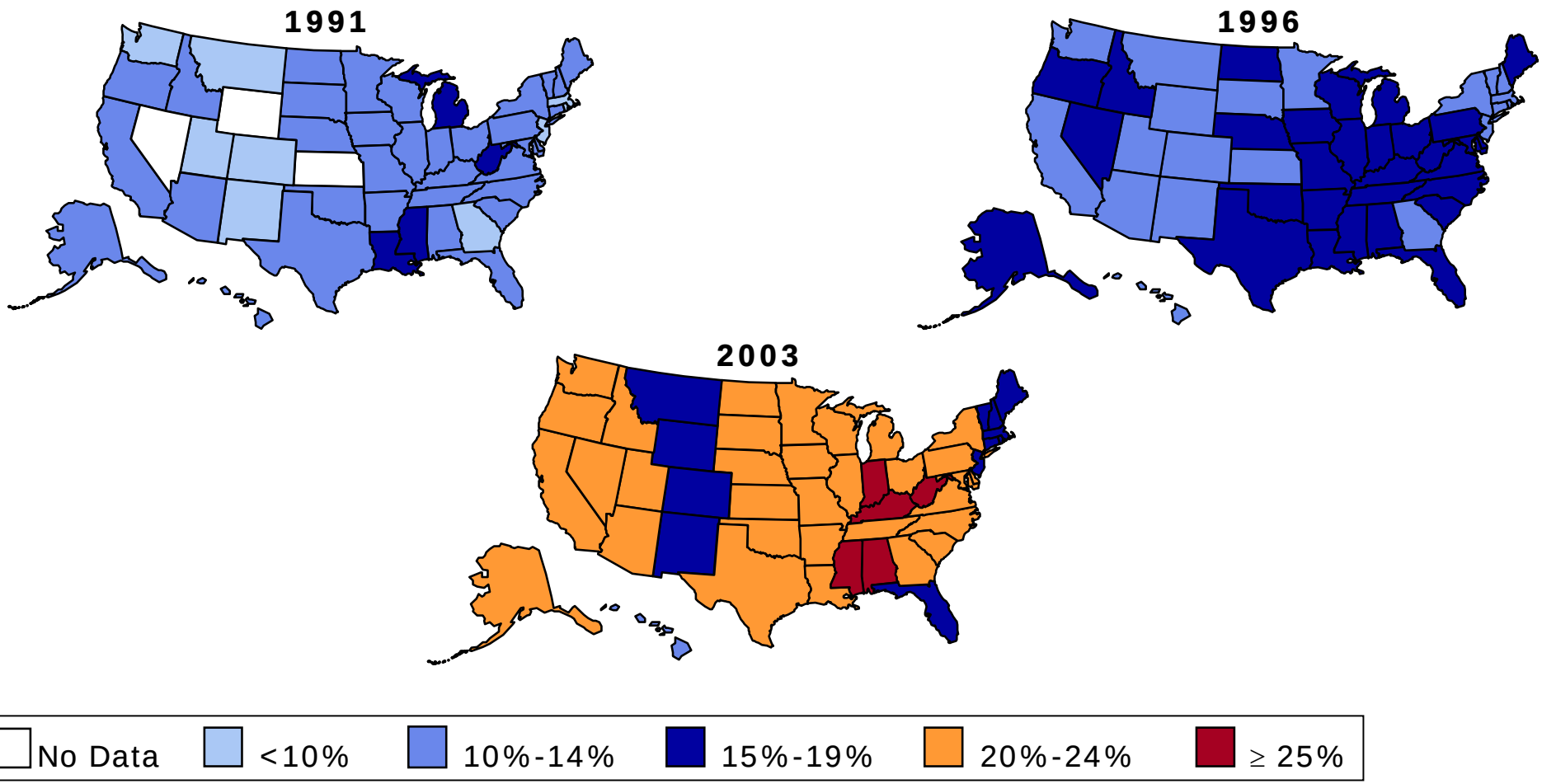
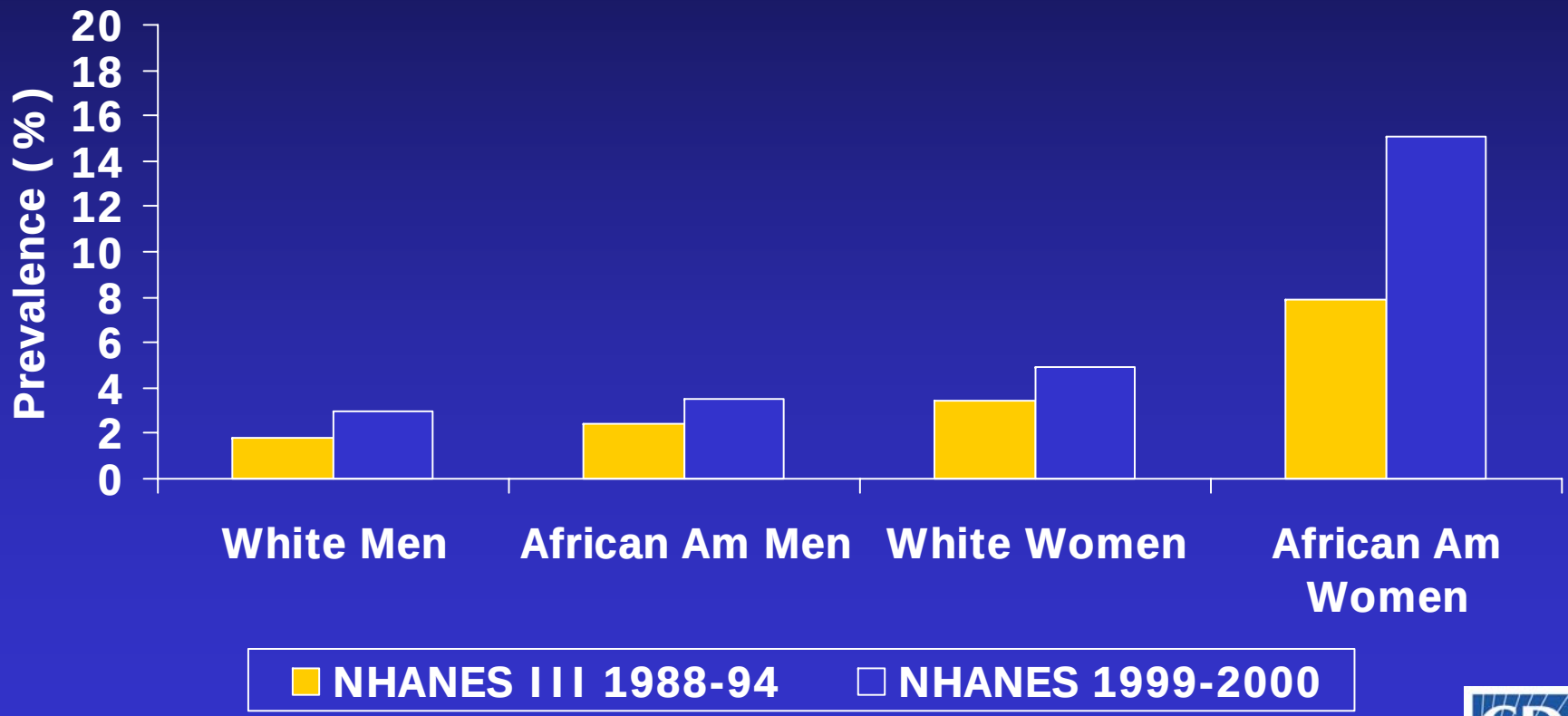
Overview of Health Risks and Factors Related to Childhood Obesity

William H. Dietz, MD, PhD
Director of the Division of Nutrition
and Physical Activity
CDC

Obesity Trends* Among U.S. Adults
1990, 1996, 2003



Changes in the Prevalence of Severe Obesity (BMI ≥40)



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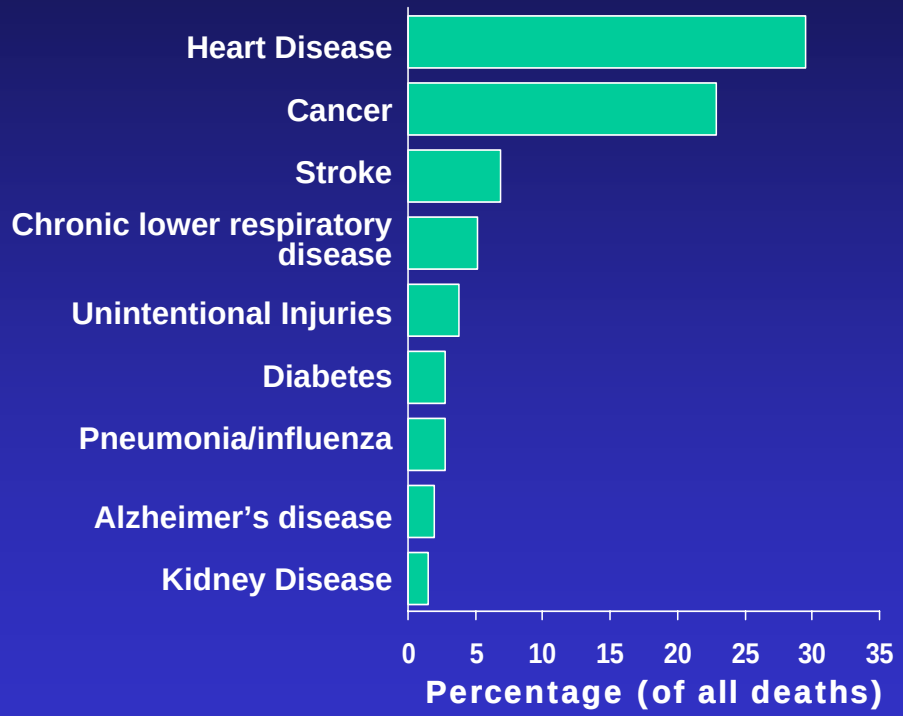
Consequences of Adult Obesity

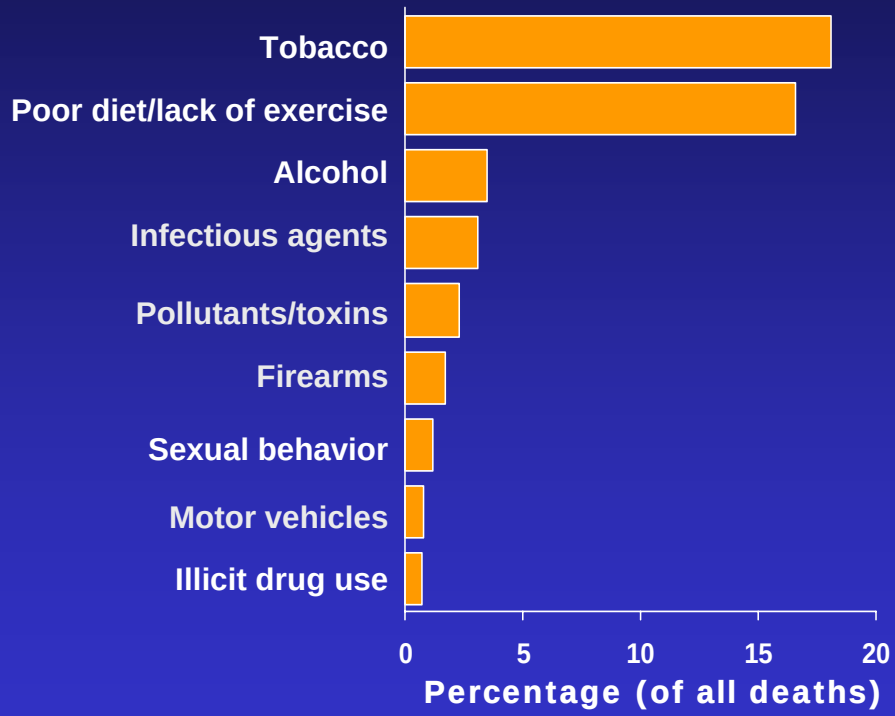
- Psychosocial
- Cardiovascular
  - Hyperlipidemia
  - Diabetes mellitus
  - Hypertension
  - Respiratory
  - Cardiac
- Medical
  - Polycystic ovary disease
  - Gall bladder disease
  - Osteoarthritis
  - Cancer
- Pregnancy and the postpartum
- Mortality
- Erectile dysfunction

Causes of Death - United States, 2000

Leading Causes of Death*



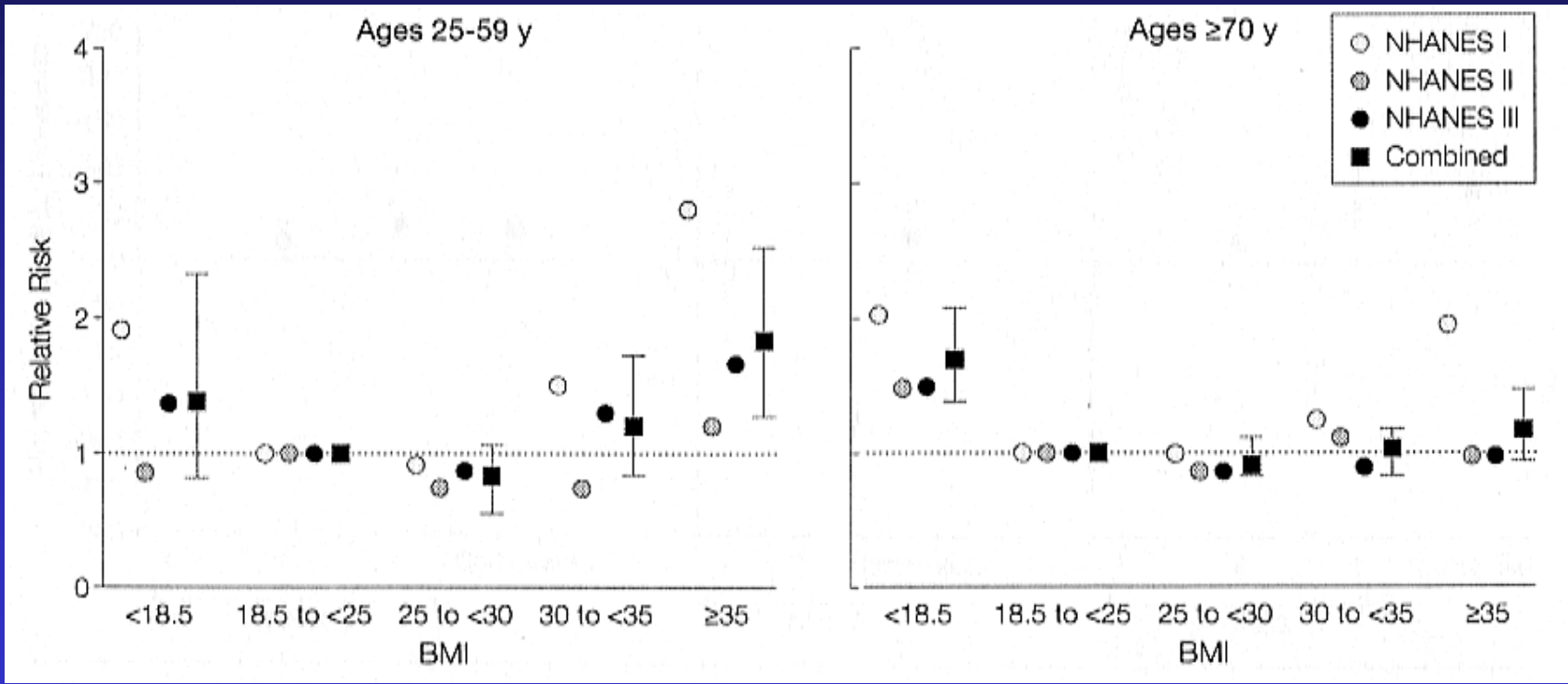
Actual Causes of Death†



* National Center for Health Statistics. Mortality Report. Hyattsville, MD: US Department of Health and Human Services; 2002

† Adapted from McGinnis Foege, updated by Mokdad et. al.

Obesity Deaths in the U.S. Population



Flegal et al. JAMA 2005;293:1861

Mortality Differences in the JAMA Studies*

- Representativeness
- Reduction in CVD mortality
- Use of age-specific mortality
- Not all nutrition and inactivity mortality is accounted for by obesity
- Costs are generated by disease burden, not death
- Neither study accounts for the potential impact of childhood obesity

* Mokdad et al. JAMA 2004;291:1238.
Mokdad et al. JAMA 2005;293:293.
Flegal et al. JAMA 2005;293:1861.

Business Day

The New York Times

U.S. Trade Deficit Soars Past $617 Billio

The Washington Post

BUSINESS

Friday, February 11, 2005

U.S. Firms Losing Health Care Battle, GM Chairman Says

Nation's Health Spending Slows, but It Still Hits a Record

By ROBERT PEAR

WASHINGTON, Jan. 10 — The torrid pace of growth in national health spending cooled a bit in 2003, but the spending, at $1.7 trillion, topped 15 percent of the gross domestic product for the first time, the government said on Monday.

Total health spending rose 7.7 percent in 2003, compared with an increase of 9.3 percent the year before, in part because of state cutbacks in the Medicaid program and a slower increase in drug spending. But it

omist at the Department of Health and Human Services, said that "at least 34 states took measures to control Medicaid costs in 2003," typically by tightening eligibility or restricting benefits.

Factors contributing to the slowdown in the growth of drug spending included a smaller increase in the number of prescriptions; greater use of low-cost generic drugs; higher co-payments, which tend to discourage use of some drugs; and the conversion of Claritin, the popular allergy drug, to over-the-counter status.

an pharmacies, estimated at $1.1 billion in 2003, were not counted in health spending for the United States. American sales of generic drugs grew at twice the rate of brand-name drug sales in 2003. "When offered a choice, consumers opt for a generic drug almost 90 percent of the time in chain drug stores," the report said.

President Bush, campaigning for limits on malpractice lawsuits, said last week that "we have the best health care system in the world."

But the United States devotes a

output to health care than other industrial countries do. Among the 30 members of the Organization for Economic Cooperation and Development, the countries with the next largest shares, Switzerland and Germany, spend less than 12 percent of G.D.P. on health care.

Health spending continues to grow in most industrial countries, with rapid advances in medical technology and aging populations, even when economic growth is slow.

Paul B. Ginsburg, president of the Center for Studying Health System

health costs, said those trends could pose problems for the United States because of the way it finances health care.

"Health insurance premiums are growing faster than what people earn," Mr. Ginsburg said. "Government health care spending is growing faster than federal revenues, crowding out other priorities."

The report said that health spending in the United States averaged $5,670 a person in 2003, up $353 from 2002.

Hospital care accounts for nearly one-third of all health spending, and slower growth in spending for hospital services was a significant factor in the national trend. Hospital spend-

billion, following an increase of 8.5 percent in the prior year.

Many states, wrestling with budget problems, froze Medicaid payments to hospitals. Medicaid spending on hospitals grew 5.3 percent in 2003, about six percentage points less than the year before.

Medicaid and Medicare alike curbed spending for nursing home care. Medicaid payments to nursing homes grew just 1 percent in 2003, to $51 billion, following an increase of 8.1 percent in 2002.

Likewise, the government said, Medicare payments to nursing homes "increased only 1.3 percent in 2003, following three years of rapid growth that averaged 16.2 percent a

costs.

THE WASHINGTON POST

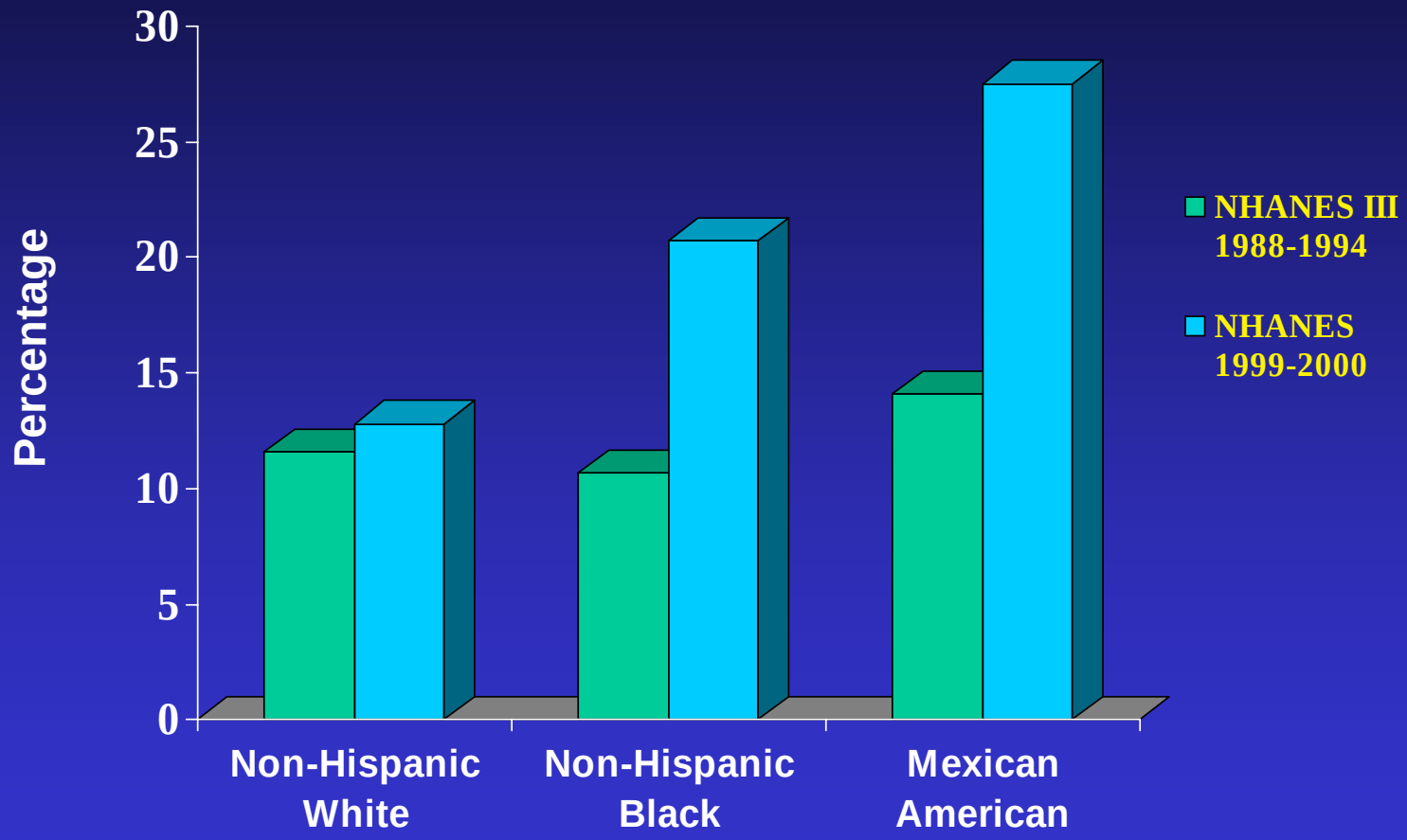
ing medical bills are eating into his company's bottom line and ultimately threatening the viability of most U.S. firms.

"Failing to address the health care crisis would be the worst kind of procrastination," Wagoner said, "the kind that places our children and our grandchildren at risk and threatens the health and global competitiveness of our nation's economy."

After spending several years on the health policy sidelines, Wagoner is launching a mini media blitz, hoping the competitiveness argument will be the one that fi-

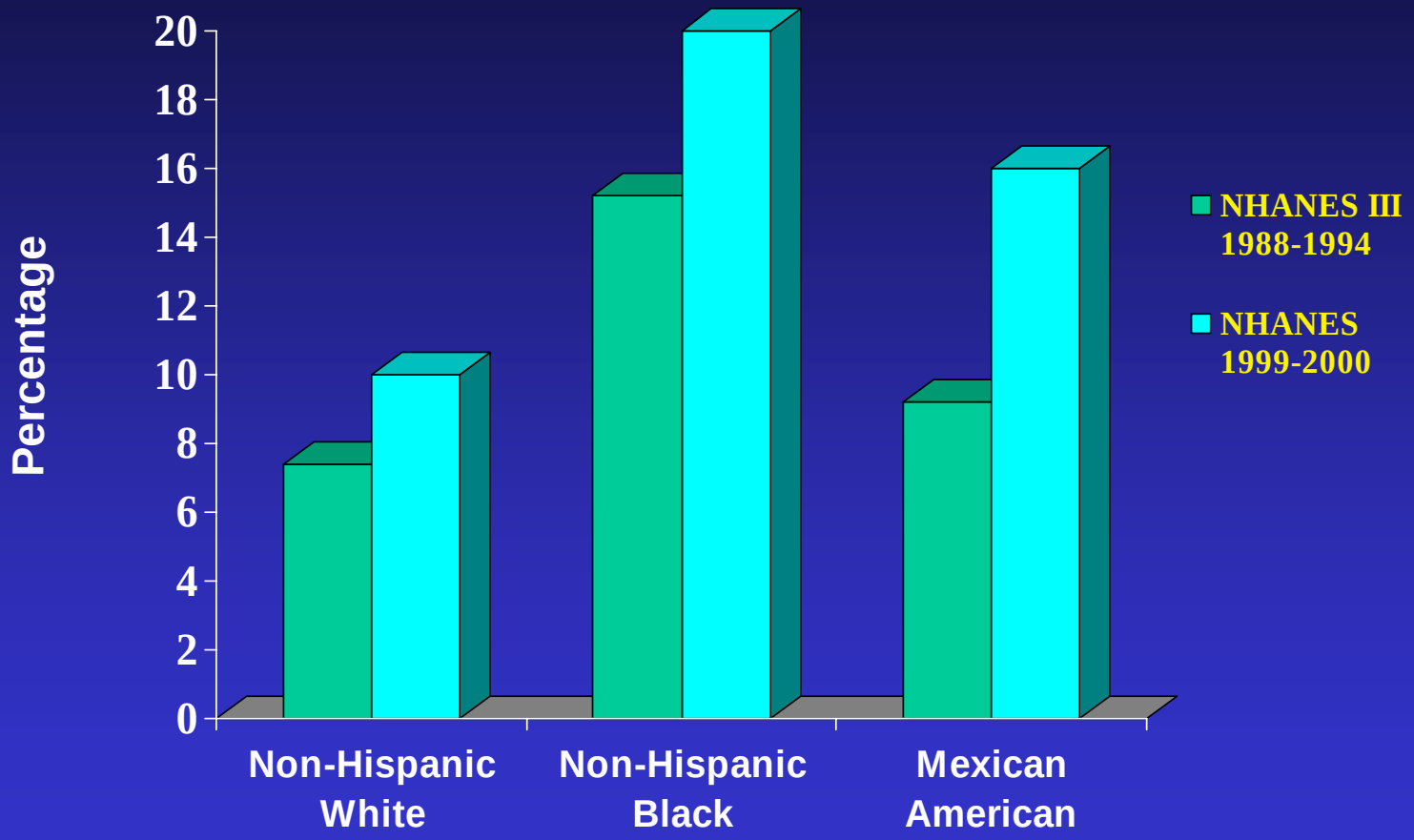
See HEALTH, *E2, Col. 1*

Overweight Prevalence by Race/Ethnicity for Adolescent Boys Aged 12 - 19 Years



Source: *JAMA*, Oct. 9, 2002, Vol. 288, No. 14:1731

Overweight Prevalence by Race/Ethnicity for Adolescent Girls Aged 12 - 19 Years



Source: *JAMA*, Oct. 9, 2002, Vol. 288, No. 14:1731

BMI and Distribution of Morbid Obesity

	BMI @99%tile*	≥ BMI 40**	% > 99%tile
Males			
16yo	33.9	1.6%	8.1%
17yo	34.4	0.3%	6.4%
18yo	35.0	0.1%	3.6%
19yo	36.0	3.1%	3.5%
Females			
16yo	39.1	1.6%	1.6%
17yo	40.8	2.3%	2.0%
18yo	42.9	1.7%	0.7%
19yo	45.4	3.3%	0.7%

*CDC growth charts **NHANES 1999-2002

Consequences of Childhood and Adolescent Obesity

Common

- Growth
- Psychosocial
- Hyperlipidemia
- Hepatic steatosis
- Abnormal glucose metabolism
- Persistence into adulthood

Uncommon

- Hypertension
- Sleep apnea
- Pseudotumor
- PCOD
- Cholelithiasis
- Orthopedic

Newsweek
September 4, 2000 : $3.50
newsweek.msnbc.com

TAX CUT SMACKDOWN

SAINTLY POPES

BEHIND CNBC

DIABETES

It Strikes 16 Million Americans

Are You at Risk?

Computer drawing of a human insulin molecule

SOCIETY

An American Epidemic

Diabetes

The silent killer: Scientific research shows a 'persistent explosion' of cases—especially among those in their prime

BY JERRY ADLER AND CLAUDIA KALB

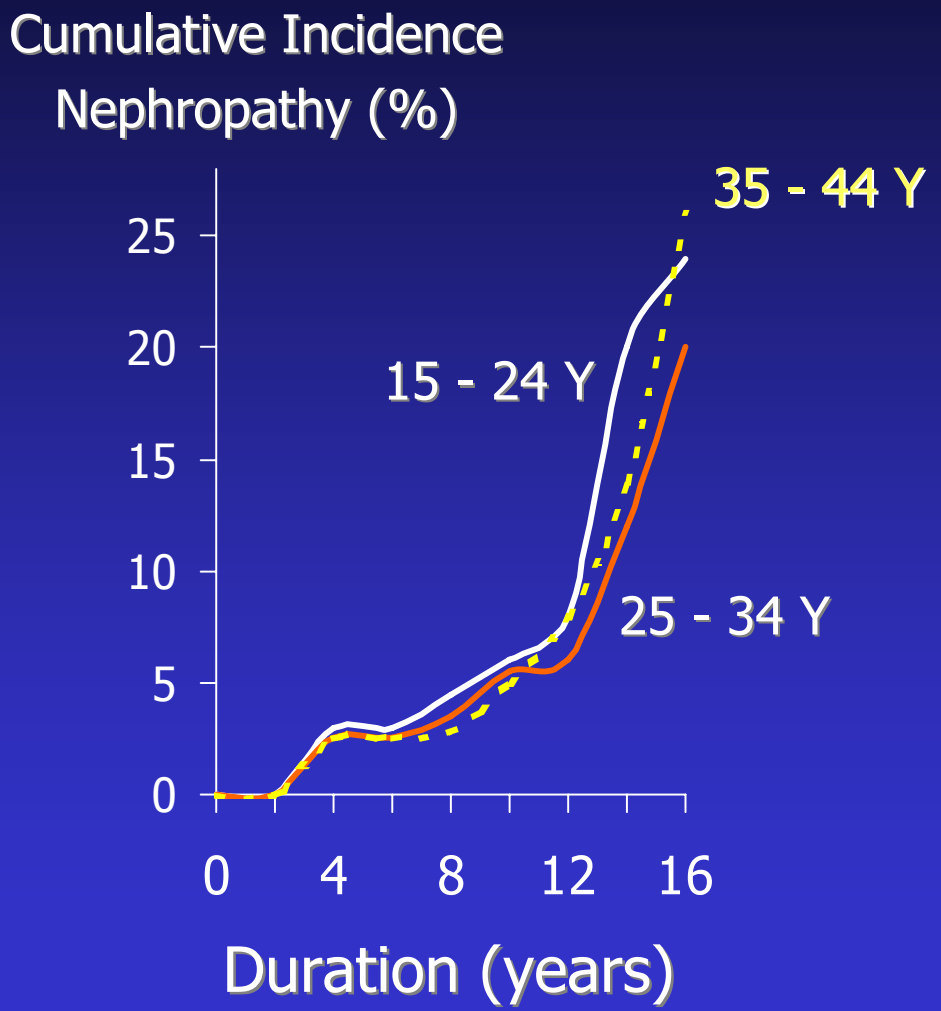
SOMETHING TERRIBLE WAS HAPPENING TO YOLANDA BENITEZ'S eyes. They were being poisoned; the fragile capillaries of the retina attacked from within and were leaking blood. The first symptoms were red lines, appearing vertically across her field of vision; the lines multiplied and merged into a haze that shut out light entirely. "Her blood vessels inside her eye were popping," says her daughter, Jannette Roman, a Chicago college student. Benitez, who was in her late 40s when the problem began four years ago, was a cleaning woman, but she's had to stop working. After five surgeries, she has regained vision in one eye, but the other is completely useless. A few weeks ago, awakening one night in a hotel bedroom, she walked into a door, setting off a paroxysm of pain and nausea

Heredity

Genes help determine whether you'll get diabetes. In many families, multiple generations are struck. But heredity is not destiny—especially if you eat well and exercise.

FAMILY PLAGUE: Benitez (left) and Roman. Benitez's mother and two brothers died from complications of the disease.

Duration of Diabetes and Nephropathy (Pima Indians)



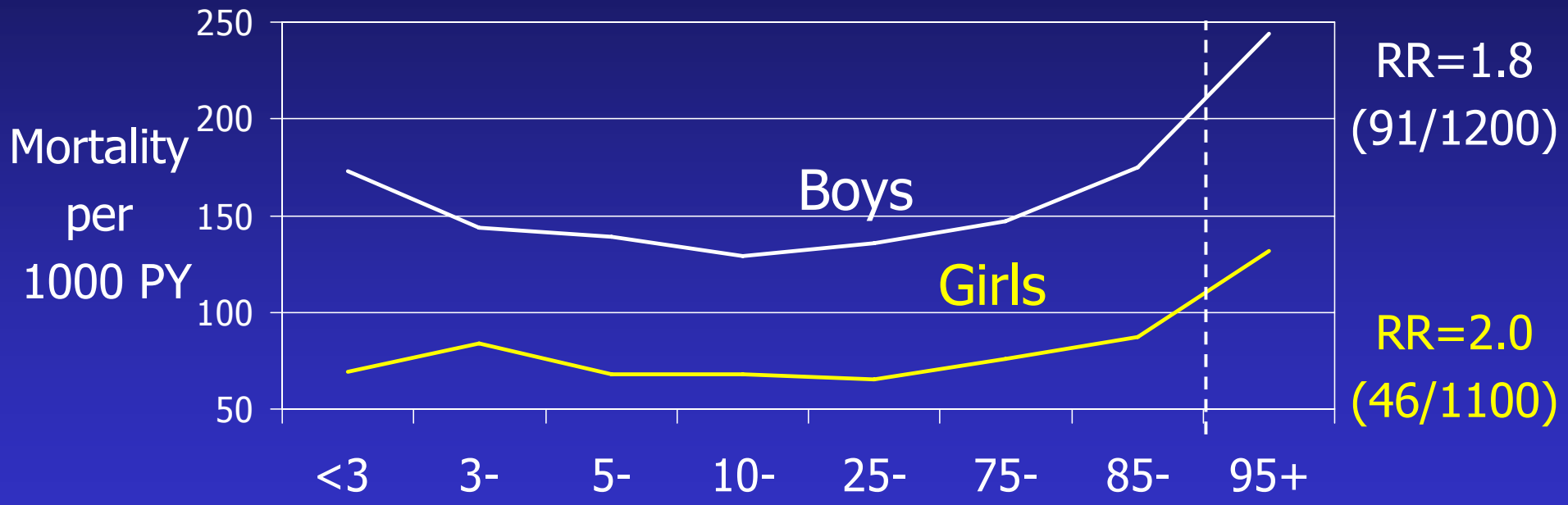
- The duration of diabetes, rather than the age at diagnosis, is predictive of nephropathy (Krakoff. Diabetes Care 2003;26:76)

Impact of Childhood Overweight (BMI $\geq$ 95th percentile) on Adult Obesity (BMI $\geq$ 30)

- 4.9 BMI unit difference in severity
- Onset $\leq$ 8y more severely obese as adults
  (BMI = 41.7 vs 34.0)
- CVD risk factors reflect adult BMI
- 25% obese adults were overweight children

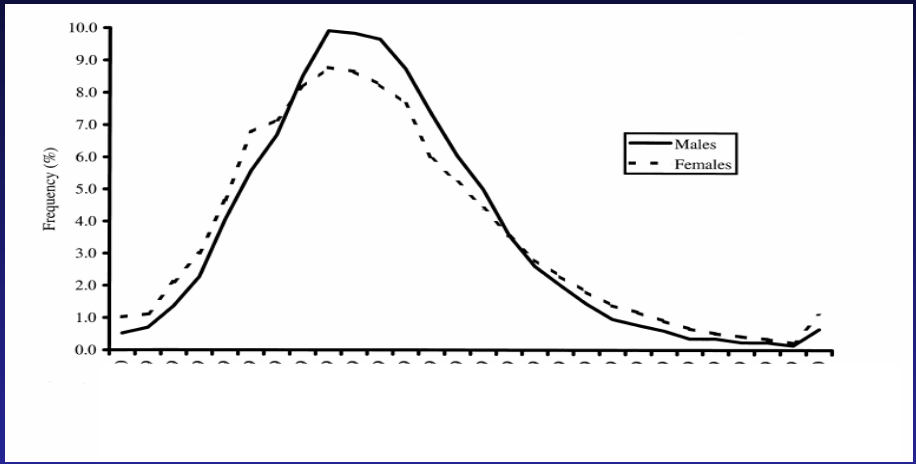
Freedman et al, Pediatrics 2001; 108: 712

Childhood BMI and Adult Mortality: 32 y Follow-up of 227,000 Norwegian Adolescents Measured in 1963-75

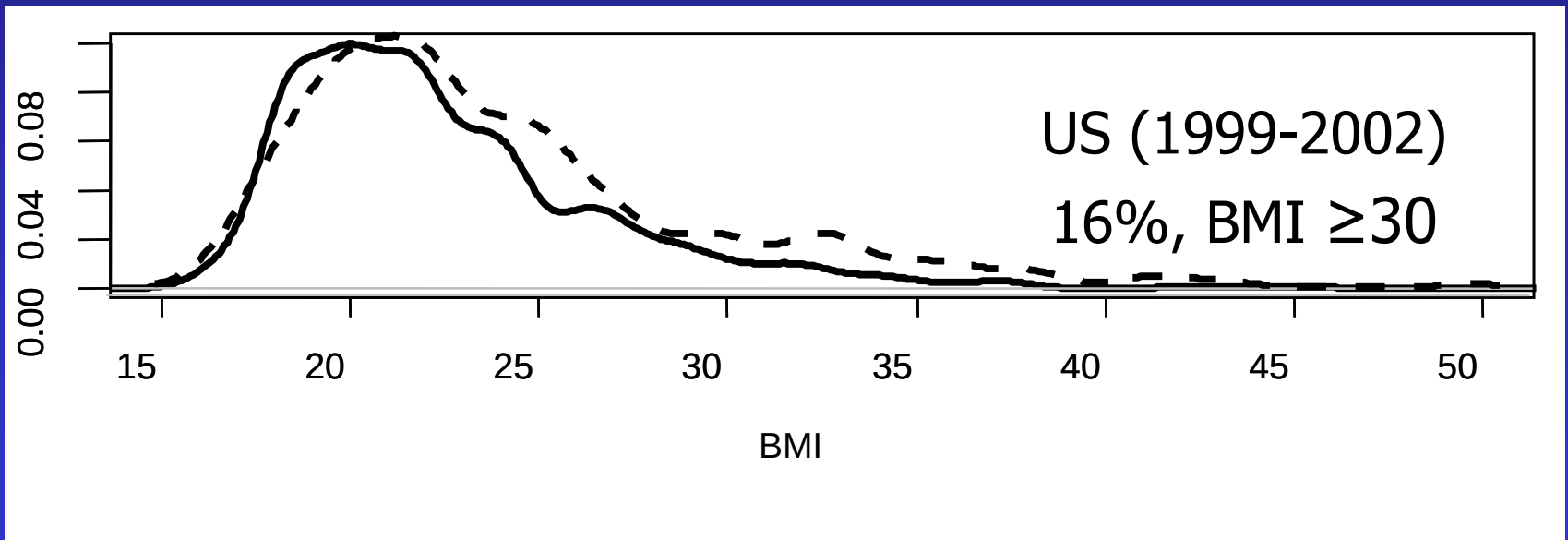


A Engeland, Am J Epidemiol 2003;157:517

Distribution of BMI among 17- to 19-year-olds



Norway (1963-75)
1% had a BMI ≥ 30

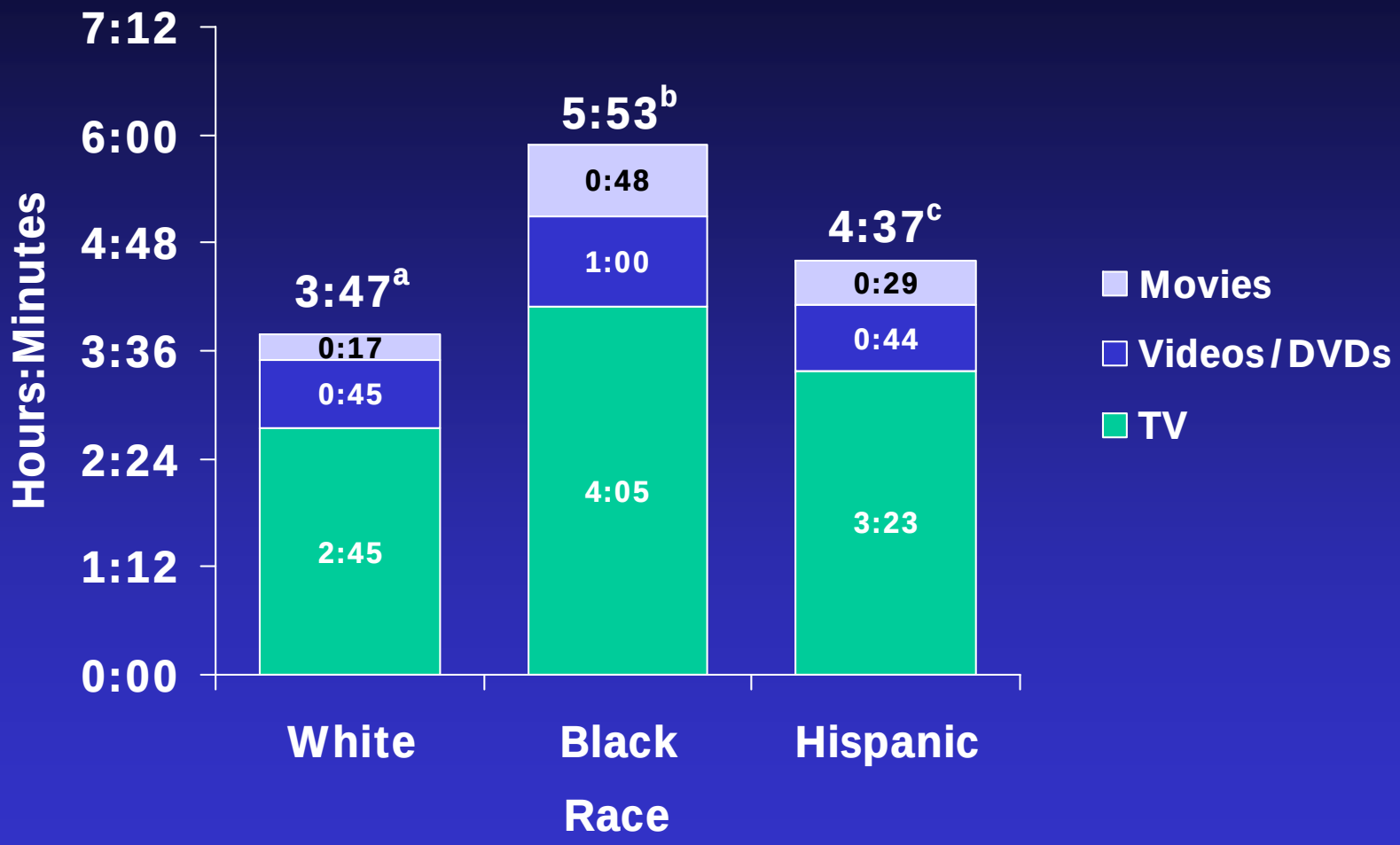


Behavior Change Strategies

- Increase physical activity
- Reduce television viewing in children and adolescents
- Promote breastfeeding

CDC
Centers for Disease Control and Prevention

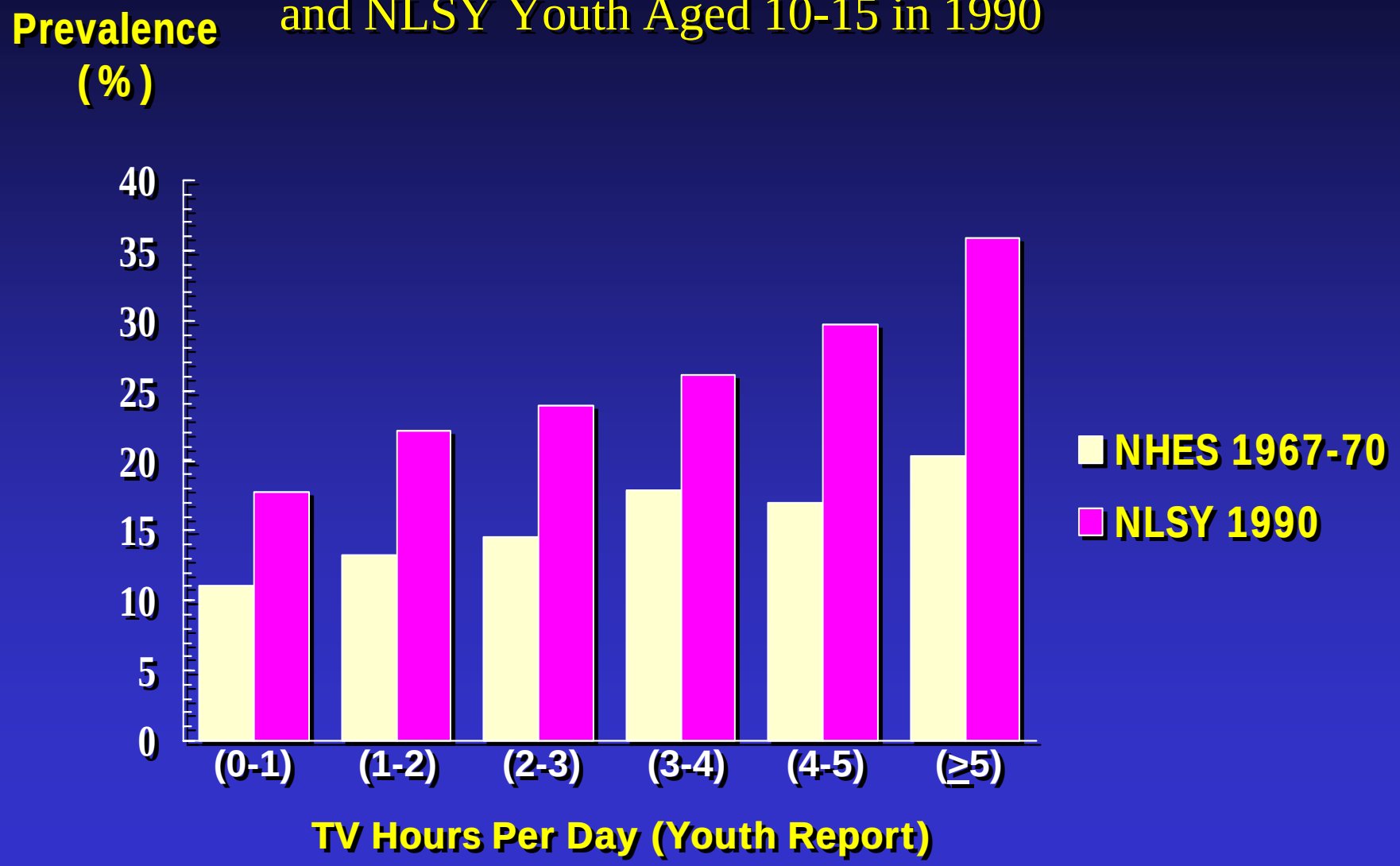
Screen Media Exposure by Ethnicity



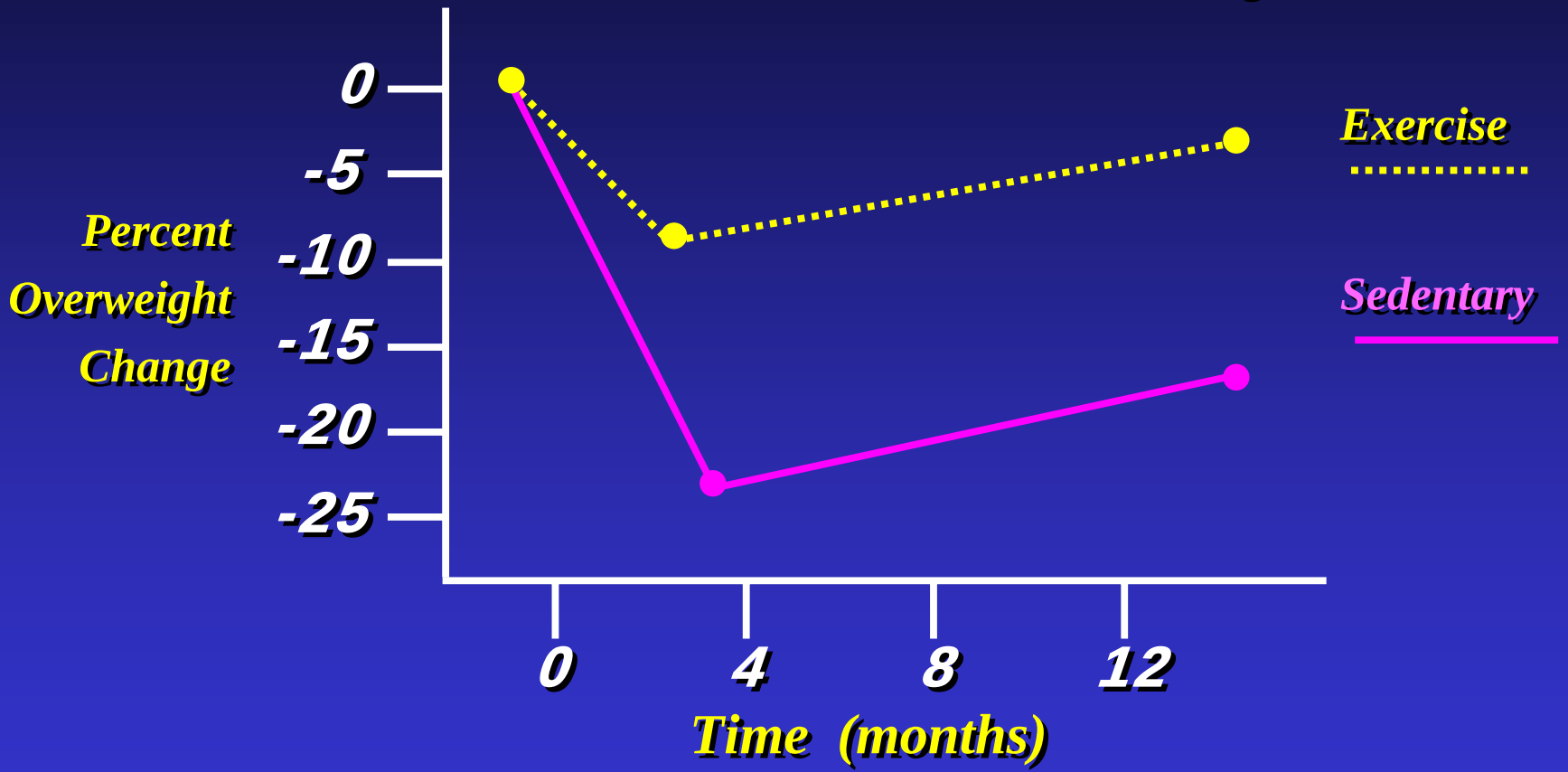
Roberts DF, Foehr UG, Rideout V. (2005). Generation M: Media in the Lives of 8-18 Year-olds. A Kaiser Family Foundation Study.

Prevalence of Obesity by Hours of TV per Day:

NHES Youth Aged 12-17 in 1967-70 and NLSY Youth Aged 10-15 in 1990



Effect of Reduced Inactivity or Exercise on Obesity



Epstein et al, Health Psychol 1995; 14:109

Strategies to Reduce Television Time

- Start early – rules, access
- Content trumps time
- Family values: family time and schoolwork. Weekday time
- Television is a default behavior
- Use television to change behavior

In the days before television

Strategies to Reduce Television Time

- Start early – rules, access
- Content trumps time
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- Use television to change behavior

Promising Interventions

- Increase fruit and vegetable consumption
- Reduce soft drink consumption
- Reduce portion size